Document of
The World Bank

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Report No: PAD1353

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON PROPOSED CREDITS TO

BURKINA FASO
IN THE AMOUNT OF SDR 26.9 MILLION (US$37 MILLION EQUIVALENT)

THE REPUBLIC OF MALI
IN THE AMOUNT OF SDR 26.4 MILLION (US$37 MILLION EQUIVALENT)

THE REPUBLIC OF NIGER
IN THE AMOUNT OF SDR 26.9 MILLION (US$37 MILLION EQUIVALENT)

AND A
PROPOSED GRANT TO

THE ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS)
IN THE AMOUNT OF SDR 7.3 MILLION
(US$10 MILLION EQUIVALENT)

FOR A

SAHEL MALARIA AND NEGLECTED TROPICAL DISEASES PROJECT

May 18, 2015

Health, Nutrition, and Population Global Practice
Africa Regional Integration Department
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2015)

Currency Unit	=	XOF
US$1	=	609.7561 XOF
US$1	=	SDR = 0.7249[1]
US$1	=	SDR= 0.7110[2]

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ACT	Artemesinin-based Combination Treatment (Malaria)
ACGF	Africa Catalytic Growth Fund
AFRO	World Health Organization, Regional Office for Africa
ANC	Ante-natal Care
APOC	African Programme for Onchocerciasis Control (formerly OCP)
ARI	Acute Respiratory Infection
AQ + SP	Amodiaquine plus Sulfadoxine-Pyrimethamine
BCC	Behavior Change Communications
CAMEG	*Centrale d'Achat des Médicaments Essentiels Génériques (Burkina Faso)* (National Drug Procurement Agency)
CAS	Country Assistance Strategy
CDC	United States Centers for Disease Control and Prevention
CERMES	*Centre de Recherche Médicale et Sanitaire* (Medical and Health Research Institute, Niger)
CHW	Community Health Worker (ASC in French)
CNTD-L	Center for Neglected Tropical Diseases – Liverpool
COE	Center of Excellence
CPF	Country Partnership Framework
CPS	Country Partnership Strategy
CPAR	Country Procurement Assessment Review
CRS	Catholic Relief Services
CQ	Consultants' Qualifications
cIMCI	Integrated Management of Childhood Illness in the Community
DA	Development Assistance
DALY	Disability Adjusted Life Year

[1] Negotiations for ECOWAS, Niger and Bukina Faso took place at the end of April, 2015 and the SDR conversion rate from March 31, 2015 was applied.
[2] Negotiations for Mali took place on 4 May 2015 and the SDR conversion rate for April 30, 2015 was applied.

DEP	*Direction des Etudes et de la Programmation* (Directorate of Studies and Programming (Niger)
DFATD	Canadian Department of Foreign Affairs, Trade and Development
DFID	United Kingdom Department for International Development
DFM	Directorate of Finances and Material (Mali)
DGDP	General Directorate of Public Debt (Mali)
DL	Disbursement Letter
DLM	*Direction de la Lutte contre les Maladies* (Directorate of Disease Control, Burkina Faso)
DPM	Direction des Marches Publics (Department of Public Procurement)
DPNLP	Direction du Programme National de lutte contre le Paludisme (National Directorate of Malaria Control Program)
DNS	*Direction Nationale Santé* (National Health Directorate, Mali)
EA	Environmental Assessment
ECOWAS	Economic Community of West African States
FBS	Fixed Budget
FDI	Foreign Direct Investment
FCFA	Franc de la Communauté financière d'Afrique" (Francs of the African Financial Community).
FC/PDS	*Fonds Commun d'appui à la mise en œuvre du Plan de Développement Sanitaire* (Common Funds to support implementation of Development Plan, Niger)
FELTP	Field Epidemiology and Laboratory Training Program
FM	Financial Management
GFATM	The Global Fund for AIDS, Tuberculosis and Malaria
HKI	Helen Keller International
HNP	Health, Nutrition and Population
iCCM	Integrated Community Case Management
IC	Individual Consultants
ICB	International Competitive Bidding
IEG	Independent Evaluation Group
IPR	Independent Procurement Review
IDA	International Development Association
IEC	Information, Education and Communication
IEG	Independent Evaluation Group
IFR	Interim Financial Report
IRS	Indoor Residual Spraying of Insecticides
IST/WA	World Health Organization, Inter-country Support Team for West Africa
ITPp	Intermittent Preventive Treatment for Pregnant Women (Malaria)
LANSPEX	*Laboratoire National de Santé Publique et d'Expertise* (National Public Health Laboratory and Expertise, Niger)
LCS	Least-Cost Selection (LCS)
LF	Lymphatic Filariasis
LLIN	Long-lasting Insecticidal Net
LQAS	Lot Quality Assurance Sampling Sentinel Surveillance
M&E	Monitoring and Evaluation

MDA	Mass Drug Administration
MDG	Millennium Development Goals
MDP	Mectizan Donation program
MOF	Ministry of Finance
MOH	Ministry of Health
MOHPH	Ministry of Health and Public Hygiene (Mali)
MRTC	Malaria Research and Training Center (Mali)
MSF	Medecins Sans Frontieres (Doctors without Borders)
MSP	*Ministère de la Santé Publique* (Ministry of Public Health, Niger)
MWRD	Multi-purpose Water Resources Development Project
NCB	National Competitive Bidding
NGO	Non-Governmental Organization
NSC	National Steering Committees
NMWMP	National Medical Waste Management Plan
NMCP	National Malaria Control Programme
N-PIU	National Project Implementation Unit
NTD	Neglected Tropical Diseases
NTDP	National NTD Programme (Burkina Faso)
OCP	Onchocerciasis Control Programme (now APOC)
PAD	Project Appraisal Document
PADS	*Programme d'Appui au Développement Sanitaire* (Support Program for Health Development, Burkina Faso)
PC-NTDs	Preventive Chemotherapy Neglected Tropical Diseases
PCU	Project Coordinating Unit
PDO	Project Development Objective
PDS	*Plan de Développement de Sante* (Health Development Plan)
PECADOM	*Prise en charge à domicile* (Home Based Care for Malaria)
PENDA	Programme for the Elimination of Neglected Diseases in Africa
PMI	United States President's Malaria Initiative (aka USPMI)
PIM	Project Implementation Manuals
PNLP	Programme National de lutte contre le Paludisme (National Malaria Control Program)
PP	Procurment Plan
PPR	Post Procurement Review
QCBS	Quality- and Cost-Based Selection
RDT	Rapid Diagnostic Test
RIAS	Regional Integration Assistance Strategy
RTI	Research Triangle Institute
R-PIU	Regional Program Implementation Unit
SCH	Schistosomiasis
SMNTD	Sahel Malaria and Neglected Tropical Diseases Project
SMC	Seasonal Malaria Chemoprevention
SOE	Statement of Expenditure
SORT	Systematic Operations Risk Rating Tool
SSA	Sub-Saharan Africa
SSS	Single Source Selection

STH	Soil-Transmitted Helminths
SWEDD	Sahel Women's Empowerment and Demographic Dividend Project
TAG	Technical Advisory Group
TB	Tuberculosis
TOR	Terms of Reference
TTL	Task Team Leader
UEMOA	*Union Économique et Monétaire Ouest Africaine* (West African Economic and Monetary Union)
UNDP	United Nation Development Programme
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund
UNITAID	Not an acronym - International drug purchasing facility
USAID	United States Agency for International Development
WAEMU	West African Economic and Monetary Union
WAHO	West African Health Organization
WARDS	West Africa Regional Diseases Surveillance Project
WASH	Water Sanitation and Hygiene
WBG	World Bank Group
WDI	World Development Index
WHA	World Health Assembly
WHO	World Health Organization

Regional Vice President:	Makhtar Diop
Regional Integration Director:	Colin Bruce
Senior Global Practice Director:	Timothy G. Evans
Practice Manager:	Trina Haque
Task Team Leaders:	John Paul Clark
	Andy Tembon
	Haidara Ousmane Diadie

Sahel Malaria and Neglected Tropical Diseases Project (P149526)

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PROJECT APPRAISAL DOCUMENT

AFRICA

Report No.: PAD1353

Basic Information			
Project ID P149526	EA Category B - Partial Assessment		Team Leader(s) John Paul Clark, Andy Chi Tembon, Haidara Ousmane Diadie
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ]		
	Financial Intermediaries [ ]		
	Series of Projects [ ]		
Project Implementation Start Date 09-Jun-2015	Project Implementation End Date 07-Jun-2019		
Expected Effectiveness Date 17-Oct-2015	Expected Closing Date 04-Oct-2019		
Joint IFC No			
Practice Manager/Manager Trina S. Haque	Senior Global Practice Director Timothy Grant Evans	Country Director Colin Bruce	Regional Vice President Makhtar Diop

Borrowers: Niger, Mali, Burkina Faso			
Responsible Agency: Ministry of Health of Niger			
Contact:	Dr Idrissa Maiga Mahamadou	Title:	Secretaire General, Ministère de la Sante Publique
Telephone No.:	+227 96974856 or +227 20722782	Email:	idrissa2005@gmail.com
Responsible Agency: Ministry of Health and Public Hygiene of Mali			
Contact:	Professeur Ousmane Doumbia	Title:	Secretaire General, Ministère de la Sante

			et de l'Hygiene Publique
Telephone No.:	+22306675013026	Email:	csdoumbia@gmail.com
Responsible Agency: Ministry of Health of Burkina Faso			
Contact:	Dr Amede Prosper Djiguemde	Title:	Minister of Health
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Responsible Agency: WAHO/ECOWAS			
Contact:	Dr Xavier Crespin	Title:	Director General of the West African Health Organization
Telephone No.:	+226 2097 01 00	Email:	xcrespin@wahooas.org

Project Financing Data(in USD Million)

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

Total Project Cost:	121.00	Total Bank Financing:	121.00
Financing Gap:	0.00		

Financing Source	Amount
BORROWER/RECIPIENT	0.00
International Development Association (IDA)	121.00
Total	121.00

Expected Disbursements (in USD Million)

Fiscal Year	2016	2017	2018	2019	2020	
Annual	25.00	40.00	40.00	11.00	5.00	
Cumulative	25.00	65.00	105.00	116.00	121.00	

Institutional Data

Practice Area (Lead)

Health, Nutrition & Population

Contributing Practice Areas

Cross Cutting Topics

[ ] 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	100		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Human development	Health system performance	30
Human development	Malaria	25
Human development	Other communicable diseases	25
Human development	Child health	20
Total		100

Proposed Development Objective(s)

The project development objective is to increase access to and use of harmonized community-level services for the prevention and treatment of malaria and selected neglected tropical diseases in targeted cross-borders areas in participating countries in the Sahel region.

Components

Component Name	**Cost (USD Millions)**
Component 1: Improve regional collaboration for stronger results across participating countries	26.50
Component 2: Support coordinated implementation of technical strategies and interventions	74.10
Component 3: Strengthen institutional capacity to coordinate and monitor implementation	20.40

Systematic Operations Risk- Rating Tool (SORT)

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	Moderate
8. Stakeholders	Low
9. Other	
OVERALL	Substantial

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
Does the project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

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

Legal Covenants

Name	Recurrent	Due Date	Frequency
WAHO - Recruitment of an external auditor acceptable to IDA		07-Apr-2016	

Description of Covenant

On or before six months after the Effective Date, the Recipient shall hire an external auditor, with terms of reference, experience and skills acceptable to the Association.

Name	Recurrent	Due Date	Frequency
WAHO - Conventions for Technical Assistance		07-Jan-2016	

Description of Covenant

The Project Implementing Entity shall enter into, no later than three months after the Effective Date, and thereafter maintain, agreements between the Project Implementing Entity and the Participating Countries with terms and conditions approved by the Association, as further described in the Project Operations Manual.

Name	Recurrent	Due Date	Frequency
WAHO – Representative at the Regional Steering Committee		07-Dec-2015	

Description of Covenant

WAHO shall establish not later than two months after the Effective Date and thereafter maintain throughout the period of Project implementation its representative in the Regional Steering Committee to provide overall regional guidance and oversight for the Project and to participate in the regular meetings.

Name	Recurrent	Due Date	Frequency
ALL COUNTRIES - Sign agreement with WHO/AFRO		06-Nov-2015	

Description of Covenant

The Recipient shall, no later than one month after the Effective Date, make part of the proceeds of the Financing allocated from time to time to Category (1) of the table set forth in Section IV.A.2 of this Schedule available to WHO/AFRO under an agreement between the Recipient and WHO/AFRO with terms and conditions approved by the Association.

Name	Recurrent	Due Date	Frequency
ALL COUNTRIES - Sign cooperation agreement with CAMEG		06-Nov-2015	

Description of Covenant

The Recipient shall, no later than one month after the Effective Date, make part of the proceeds of the Financing allocated from time to time to Category (1) of the table set forth in Section IV.A.2 of this Schedule available to CAMEG a under cooperation agreement between the Recipient and CAMEG, respectively with terms and conditions approved by the Association.

Name	Recurrent	Due Date	Frequency
ALL COUNTRIES - Sign service agreement for payment of Community Health Workers		07-Apr-2016	

Description of Covenant

The Recipient shall enter into, no later than six months after the Effective Date, and thereafter maintain an agreement with an adequate Service Provider to carry out Payments to Community Health Workers with terms and conditions approved by the Association

Name	Recurrent	Due Date	Frequency
WAHO- Adoption of Project Operations Manual		06-Nov-2015	

Description of Covenant

The Project Implementing Entity shall adopt no later than one month after the Effective Date the Project Operations Manual in form and substance satisfactory to the Association.

Conditions		
Source Of Fund	**Name**	**Type**
IDA	ECOWAS subsidiary agreement	Effectiveness

Description of Condition

The Recipient shall make the proceeds of the Grant available to the Project Implementing Entity under a subsidiary agreement between the Recipient and the Project Implementing Entity, under terms and conditions approved by the Association.

Source Of Fund	Name	Type
IDA	Conditions for payment under Category (2)	Disbursement

Description of Condition

The Recipient shall enter into, no later than six months after the Effective Date, and thereafter maintain an agreement with an adequate Service Provider to carry out Payments to Community Health Workers with terms and conditions approved by the Association, as further described in the Project Operations Manual.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
John Paul Clark	Team Leader (ADM Responsible)	Sr Technical Spec.		GHNDR
Andy Chi Tembon	Team Leader	Senior Health Specialist		GHNDR
Haidara Ousmane Diadie	Team Leader	Senior Health Specialist		GHNDR
Mamata Tiendrebeogo	Procurement Specialist	Senior Procurement Specialist		GGODR
Ngor Sene	Financial Management Specialist	Financial Management Specialist		GGODR
Aissatou Diack	Team Member	Senior Health Specialist		GHNDR
Celestin Adjalou Niamien	Team Member	Sr Financial Management Specialist		GGODR
Djibrilla Karamoko	Team Member	Senior Health Specialist		GHNDR
Ibrah Rahamane Sanoussi	Team Member	Senior Procurement Specialist		GGODR
Jenny R. Gold	Team Member	Senior Health Specialist		GHNDR

Josue Akre	Team Member	Financial Management Specialist		GGODR
Linda Brooke Schultz	Team Member	Consultant		GHNDR
Mahamadou Bambo Sissoko	Team Member	Senior Procurement Specialist		GGODR
Maud Juquois	Team Member	E T Consultant	Health Economist	GHNDR
Medou Lo	Safeguards Specialist	Consultant	Environmental Specialist	GENDR
Paivi Koskinen-Lewis	Safeguards Specialist	Social Development Specialist		GSURR
Patrick Hoang-Vu Eozenou	Team Member	Economist		GHNDR
Tomo Morimoto	Team Member	Operations Officer		GHNDR
Wapoenje Tolekuzu Dacruz Evora	Team Member	Program Assistant		GHNDR

Locations

Country	First Administrative Division	Location

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required?	Consulting services to be determined

I. STRATEGIC CONTEXT

A. Regional and Country Context

1. **Africa's Sahel region is home to more than 80 million people. The region faces grave threats to its security and development, exacerbated by decades-long, economic, political, demographic, and ecological stresses**. Instability in the Sahel is caused by rapid population growth, weak institutions and a lack of state presence in many remote areas. Roughly half of the population lives on less than US$1.25 per day with over 11 million at risk of hunger and five million children under five facing acute malnutrition. The sub-region ranks very low on the United Nations Development Programme's (UNDP) Human Development Index. The Sahel is also highly vulnerable to climate change due to its geographic location at the southern edge of the Sahara desert and the strong dependence of its population on rain-fed agriculture and livestock.[3] Climate variability also has an important impact on the distribution and transmission of communicable diseases and increases population vulnerability to disease outbreaks and epidemics.[4]

2. **The Sahel region is the center of much political unrest and recent developments in the participating countries may have an impact on Governments' priorities with respect to health programming**. Mali is a fragile state and is experiencing protracted insecurity following a resurgence of the conflict in the north. Significant areas of the north are not under government control and there have been numerous attacks on soldiers from the Malian armed forces and the UN peacekeeping mission as well as occasional fighting among rebel groups. Burkina Faso is experiencing political instability. After more than 27 years in power, Blaise Compaoré resigned from the presidency following large-scale street protests in late October 2014. Popular frustration over weak governance, lack of jobs and difficult social and economic conditions is likely to continue to trigger outbreaks of instability and street protests. Niger is experiencing security threats. Limited financial and military resources, weak government control and porous borders mean that the authorities will struggle to contain the security threats posed by radical groups and trafficking networks.

3. **Malaria and neglected tropical disease (NTD) transmission are common vulnerabilities across the Sahel region.** The Sahel bears a disproportionate share of the global burden of morbidity, disability and mortality associated with malaria and NTDs.[5] NTDs, the most common afflictions worldwide, are mostly parasitic infections that can disable and weaken affected individuals. Both malaria and NTDs are seen as top health priorities by all countries in the sub-region. These diseases place an overwhelming economic burden on households, national economies and the region as a whole. Malaria and NTDs lock people into poverty by reducing

[3] Serigne Tacko Kandji, Louis Verchot and Jens Mackensen. Climate Change and Variability in the Sahel Region: Impacts and Adaptation Strategies in the Agricultural Sector. United Nations Environment Programme (UNEP) 2006.

[4] Periods of drought are associated with increased transmission and prevalence of trachoma while heavy or unseasonal rainfall increases the transmission of malaria, schistosomaisis, lymphatic filariasis and onchocerciais and can lead to malaria epidemics.

[5] For Burkina Faso, Mali and Niger, malaria and NTDs represent about 21 percent of total Disability-Adjusted Life Year's (DALY) on average, while the share of these diseases globally is about 4.4 percent.

labor productivity, interrupting agricultural practices, hindering scholastic achievement, impairing cognitive development, and depleting household income and resiliency.[6,7]

4. ***The Lancet Commission on Investing in Health*[8] has reaffirmed the primordial importance of investments in health for economic growth in low and middle income countries.** One of the main conclusions of the Commission's report is that health improvement accounted for 11 percent of economic growth in low and middle income countries between 2001 and 2011. These returns are even higher (24 percent) when a full income approach is adopted. In western Sub-Saharan Africa, malaria and NTDs together represent between 15 percent and 26 percent of the overall burden of diseases measured in disability adjusted life years (DALYs). Addressing these diseases could contribute to substantial improvements in health and to sizeable economic benefits in the medium to long run.

5. **Moreover, the *Lancet Commission* also estimated that scaling up highly effective malaria and NTD control interventions could contribute to achieving a *grand convergence*[9] in under 5 mortality rates at the horizon of 2035.** Achievement of convergence would prevent 10 million deaths globally in 2035 across low-income and middle-income countries relative to a scenario of stagnant investments and no improvement in technology.

6. **A regional integration approach to combatting malaria and NTDs diseases makes sense epidemiologically, economically, geographically, ecologically and programmatically.** The control and elimination of malaria and NTDs is a regional public good as neither malaria nor NTDs respect national boundaries. Strategies to control and eliminate these diseases in countries must include regional collaboration and collective actions to enhance implementation of disease control strategies across international borders in endemic areas. The regional rationale for the Project is summarized in Box 1 and detailed in Annex 7 of this document.

[6] For Malaria, see Tusting LS, Willey B, Lucas H et al. Socioeconomic development as an intervention against malaria: a systematic review and meta-analysis. *Lancet* 2013.
[7] For NTDs, see Aagaard-Hansen J, and Chaignat CL. Neglected tropical diseases: equity and social determinants. World Health Organisation, 2010. Equity, Social Determinants and Public Health Programmes (ch. 8).
[8] Dean T. Jamison et.al. (2035) Global Health 2035: a world converging within a generation. The Lancet, Volume 382, Issue 9908, pp. 1898-1955.
[9] An epidemiologic transition which results in developing countries having similar mortality patterns to those seen in developed countries.

Box 1: Why a Regional Approach to the Control of Malaria and NTDs in the Sahel?

The Sahel Malaria and NTDs Project complies with the International Development Association (IDA) regional projects criteria:

- The Sahel Malaria and NTDs Project will be implemented in three countries of the Sahel region: Burkina Faso, Mali and Niger. Other countries may join during project implementation. Malaria and preventive chemotherapy NTDs (PC-NTD) control is a regional public good. The Project will strengthen disease control strategies in cross-border areas where disease prevalence and transmission is highest and access to services lowest. The regional benefits and positive externalities of effective malaria and PC-NTD control are substantial.
- The West African Health Organization (WAHO, part of Economic Community of the West African States, or ECOWAS) will be responsible for the regional coordination and day-to-day oversight of the Project. Collective action and cross-border collaboration are emphasized throughout the Project:
    - the Project will support countries' efforts to harmonize policies and procedures;
    - countries will be empowered to engage in joint planning, implementation and evaluation of program activities across borders at regional national and district levels, and;
    - the Project will promote resource sharing and pooled procurement of difficult to access commodities.

By considering activities that can only be achieved through multi-country collaboration, priority will be placed on three areas:

- control and prevention of cross-border spread of communicable disease;
- research, including targeted research and development, and;
- standardized data collection efforts.

The Project will be implemented in the context of regional strategies for the control of malaria and targeted PC-NTDs, based on regional best practices and WHO guidance.

7. **The Project will be implemented in three countries in the Sahel region: Burkina Faso, Mali and Niger.** The criteria for country selection included a consideration of disease burden and epidemiology, geography, the size of the population at risk, economic, linguistic and cultural ties among the countries and an expression of interest in the Project by the countries. The three countries have similar burdens of malaria and NTDs and seasonal patterns of disease transmission, are bound together by the Niger River, which is a shared economic resource, and can easily build upon existing institutional capacity for regional projects. The Project readily complements ongoing and pipeline national and regional investments. Additional countries in the Sahel with similar characteristics as presented below may join this regional initiative at a future stage. These characteristics include:

- Epidemiology: Burkina Faso, Mali, and Niger have a heavy burden of five or more of the seven major PC-NTDs[10] which can be addressed through integrated periodic mass drug administration (MDA) and treatment campaigns. These burdens include a significant backlog of patients with reversible complications of NTDs; a heavy burden of malaria in populations with poor access to diagnostic and treatment services; and, seasonal malaria transmission amenable to control through community-based seasonal malaria chemoprevention (SMC).[11]

- Geography: The three countries are contiguous, land-locked countries with shared and porous borders. Collective action and cross-border planning for disease control and surveillance is a key element in Project design as these diseases and the people they affect are not limited by national borders.

- Population: The three countries are of a size that will allow for significant benefits to accrue within the constraints of the Project budget. The combined population is approximately 50 million, almost all of which is at risk for malaria, with a significant proportion also at risk for PC-NTDs.

- Economic collaboration and shared currency: The three countries are members of ECOWAS. As a result, these countries are already aligned in the joint pursuit of improved national wealth and economic growth through cross-border development initiatives. These countries are also members of the *Union Économique et Monétaire Ouest Africaine* (UEMOA, "West African Economic and Monetary Union") and share the same currency, the West African CFA franc.

- Interest and engagement of other partners: The three countries are receiving external support for national strategies and action plans for the control and elimination of malaria and NTDs which will complement International Development Association (IDA) financing. During a regional Project preparation workshop organized in February 2015, key financing and implementation partners[12] expressed strong interest and engagement in working in partnership during Project preparation and implementation.

A. Sectoral and Institutional Context

8. **For most countries in the Sahel region access to health services remains inadequate, with a large proportion of the population living more than five kilometers from a health center.** There are large variations in access to services and health outcomes between urban and rural areas, and between the wealthiest 20 percent and the poorest 20 percent of the population.

[10] Lymphatic filariasis (LF), onchocerciasis, schistosomiasis, trachoma and soil-transmitted helminths (STH), which

[11] SMC is an innovative, highly effective preventive strategy that was adopted by the WHO in 2012 for malaria control and is tailored for the Sahelian region. SMC complements other highly cost-effective malaria control interventions including distribution of long-lasting insecticidal nets, other vector control measures, and prompt diagnosis and treatment of malaria infections. The intervention is not experimental, has been pilot tested in the client countries and incorporated into regional and national strategies. There is a high level of community acceptance of the intervention and this will be documented in the social assessment of the Project.

[12] Key financing and implementing partners for NTDs include USAID and Helen Keller International (HKI). Key financing and implementing partners for malaria include the Global Fund, USPMI, UNITAID, the Malaria Consortium and Catholic Relief Services (CRS).

Doctors, nurses and midwives remain disproportionately concentrated in urban areas, and service quality is undermined by low salaries and limited accountability for performance of public sector health workers. Disparities in access are further complicated in post-conflict countries. Recent internal strife in Mali has displaced health care providers and disrupted service delivery. As a result, the majority of preventive health programs have stopped their operations, and only 36 percent of the primary care structures can provide care for health threats such as malaria.

9. **An integrated regional malaria and NTD program will help Burkina Faso, Mali, and Niger to address the burden of malaria and PC-NTDs and advance the following Millennium Development Goals (MDGs):** Reducing Child Mortality (Goal 4), Reducing Maternal Mortality (Goal 5), and Combatting HIV/AIDS, Malaria, and Other Diseases (Goal 6).

10. **The proposed project will focus on scaling up disease control interventions at the community level in cross-border areas.** For malaria this includes community-based diagnosis and treatment and seasonal malaria chemoprevention (SMC) for young children. For PC-NTDs this includes integrated mass drug administration (MDA) and treatment of the reversible consequences of trachoma (triciasis) and lymphatic filariasis (hydrocele). By focusing on community-based interventions, the project will provide an opportunity to improve the quality and efficiency of community-health delivery platforms. Complementarity will be ensured with: (i) ongoing and pipeline World Bank funded projects in each country; (ii) ongoing and pipeline World Bank funded regional projects[13]; and (iii) ongoing and planned support for malaria and PC-NTD by national governments and external partners.

Malaria

11. **Development partners, including the World Bank, have been investing in malaria control across Africa for more than a decade and great progress has been made in curbing the impact of the disease through the promotion of long-lasting insecticidal nets (LLINs) and prompt diagnosis and treatment of fever.** Nevertheless, all countries in the Sahel remain vulnerable to malaria, especially during the rainy season when malaria transmission and infections peak. There is real concern about the possibility of malaria resurgence and epidemics due to an array of factors affecting the Sahel including climate change, insecticide and drug resistance, as well as changes in water distribution and use patterns associated with irrigation and other development activities. The malaria burden in the Sahel is unacceptably high with an estimated 33.7 million malaria episodes and 152,000 deaths from malaria each year in children under five.

12. **Malaria is a top health priority and is the primary cause of outpatient consultation, hospitalizations and hospital deaths in all three countries.** In Burkina Faso, for example, malaria is responsible for 46.5 percent of outpatient visits, 61.5 percent of hospitalizations and 30.5 percent of hospital deaths. In all three countries malaria transmission occurs throughout the year, but there is a sharp increase in cases and deaths associated with the rainy season which

[13] This includes the Sahel Women's Empowerment and Demographic Dividend Project (SWEDD), the West African Regional Disease Surveillance Project (WARDS), and the planned West Africa Regional Disease Surveillance System Enhancement Project (REDISSE).

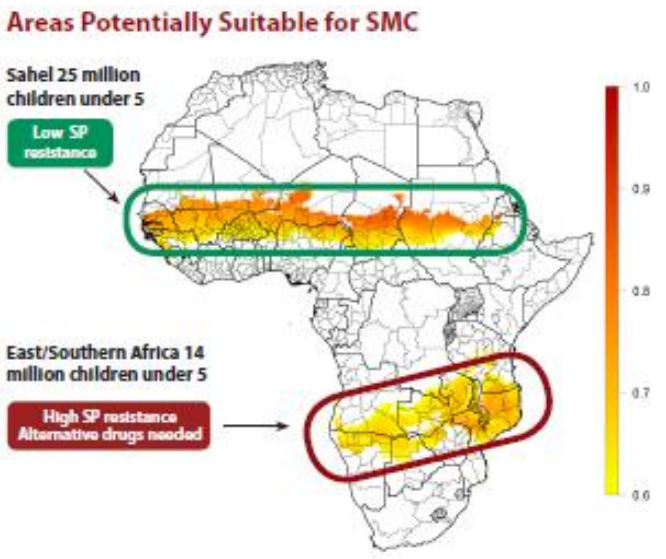
extends from July to October. Greater detail on the burden of malaria in all three countries is provided in Annex 6.

13. **A regional strategy for the control and elimination of malaria among ECOWAS countries covering the period 2014-2020 was validated by member states in December 2013**. The strategy includes the following objectives: (i) to intensify cross-border cooperation; (ii) to coordinate inter-country efforts for control and elimination; (iii) to mobilize resources to increase efficiency; and (iv) to strengthen the national response performances of member countries. The strategy is a major step forward in tackling the challenge of malaria control from a regional perspective. It is comprehensive and responsive to the technical and implementation guidance provided by the WHO on the prevention, diagnosis and treatment of malaria, as well as surveillance and monitoring. The strategy is accompanied by a Regional Action Plan for Malaria Control in West Africa, which was also validated in 2014. Burkina-Faso, Mali and Niger all have a National Malaria Control Program (NMCP) that has developed a strategic plan of action consistent with the ECOWAS regional strategy.

14. **Significant gains in malaria control in the Sahel can be achieved, particularly in populations with poor access to services, by scaling-up two interventions:** (i) SMC to prevent malaria infections and deaths in young children; and (ii) community-based diagnosis and treatment of uncomplicated malaria (described in further detail under III. Project Description).

- SMC is a new and highly effective intervention which involves the presumptive monthly treatment of young children with a combination of antimalarial drugs during the rainy season. SMC is specifically suited to the Sahel (see Table 1 for population at risk) where the malaria transmission season is short and intense and where there is low resistance to sulfadoxine-pyrimethamine (SP), which is part of the drug combination (See Figure 1). SMC has been shown to be extremely cost-effective in field trials and the early stages of implementation; however, few countries have begun to take the intervention to scale. Burkina Faso has begun implementing SMC on a pilot basis in seven districts and Niger has begun implementing a SMC pilot in more than 1000 villages.

Figure 1: Areas Potentially Suitable for SMC



Source: Naidoo I & Roper C. Drug resistance maps to guide intermittent preventive treatment of malaria in African infants. Parasitology, 2011, 138:1469–1479

Table 1: Population at Risk of Malaria Living in Areas Amenable to SMC

	Burkina Faso	Mali	Niger	Total
Total population at risk	15.7 M	13.1 M	14.4 M	43.2 M
Population in SMC areas	13.9 M	12.1 M	14.1 M	40.1 M
Children under 5 y/o in SMC areas	2.7 M	2.1 M	3.0 M	7.8 M

- At present, most malaria diagnosis and treatment in the three countries is being conducted in health facilities, however all three countries have adopted and begun to roll out policies to allow community health workers (CHW) to diagnose malaria with rapid diagnostic tests (RDT) and treat confirmed malaria cases with an artemesinin-based combination treatment (ACT). This project will accelerate the scale-up of these interventions to reach at risk populations living in border areas with poor access to facility-based health services.

Neglected Tropical Diseases

15. This regional Project is building on best practices as enunciated in the WHO Roadmap for the control and elimination of NTDS as well as the Regional strategy and strategic plan for the control and elimination of NTDS within the African Region. The best practices have been adapted to the Sahel region, and particularly to the cross-border areas where the regional project has added value.

16. The WHO's Global Plan to Combat Neglected Tropical Diseases 2008 – 2015, presents several NTDs including the PC- NTDs for which there are at the moment tools and strategies for

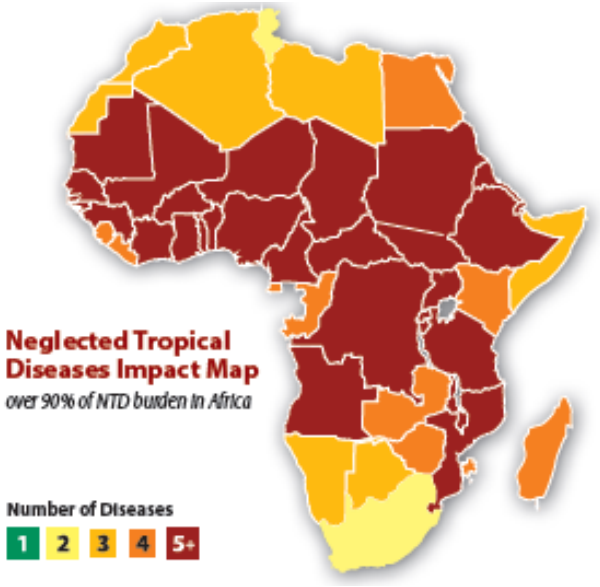
their control.[14] In 2012, the Global Plan was translated into a roadmap to guide implementation of policies and strategies set out in the Global Plan to combat neglected tropical diseases 2008–2015 and presented an objective to eliminate or reduce neglected diseases by 2020.[15] This was followed by the elaboration of a Regional strategy and Strategic Plan 2014 – 2020 by WHO/AFRO.[16] This required countries to prepare national master plans and commit finances for the implementation of their plans. By 2014, several countries in the WHO Africa Region, including Burkina Faso, Mali and Niger had developed their master plans for control and elimination of the neglected tropical diseases.

17. The World Health Organization (WHO) estimates most NTDs can be eliminated from Africa by 2025. The WHO African Programme for Onchocerciasis Control (APOC) has developed a regional strategy to eliminate onchocerciasis and lymphatic filariasis (LF) and support control the other PC-NTDs between 2016 and 2025. These diseases are co-endemic across Africa and the integration of control strategies will greatly improve program efficiency (See Figure 2).

18. **Most of the global burden of the five major preventable NTDs is borne by the poorest of the poor in Africa.** Although NTDs can be found across Sub-Saharan Africa, the burden is heavily concentrated in the Sahel region. Four of the most debilitating NTDs are strongly associated with the climatic environment of the Sahel: 88 percent of trachoma cases in Africa are concentrated in the Sahel, as are 59 percent of LF cases, 50 percent of schistosomiasis cases, and 49 percent of onchocerciasis cases. Most of the population of the Sahel is at risk for co-infection with at least five NTDs (Figure 2), which can effectively be controlled through annual or semi-annual community-based MDA with drugs donated by the pharmaceutical industry.

Figure 2: NTDs Impact Map

[14] WHO. *Global plan to combat neglected tropical diseases 2008–2015*. Geneva, World Health Organization, 2007 (WHO/CDS/NTD/2007.3). (http://whqlibdoc.who.int/hq/2007/who_cds_ntd_2007.3_eng.pdf).
[15] WHO. Accelerating work to overcome the global impact of neglected tropical diseases – A roadmap for implementation, Geneva. World Health Organisation. 2012. WHO/HTM/NTD/2012.1. (http://www.who.int/neglected_diseases/NTD_RoadMap_2012_Fullversion.pdf).
[16] WHO. Regional Strategic Plan for Neglected Tropical Diseases in the African Region 2014–2020. Brazzaville, World Health Organization, Regional Office for Africa, 2013.



Source: http://unitingtocombatntds.org/sites/default/files/resource_file/ntd_event_burden_map_updated.pdf

19. **In Burkina Faso, Mali, and Niger, there is a paradigm shift from control to elimination of PC-NTDs.** All three countries are taking steps to reduce the disease burden domestically and to interrupt transmission of disease (see Table 2). When this is achieved, countries may be able to stop the use of MDA and focus efforts on surveillance and prevention of the reintroduction of the disease pathogens from neighboring countries. Progress towards elimination of onchocerciasis, LF and trachoma is being made in these three countries. The Project's focus on diseases surveillance and cross-border collaboration will support the ultimate elimination of these diseases. Greater detail on the burden of NTDs in all three countries is provided in Annex 6.

Table 2 : Burden of Preventable Neglected Tropical Diseases

Population requiring preventive chemotherapy			
Disease	Burkina Faso	Mali (Geographic Distribution)	Niger
Schistosomiasis	12.2 M	Endemic throughout Mali; school aged children at greatest risk	12.7 M
Lymphatic Filariasis	15.2 M	Endemic throughout Mali; entire population at risk	11.5 M
Soil-Transmitted Helminths	6.3 M	Endemic throughout Mali; children at greatest risk	7.2 M
Onchocerciasis	333,000	Endemic in 17 districts in the regions of Kayes, Koulikoro and Sikasso	Surveillance
Trachoma	7.2 M at risk 23,000 active cases	Present in all districts of the country	11.3 M at risk

B. Relationship to Country Partnership Strategies (CPS)

20. **This project is directly in line with the World Bank's mission to end extreme poverty and promote shared prosperity.** NTDs and malaria are major constraints on the health, education, and earning potential of people living in the Sahel and have the greatest impact on the most vulnerable populations: women, young children, and the extremely poor. These diseases are both causes and consequences of poverty.[17] The poorest and most vulnerable populations are more likely to acquire these diseases and are less likely to receive adequate diagnosis and treatment. The economic rationale for investment in the control of malaria and NTDs is very strong and addressing the morbidity, disability and mortality associated with these "diseases of poverty" will contribute to reducing extreme poverty as well as social and economic inequity.

21. **The Project is in line with the World Bank Group (WBG) Sahel Regional Initiative which includes two inter-related pillars: (1) vulnerability and resilience; and (2) economic opportunity and integration**. The project directly follows from the first pillar of the initiative by addressing population vulnerabilities associated with malaria and NTDs in three Sahelian countries: Burkina Faso, Mali, and Niger.

22. **The Project is aligned with pillar III of the Regional Integration Assistance Strategy (RIAS) for Sub-Saharan Africa (2008/rev. 2011), building coordinated interventions to provide regional public goods.** The RIAS specifically identifies regional and sub-regional programs to address the cross-border dimensions of malaria prevention and treatment as an area of focus. The project will directly address malaria and NTDs which share similar regional public goods characteristics.

23. **Furthermore, the Country Partnership Strategies (CPSs) for the three Sahel countries emphasize the importance of improving health services delivery and reducing vulnerability**. In **Burkina-Faso** the FY13-16 CPS includes the following objectives: enhance

[17] http://www.rsph.org.uk/filemanager/root/site_assets/membership/publications/xix_world_epidemiology_congress/the_global_burden_of_neglected_tropical_diseases.pdf

governance to deliver social services more efficiently, and to specifically improve access by the poor to quality social services, and; reduce social, economic and environmental vulnerabilities. The objectives of the **Mali** FY14-15 Interim Strategy Note include protection of human capital and building resilience. In **Niger** the new CPS aims to reduce vulnerability by increasing access to health services. The project will support achieving these objectives by improving service delivery for malaria and NTDs at the community level and reducing vulnerabilities for population affected by them.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

24. **The objective of the project is to increase access to and use of harmonized community-level services for the prevention and treatment of malaria and selected neglected tropical diseases in targeted cross-borders areas in Participating Countries in the Sahel region.**

B. Project Beneficiaries

25. **The project will benefit the populations most vulnerable to malaria and NTD infections in the three countries in the Sahel, particularly in border areas.** The most vulnerable populations have been identified through disease mapping and country data on access to services. Specific project beneficiaries are described below:

(a) **The malaria interventions will benefit communities at risk of malaria infections in cross-border areas. SMC will benefit children 3-59 months who are greatest risk of severe disease and death from malaria. Community-based diagnosis and treatment of malaria will benefit all persons at risk of malaria (young children, school aged children and adults) living in rural areas with poor access to health facilities.**

(b) **The NTD interventions will conduct Mass Drug Administration (MDA) to all eligible community members in border areas endemic with at least two of the PC-NTDs.** The beneficiaries of treatment for schistosomiasis and STH will be school-age children. Adults in heavily infected communities will also receive treatment for schistosomiasis. The beneficiaries of treatments for trachoma, LF and onchocerciasis will be the total eligible populations in endemic districts. The surgical interventions will benefit persons in endemic districts with reversible disabilities from trachoma and LF.[18]

C. PDO Level Results Indicators

26. The following are the PDO level result indicators for the project (refer to Annex 1 for results framework):

(i) Percent of target districts with at least 70 percent coverage of three or more courses of SMC for children under five years old.

[18] Indicators will be disaggregated by country in the implementation reporting.

(ii) Percent of children under five years old with fever in last two weeks who had a finger or heel stick for malaria diagnosis in targeted districts.
(iii) Percent of targeted districts providing integrated annual treatment for schistosomiasis and STH for school-aged children 5-14 years.
(iv) Percent of border districts that initiate SMC campaigns within two weeks of planned timeline.
(v) Number of direct project beneficiaries, percent of which female.

D. Results Monitoring and Evaluation

Results monitoring and evaluation is described in detail in Section IV (institutional arrangements) Part B and Annex 1.

III. PROJECT DESCRIPTION

27. **This Project, which promotes the control of malaria and NTDs in the Sahel, is the focus of one of the World Bank's regional integration initiatives to combat extreme poverty and promote shared prosperity in the region.** The Project will support countries' efforts to harmonize policies and procedures and engage in joint planning, implementation and evaluation of program activities across borders. It will also support countries' efforts to scale-up community-based interventions to control malaria and NTDs in border areas. All of the proposed interventions rely on trained CHWs to provide either routine services or undertake periodic, short duration and targeted health campaigns. The same CHWs will be engaged to provide both malaria and NTD prevention and treatment services.

28. **There are strong linkages between the project, other World Bank investments at national and regional level and support from other technical and financial partners (detailed in Annex 3).**

- The project complements but does not duplicate ongoing and new portfolio projects in all three participating countries. In Niger and Burkina Faso the project will be implemented through the same project implementation units (PIU) in the Ministries of Health as ongoing and new projects in the health sector. In Mali, the PIU will be under the DFM of the Ministry of Health. The PIUs will be further strengthened by the project enabling resource sharing and more effective, efficient and timely management of implementation of all of the projects in the sector. Moreover the complementarity of the projects allows the World Bank to have a larger footprint and greater impact at country level.
- The project is also linked to three other regional investment projects: The Sahel Women's Empowerment and Demographic Dividend Project (SWEDD), which also finances a regional program that includes Burkina Faso, Niger and Mali; the West Africa Regional Diseases Surveillance Project (WARDS) which is funded by the Africa Catalytic Growth Fund (ACGF) and also seeks to strengthen capacity for disease monitoring and surveillance among ECOWAS countries; and the Senegal River Basin Water Resources Development Project (MWRDS2) which has a health component that focusses on the prevention of malaria and NTDs on Senegal, Guinea, Mauritania and Mali. Project design has taken into consideration lessons learned

from the regional project and, as with SWEDD and WARDS, is engaging WAHO as a regional implementation partner. The project will help to further strengthen the regional PIU so that it can more effectively manage the regional grants financed by the World Bank**.**

- Coordination with other partners supporting malaria control and elimination is critical as they will be providing the majority of technical assistance and external financing for the national programs. The key financial and technical development partners for malaria in the project countries are the Global Fund for AIDS, Tuberculosis and Malaria (GFATM), The United States President's Malaria Initiative (USPMI), UNITAID, UNICEF, WHO, Medecins Sans Frontiers (MSF), the Malaria Consortium, and Catholic Relief Services (CRS). For the NTDS key partners are the United States Agency for International Development (USAID) and Helen Keller International (HKI). In order to enhance coordination, implementing partners have been engaged throughout the development of the project and all support the project as designed. The Project Team and in-country Senior Health Specialists will tailor its approach in each country to build on and complement new World Bank initiatives as well. All partners were consulted and engaged in project preparation. The project builds on and complements existing prevention, control, and elimination strategies implemented by countries with support from external partners, accelerates the introduction and extends the geographic scope and population coverage for key interventions.

A. Project Components

29. The proposed project will have three components: (1) improve regional collaboration for stronger results across participating countries; (2) support coordinated implementation of technical strategies and interventions; and (3) strengthen institutional capacity to coordinate and monitor implementation.

Component One: Improve regional collaboration for stronger results across participating countries (US$26.5 million)

30. This component will support countries' efforts to harmonize policies and procedures and engage in joint planning, implementation, knowledge exchange and evaluation of malaria and NTD service delivery. The key regional elements of this component will include:

Sub-Component 1.1 Regional Coordination

- **A regional coordinating committee comprised of national program managers and supported by a technical advisory group (s) (TAG) will be established** to (i) harmonize technical strategies, implementation and monitoring tools across countries; (ii) conduct joint planning of campaigns, cross-border activities and project evaluations, and; (iii) identify operational research priorities and disseminate lessons learned in the context of project implementation and evaluation. The Regional Coordinating Committee will be convened by WAHO. The Regional Coordinating Committee will develop will establish a TAG of national and regional experts to advise on project implementation and evaluation, and; a

knowledge exchange strategy to systematically capture and share lessons learned and best practices associated with project implementation strategies and technical interventions.

- **Cross-border planning and implementation committees are in place and functioning**. Local committees will be established to plan the implementation of interventions and monitoring and evaluation activities involving two or more districts in adjacent countries. The district health personnel, local government, NGOs and community-based organizations and local community leaders will be members of these committees.

Sub-Component 1.2 Regional research

- **Regional networks for monitoring and evaluation and regional research, including drug and insecticide resistance monitoring will be established or strengthened to increase the usefulness (timeliness, simplicity and reliability) of the information generated by country monitoring and surveillance systems**. This will be done through (i) **Capacity building, including short and long-term training and technical assistance will be provided by regional institutions to improve skills and implementation know-how**. The WHO Regional Office for Africa (WHO/AFRO), through the Inter-Country Support Team for West Africa (IST/WA) and APOC will be the primary implementation partner for regional capacity building activities. WAHO and local institutions such as universities and research centers[19] may also be engaged in training and technical assistance; (ii) establishing/upgrading of communication networks and systems of computerized data management; (iii) financing operational and applied research as proposed by regional institutions, individually or jointly, in response to agreed priorities, and; (iv) strengthening the existing network of sentinel sites across the three countries to ensure early identification of changes in disease epidemiology or the efficacy of key interventions.

Sub-Component 1.3 Regional pooled drug procurement

31. **Regional pooled procurement of drugs for SMC will be established**. The project will support the pooled procurement of Amodiaquine + Sufadoxine-Pyrimethamine (AQ+SP) for SMC to facilitate the timely delivery of these drugs to all three countries in advance of the annual malaria transmission season. This is necessary to ensure simultaneous roll out of the SMC intervention across borders. In addition, pooled procurement has the potential to reduce transaction time and costs and result in savings through large quantity discounts. During project preparation several options were evaluated. Taking into account findings of the recent assessment of the *Centrale d'Achat des Médicaments Essentiels Génériques et des Consommables Médicaux* (the National Drug Procurement Agency, CAMEG) in Burkina Faso conducted by World Bank Procurement (GGODR), it was decided to have CAMEG undertake procurement and quality assurance of SMC drugs on behalf of all three countries.

32. **The project will finance:**

- the costs of convening the Regional Coordinating Committee and the TAG(s) required to support regional decision making, joint planning and information exchange;

[19] For example, the Malaria Research and Training Center (MRTC) in Bamako is already providing some training and technical assistance to the three countries for implementation of malaria control strategies.

- the costs of convening cross-border planning and implementation committees and;
- long- and short-term training, technical assistance and research.

Component Two: Support coordinated implementation of technical strategies and interventions (US$74.1 million equivalent)

33. **This component will support countries' efforts to jointly control malaria and NTDs through community-based interventions in cross-border areas.** NGOs will be contracted to support implementation of community-level interventions and they will also be in charge of transferring payments to CHWs, according to the national guidelines about "motivation" of CHWs. Maps detailing the targeted districts are included in Annex 2.

- **Community mobilization and information, education and communication (IEC) is central to the success of all four of the proposed medical interventions as well as project monitoring and evaluation.** Intensive IEC, including behavior change communication (BCC) will be conducted throughout project implementation to ensure demand for and uptake of other project interventions and normative behavior change (i.e., care seeking for young children with fever; hygiene practices for the management of lymphedema; etc.) to sustain the health gains generated. Community mobilization and IEC activities will be the responsibility of local Ministry of Health staff or will be sub-contracted to NGOs. Community and religious leaders, women's groups and other local stakeholders will be engaged in project preparation and implementation to maximize buy-in and ownership of project objectives.
- **Seasonal malaria chemoprevention (SMC):** The malaria control strategy for countries in the Sahel has very recently been strengthened by the introduction of a new and highly effective intervention, SMC. This project will accelerate the introduction and scale-up of SMC, further contributing to reductions in morbidity and mortality and moving countries closer to malaria elimination. Children aged 3 – 59 months in eligible border areas will be given a combination of two relatively inexpensive anti-malarial drugs, Amodiaquine plus Sulfadoxine-Pyrimethamine (AQ + SP), at regular one-month intervals during the rainy season which runs from June to October. As SMC campaigns will need to be implemented by all three countries at the same time each year, planning, procurement, training and evaluation will be coordinated at the regional, national and local (cross-border) level.
- **Community-based diagnosis and treatment of malaria**: Regional and country strategies for malaria control and elimination include community-based diagnosis and treatment of malaria as a critical intervention for reaching the rural poor who have poor access to fixed health facilities. However these strategies have not been taken to scale and the interventions have not reached the most remote and vulnerable communities. Project support for this intervention will complement domestic and external financing to ensure that the intervention reaches populations in target districts. The project will promote and accelerate the integration of malaria diagnosis and treatment into community-based

primary care approaches[20] using rapid diagnostic tests (RDT) and treatment of confirmed cases of malaria with artemesinine-based combination therapy (ACTs).

- **Integrated treatment of NTDs:** The drugs used for the treatment of the PC-NTDS are available through donations from pharmaceutical companies to the WHO. Historically these diseases have been addressed though parallel mass treatment campaigns, but new policies are being adopted by countries in the region to integrate mass treatment of PC-NTDs in an effort to increase efficiency, effectiveness, and reduce operational costs. The integrated treatment of PC-NTDs will be delivered through the community health care delivery system and will be rolled out with support from this project. Integrated community MDA for PC-NTDs represents exceptional value for money.
- **Treatment of the reversible consequences of NTDs**: Part of the public health burden associated with NTDs is impairment and disability from LF (lymphedema and hydrocele) and trachoma infections (trichiasis). Management of the morbidity and disability associated with LF and trachoma requires a broad strategy which includes both secondary and tertiary prevention. Secondary prevention includes simple hygiene measures, such as basic skin care, to prevent progression of lymphedema to elephantiasis, which can be done through family and community home-based care. The management of hydrocele and trichiasis requires simple surgery, which can be provided at the community level by mobile surgical teams. Although each country is providing this service, coverage is extremely limited and the backlog of surgical candidates is very large. This is in part due to the limited number of qualified and trained health professional available to conduct the surgeries within each country. The project will promote the mobilization of multi-country teams to provide these services "campaign-style" once or twice each year in each country. These multi-country mobile surgical camps will also provide opportunities for in-service training of health care providers including doctors and nurses.

34. **The project will finance:**

- RDTs and ACTs and some palliative medicines for community-based diagnosis and treatment of malaria and associated commodities, including personnel protection equipment and medical waste disposal containers;
- AQ+SP for SMC, including quality assurance and distribution costs will be financed under this component but procured through a pooling arrangement with CAMEG Burkina Faso acting as procurement agent on behalf of all three countries;
- Praziquantel (PZQ) for the treatment of schistosomiasis in adults (the current donation program provides free PZQ for school aged children, however in heavily infected communities adults require treatment as well);
- disposable surgical kits for the treatment of trichiasis and hydrocele and the training of doctors and nurses in surgical techniques;
- technical assistance and training from WHO/AFRO (including Intercountry Support team for West Africa (IST/WA) and the African Programme for

[20] Fever is the most common symptom requiring assessment and treatment or referral at the community level and in the absence of a confirmed biological diagnosis; fevers are often assumed to be due to malaria. The objective of integrating malaria diagnosis and treatment into community-based care is not only to ensure that malaria is treated, but also to identify cases of fever that are not due to malaria and treat or refer them appropriately. This integrated approach is variously known as Integrated Management of Childhood Illness in the Community (cIMCI) and Integrated Community Case Management (iCCM).

Onchocerciasis Control (APOC)) through country level service agreements as well as individual and institutional (NGO) consulting services for aspects of project implementation;

- the costs of selection, training, supervision and motivation of CHWs, and;
- a limited number of vehicles, including four-wheel drive multi-passenger vehicles and motorcycles to facilitate supervision of project activities.

Component Three: Strengthen institutional capacity to coordinate and monitor implementation (US$20.4 million equivalent)

35. **This component will provide support to country level implementing agencies and regional institutions to perform core functions and ensure that the project is well implemented, monitored and evaluated.**

36. **Support to coordination at the national level for implementation of the project.** The component will strengthen project management capacities for the implementing agencies, such as the recruitment and training of key personnel including financial management, accounting, procurement and monitoring and evaluation as well as technical specialists at country level when required. It will also support operating costs for the implementation agencies in the three countries.

37. **Support institutional strengthening at the national level for NTDs and malaria programs and for regional institutions as WAHO, CAMEG and regional research institutions.** This will include trainings and study tours for technical staff of the programs such as in epidemiology monitoring and evaluation, medical waste and supply chain management. Equipment and operating costs for the NTDs and malaria programs will also be funded through this component.

38. **Monitoring, evaluation and operational research at the national level will also be strengthened.** This includes strengthening routine health management information systems and operational research capacity at the national level, including regular monitoring and evaluation of Project interventions in the targeted areas, surveillance as well as specific surveys (for example to assess strategies at the community level).

39. **The project will finance the recruitment of essential staff consultants to complement the existing teams at both regional and national level**. Staff will receive training (in procurement, financial management, monitoring and evaluation, field epidemiology, entomology, etc.) as required if this training is not available through activities financed in component 1. Financing under this component will allow countries to conduct supplemental surveys, including KAP surveys and Lot Qualified Assurance Sampling (LQAS) surveys to monitor project implementation, coverage and access. This component will also support the revision of the national medical waste plans in Burkina Faso and Mali and contribute to their implementation.

Table 3 : Project total budget allocation (US$ millions)

Project activities	Burkina Faso	Mali	Niger	ECOWAS (including transfers and research institutions)	WHO/ AFRO (from Technical Assistance Agreements with the countries)
COMPONENT 1	**6**	**5**	**2.8**	**6.7**	**6**
1.1. Establishing regional Committee and cross-borders committees				2.7	4
1.2. Regional research				4	2
1.3. Regional pooled drugs procurement	6	5	2.8		
COMPONENT 2	**23.2**	**22.8**	**28.1**		
2.1. Behavior Change Communications interventions	1.4	2	3.3		
2.2. Seasonal malaria chemoprevention	8.2	3.6	8.5		
2.3. Community-based diagnosis and treatment of malaria	7.1	8.9	3.2		
2.4. Integrated treatment of neglected tropical diseases (NTDs)	3.8	4.7	7.8		
2.5. Treatment of the reversible consequences of NTDs	2.7	3.6	5.3		
COMPONENT 3	**5.8**	**7.2**	**4.1**	**3.3**	
3.1. National coordination and institutional strengthening	3.3	5.5	1.7	1.6	
3.2. Monitoring and evaluation	2.5	1.7	2.4	1.7	
TOTAL	**35**	**35**	**35**	**10**	**6**

B. Project Financing

40. The tables 3 and 4 present summaries of the project costs and the percentage contribution of IDA financing per component.

Table 4 : Project Cost and Financing (US$ millions)

	IDA Financing (US$ million)	% Financing
Component 1: Improve regional collaboration for stronger results across participating countries	**26.5**	**22%**
1.1. Establishing Regional Committee and cross-borders committees	6.7	6%
1.2. Regional research	6	5%
1.3. Regional pooled drugs procurement (AQ+SP)	13.8	11%
Component 2: Support Coordinated Implementation of Technical Strategies and Interventions	**74.1**	**61%**
2.1. BCC interventions	6.7	6%
2.2. Seasonal malaria chemoprevention	20.3	17%
2.3. Community-based diagnosis and treatment of malaria	19.2	16%
2.4. Integrated treatment PC-NTDs	16.3	13%
2.5. Treatment of the reversible consequences of NTDs	11.6	9%
Component 3: Strengthen institutional capacity to coordinate and monitor implementation	**20.4**	**17%**
3.1. National coordination and institutional strengthening	12.1	10%
3.2. Monitoring and Evaluation	8.3	7%
Total Project financing	**121**	**100%**

C. Lessons Learned and are reflected in the Project Design

41. **This project will incorporate lessons learned from comprehensive literature reviews on community level delivery platforms, successful methods used in current World Bank projects in the region such as the African Programme for Onchocerciasis Control (APOC) as well as Independent Evaluation Group (IEG) portfolio review of World Bank communicable disease projects.**[21] This project will build off of the APOC model of drug distribution and integrate MDA for five PC-NTDs and SMC (see Box 2). Detailed description of how this project incorporates the lessons learned is explained in Annex 6**.**

[21] Martin, G. Portfolio review of World Bank lending for communicable disease control. IEG Working Paper 2010/13.

Box 2: Success of the APOC Programme

The World Bank has helped fight diseases of poverty for more than forty years, contributing to river blindness control in many countries. The 1974 agreement by then Bank President McNamara to establish a Partnership to Control River Blindness was among the first World Bank health projects. The World Bank has been part of the long-running public-private partnerships that have supported this effort through the Onchocerciasis Control Program (OCP) and through its follow-up program, the African Programme for Onchocerciasis Control (APOC). APOC is one of the most successful regional public-private partnerships for health in Africa: treating 100M people per year in 31 African countries; effectively eliminating blindness from this source

Community-directed intervention strategy (CDI) has been used by APOC for over 15 years. This is a tool for the delivery of multiple health interventions to the community by community members. In CDI, communities choose their "community health worker, community drug distributor, etc.) and agree on an appropriate time for drug distribution. This has resulted in multiple health interventions being made available to difficult to reach areas that may not have had access to the interventions. This strategy which is the one on which this project is modeled as concerns the community-based activities has increased community involvement and ownership of the health care interventions and sensitized communities to their right to health. APOC has worked with WAHO and the Regional Institute of Public Health in Benin to develop a curriculum and training model in the CDI strategy that is being integrated into the teaching of some universities and health care personnel training centers in Africa.

APOC facilitates community-directed systems for distribution of onchocerciasis treatment in 20 countries in sub-Saharan Africa where the disease was a public health problem, most often in communities living in extreme poverty. The program represents a highly successful public-private partnership for health, delivering the drug ivermectin, donated by Merck & Co., Inc. for as long as needed. Implemented through a unique partnership with the World Health Organization (WHO), APOC brings ivermectin to communities while building local community health worker capacity. Using CDI strategy, APOC up-scaled malaria prevention by distribution of LLIN and home management of malaria in Nigeria. The community-based activities of this project are modeled on the successes of APOC with its CDI strategy

APOC's Impact

- 16M children born after 1974, when the river blindness partnership began, are free of the disease, and more than 200,000 cases of blindness have been prevented
- 1.5M people originally infected are free of river blindness.
- 25M hectares of arable land released to production, enough to feed 17M people.
- 18-20% estimated economic rate of return based on the increase in the labor force due to the prevention of blindness and increased land use.

IV. IMPLEMENTATION

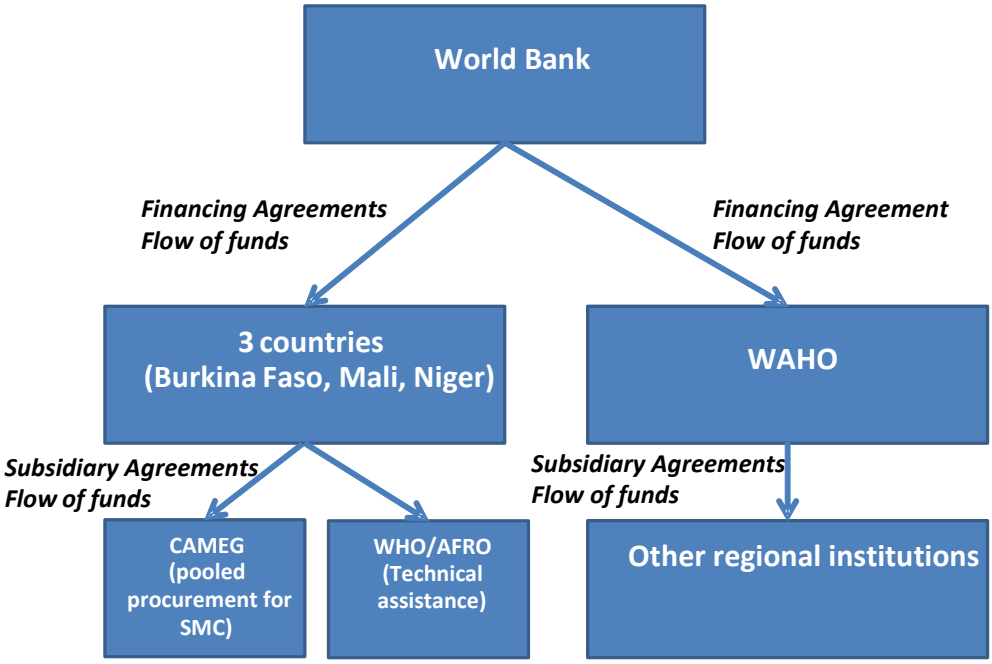
A. Institutional and Implementation Arrangements

42. **In order to fully integrate national and regional priorities, this operation combines support to the three countries to implement country-level activities, as well as support to WAHO to perform a regional coordination role and to implement activities at regional and sub-regional (cross-border) level.**

43. Funds will flow from IDA directly to the three countries for country level activities, and to WAHO (eligible to receive regional IDA financing, see Annex 3 for eligibility criteria for regional grants) for regional level activities. Funding for WAHO will be channeled through the Economic Community of West African States. ECOWAS will sign the financial agreement with IDA and a subsidiary agreement for transfer of project funds to WAHO. Separate service agreements will be signed or contracts awarded out of the proceeds of the agreement with WAHO to other regional institutions who will provide training and specific technical support for research and sentinel surveillance at the regional level. Technical assistance provided by WHO/AFRO will be funded out of the Financing Agreements with the three countries. This proposed arrangement is fully in line with IEG's recommendations on regional projects.[22] Annex 3 describes the entities (governments or partners) in charge of the various project activities implementation. The figure 3 below summarizes these arrangements:

[22] "What has generally worked best is reliance on national institutions for execution and implementation of program interventions at the country level, and on regional institutions for supportive services that cannot be performed efficiently by national agencies, such as coordination, data gathering, technical assistance, dispute resolution, and monitoring and evaluation." (IEG 2007).

Figure 3 : Flow of Funds for Sahel Malaria and NTDs Project



44. **The project will be implemented by the Ministries of Health in each country with support from WAHO and WHO/AFRO.** While the situation differs from country to country, each MOH has the responsibility for overseeing all field community distribution, treatment and BCC programs. All project activities related to NTD and malaria are integral parts of MOH's sector action plans under the national strategy. A summary of implementation arrangement is detailed in Table 5 and Figure 4. A more detailed explanation on each actor's role is in Annex 3.

Table 5: Summary of actors involved and areas of responsibility

Regional level	Areas of responsibility
WAHO	Ensure (i) regional coordination; (ii) knowledge management/regional learning; (iii) lead policy studies on regional cross-border activities and policy coordination; and (iv) day to day management of Project at regional level. A regional project implementation unit (R-PIU) will carry out procurement, FM, programming, M&E at regional level.
WHO/AFRO	Provide technical support in capacity building to (i) implement effective IEC/BCC strategies: (ii) provide MDA for PC-NTDs; (iii) scale-up SMC and community-based diagnosis and treatment of malaria; and (iv) adapt WHO guidelines to local realities. Also serve as liaison between the three countries and pharmaceutical donation programs to ensure timely access to adequate supply of free drugs for PC-NTDs treatment.
Other regional institutions	Centers of excellence in research and training in the three countries will coordinate the implementation of regional research activities and contribute to specialized training activities.

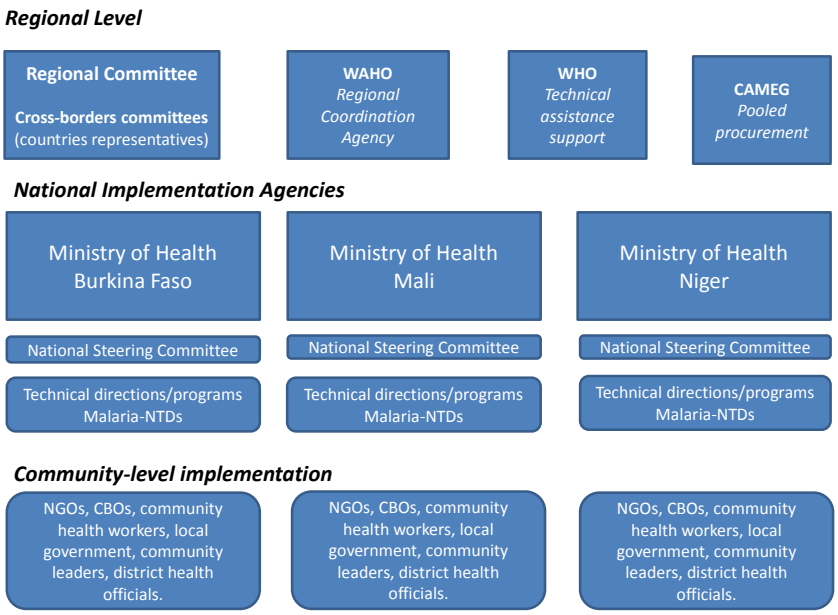
CAMEG (Burkina Faso central drug procurement agency)	Ensure pooled procurement and quality assurance of SMC drugs on behalf of all three countries.
Regional Steering Committee	(i) Harmonize strategies, implementation and monitoring tools across countries; (ii) conduct joint planning of campaigns, cross-border activities and project evaluations; and (iii) identify operational research priorities and disseminate lessons learned. Comprised of national program managers and technical advisors, donors and WHO/AFRO and hosted within WAHO.
National level	**Areas of responsibility**
Ministries of Health (MOH)	Responsible for oversight of all field community distribution, treatment and BCC programs.
National Project Implementation Units (N-PIUs)	The N-PIU will be responsible for the daily management, implementation, administration, project coordination, and monitoring and evaluation of the project. The PIU is responsible for: (i) procurement and project FM; (ii) implementing of a communication program to inform the public of project activities and obtain feedback; (iii) preparing annual work plans, quarterly and annual implementation and results reports; (iv) monitoring overall project implementation and ensuring compliance with safeguard policies; and (v) oversee service contracts with WHO/AFRO. The N-PIU will be staffed as needed, reflecting the existing human resources and arrangements. In all three Sahel countries the executing agencies will be the line ministry in charge of health. A project coordinator position would be funded to strengthen the capacities of these units and 2-3 designated technical specialists would provide operational support.
National Steering Committees	To be established at the relevant administrative level in each country to oversee the project at the national level. The project coordination unit would serve as the secretariat of the National Steering Committee
Community Health Workers	CHWs will play a critical role in the project's community-based interventions. The project will also strengthen the capacity of CHWs through training, stronger supervision and improved access to adequate commodities. The project will also support regional efforts on CHW, through development of regional knowledge-sharing platform on CHWs.
NGOs	NGOs that have been involved in BCC, community mobilization, and community based service delivery, control of the NTDs and malaria control of the NTDs and iCCM may be contacted to serve as implementing or facilitating agencies at this level under the supervision of the MoH.

45. **Justification for engagement with the World Health Organization Regional Office for Africa (WHO/AFRO) to provide technical assistance and training to countries participating in the Sahel Malaria and NTD Project**: WHO/AFRO is uniquely placed to provide the necessary regional and national-level technical leadership and support functions required for the project. WHO/AFRO serves as the regional headquarters of WHO. The proposed activities for WHO/AFRO are directly related to the organizations core functions: providing leadership on matters critical to health and engaging in partnerships where joint action is needed; shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge; setting norms and standards, and promoting and

monitoring their implementation; articulating ethical and evidence-based policy options; providing technical support, catalyzing change, and building sustainable institutional capacity; and monitoring the health situation and assessing health trends.

46. **Justification to use CAMEG for the pooled procurement of SMC drugs for all three countries**: (i) evaluations of this institution show strong capacities and the weaknesses identified have been addressed; (ii) important capacity to stock and distribute drugs; (iii) recognized expertise throughout the region; (iv) agreements established before signing contracts to guarantee transparency; and (v) control on prices.

Figure 4: Implementation Arrangements



B. Results Monitoring and Evaluation

47. **A description of the project's results framework and the arrangements for monitoring and evaluation (M&E) are described in Annex 1**. The MOH, PNLP, and national NTD programs in Burkina Faso, Mali, and Niger will be responsible for monitoring project implementation in each country. WAHO will be responsible for collating country information and facilitating regional reporting and review by the Regional Steering Committee. African research institutes will work with the countries to conduct operational research/evaluations to complement and validate the results from routine district reporting. For all monitoring and reporting, the data collected will geographically include only the targeted districts in the three countries.

48. **The data sources for the PDO-level indicators will include routine district-level health management information, surveys and reports from the regional coordination committee.** Lot Quality Assurance Sampling (LQAS) will be used to monitor indicators not available from routine district reports, as well as to validate data from routine reporting. Information on the alignment of SMC and NTD campaigns across borders will be obtained from implementation reports of the Regional Steering Committee.

49. **The data source for the intermediate results in component 1 and 3 will be from the regional reports.** The Regional Steering Committee will also conduct an annual survey to collect feedback from members in the three countries. The data sources for component 2 will include routine district level data reported by CHWs and district level health service supervision reports from each country, regional reports and a lot quality assurance sampling (LQAS) survey. Monitoring data will be complemented by operational research/process evaluations to, for example, understand changes in disease prevalence and drug and insecticide resistance, which could reduce the efficacy of the planned malaria and NTD interventions, as well as review the capacity building of community agents/CHWs, and understand barriers to communities accepting malaria and NTD treatment. A mid-term study will also review whether the project interventions are reaching the intended populations from the poorest and most vulnerable beneficiary groups in border areas with limited access to health services.

C. Sustainability

50. **To ensure sustainable results, the project is designed to support institutional capacity building at the regional and national levels**. More than 17 percent of the overall budget is allocated to such capacity building activities, which address key institutional capacity constraints identified by the countries as barriers to improved malaria and NTD services. The institutional capacity constraints addressed are summarized in the theory of change of the program in Annex 1.

51. **The project support to service delivery (Component 2) is integrated in the health programs in each country to help find sustainable solutions to the specific challenge/gap of service delivery in border areas.** The component represents a relatively small portion of the overall health government budget in the three targeted countries (from 1.5 percent in Burkina Faso to 3 percent in Niger) to specifically address a regional collaboration needed to complement country support. The project is expected to identify new lessons on how to strengthen the country platforms to deliver health services for malaria and NTDs at the community level but also other routine services in these areas. See Annex 3 under Sustainability.

52. **The sustainability of the project is also supported by the fact that anticipated benefits are expected to occur beyond the time horizon of the project.** The project beneficiaries, especially the younger ones, will benefit from reduced morbidity and mortality induced by malaria and NTD throughout their life. Moreover, the type of investment supported by the project is also expected to carry over to future generation by reducing morbidity and mortality factors among pregnant women. See Annex 3 under Sustainability.

V. KEY RISKS

A. Risk Rating Summary

Risk Categories	Ratings (H, S, M or L)
1. Political and governance	H
2. Macroeconomic	M
3. Sector strategies and policies	M
4. Technical design of project or program	S
5. Institutional capacity for implementation and sustainability	S
6. Fiduciary	S
7. Environmental and Social	M
8. Stakeholder	L
Overall	S

B. Overall Risk Rating Explanation

53. **The overall risk rating for this project is substantial.** The substantial rating is primarily due to: (i) High risk for political and governance; (ii) Substantial risk for technical design of project or program; (iii) Substantial risk for institutional capacity for implementation and sustainability; and (iv) Substantial risk for fiduciary. Stakeholder risk is rated as low and all other risk categories are rated as moderate.

54. **The high risk rating for political and governance is based on recent political developments that may impact the three governments' priorities with respect to health programming.** Similar challenges are faced in Mali, Niger and Burkina Faso: lack of equipment and resources, not enough qualified personnel on NTDs, prejudices/beliefs affecting acceptance of treatment, and motivating community agents. However, one of the particular challenges in Mali is the precarious situation in the northern regions of Gao, Kidal and Timbuktu, which suffer from armed conflict. In these regions, provision and access to health care is compromised due to difficult security conditions. Apart from some facilities supported by the International Red Cross, the regions lack basic health care due to departure of health personnel, lack of medicines and destruction of facilities. In addition to responding to the needs of the residents of the region, finding ways to adequately address refugees and internally displaced people in health programs remains an issue. Influx of people fleeing conflict further burdens the national health care services elsewhere. Given the fragile and distinct political climate in the three countries, the World Bank will remain vigilant of political instability. The project and implementing partners will learn from similar regional health projects, such as vaccination programs and from APOC, to identify tailored approaches to delivering and administering drugs at the community level in conflict-afflicted areas. Details of identified risks by country are described in Annex 5

55. There is substantial likelihood that factors related to the technical design of the project may adversely impact the achievement of the PDO. From a technical feasibility perspective, the key constraints are those typically associated with the provision of community-based services,

including the quantity, quality, training, motivation and supervision of community health agents. In addition the current inadequate supply of quality co-packaged AQ+SP due to the limited number of pre-qualified manufacturers and their production capacity, partially a function of unpredictable demand; and, the development and prequalification of some child-friendly (disbursable) formulation of the components of the drug combination might be an obstacle to achieving targeted coverage levels for SMC. Separately, there is a risk of emergence of resistance to the drugs and insecticides used in the control and elimination of malaria and NTDs. The project will mitigate the risks through multiple avenues: the three countries will harmonize motivations for volunteers to encourage sustained commitment to this project, partner with CAMEG to oversee pooled procurement for SMC drugs to minimize inadequate quantities or untimely delivery of medicines, and will upgrade communication networks and systems of computerized data management for prompt identification and reporting of drug resistance.

56. There is a substantial likelihood that weak institutional capacity for implementing and sustaining operational engagement may adversely impact the PDO. Rapid scale-up of activities may be hindered by limited absorptive capacity and limited experience facilitating cross-border collaboration as well as implementing and sustaining regional programs. Component Three (Strengthen institutional capacity to coordinate and monitor implementation) was put in place specifically to address this concern. This component will provide support to country level implementing agencies and regional institutions to perform core functions and insure that the project is well implemented, monitored and evaluated.

57. The overall fiduciary environment has substantial weakness in the integrity of the procurement system. Difference in procurement, fiscal management and project management capacities among the three countries could result in delays in the acquisition of key project commodities and lead to disjointed implementation of key interventions. The proposed fiscal management (FM) arrangements for this project are considered adequate to meet the Bank's minimum fiduciary requirements under OP/BP 10.00. Extensive technical assistance will also be included in the project to build the capacity at all levels, including financial management, procurement, and monitoring and evaluation.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

58. **Malaria and NTDs together represent an important share of the burden of disease in West Africa** (Table 6)**.**

Table 6: Malaria and NTDs Burden of Disease

	% Total Disability Adjusted Life Years (DALY)
Burkina Faso	22.5
Mali	24.8
Niger	15.3
Western SSA	19.7
Global	4.4

Source: IHME GBD 2010 estimates.

59. **In addition to severe health consequences, nations with high malaria incidence also exhibit low levels of economic development.** At the macro level, it is estimated that between 0.5 percent and 1.3 percent of GDP growth per annum is lost in countries with endemic malaria.[232425] At the microeconomic level, malaria affects income through the erosion of a country's capital. Infections during pregnancy and during early childhood lead to reduced neurocognitive functions and to long-term cognitive impairment for children. This translates into lower school enrollment, attendance, and academic attainment, which in turn reduces educational outcomes and labor productivity losses during adulthood.

60. **NTDs have a negative effect on the economy of households**. For example, in Ghana, it has been reported that the cost of care for a patient with Buruli Ulcer in the lowest quintile is about 242 percent of annual earning while that for those in the highest quintile it was reported as 94 percent.[26] NTDs also affect worker productivity. For example, LF is estimated to cause almost US$1 billion a year in lost productivity[27] and can lead to a 15 percent annual loss in personal income.

61. **Over the past decade, the cost-effectiveness of key malaria preventive and curative interventions has been well established**. In more recent years, malaria interventions have been subject to continuous improvement, with increased effectiveness at increasingly more affordable costs, further improving the cost-effectiveness ratio.

62. **Investment in the prevention, control, and elimination of PC-NTDs[28] is considered to be "one of the best buys in healthcare interventions" according to the 2013 Lancet**

[23] JL. Gallup and JD. Sachs, 2001. The economic burden of malaria. American Journal of Tropical Medicine and Hygiene, 64:85-96.
[24] F. McCarthy, HCD. Wolf, and Y. Wu, 2000. Malaria and growth. World Bank Policy Research Working Paper No. 2303.
25 Sachs and Malaney, 2002. The economic and social burden of malaria. Nature 415(6872): 680-5.
[26] Xu K, Evans DB, Kawabata K, Zeramdini R, Klavus J, Murray CJL. Household catastrophic health expenditure: a multicountry analysis. Lancet 2003; 362: 111–17.
[27] Ramaiah, K.D. et al. (2000). The Economic burden of lymphatic filariasis in India. Parasitology Today, 16: 151 – 253.
[28] Chemotherapy susceptible NTDs include: lymphatic filariasis, onchocerciasis, schistosomiasis, trachoma and soil-transmitted helminths (STH), which includes ascariasis (roundworm), trichuriasis (whipworm) and ancylostomiasis (hookworm).

Commission on Investing in Health.[29] The greatest returns on investment come from integrated preventive chemotherapy for PC-NTDs. The benefits from these relatively inexpensive programs are significant with economic rates of return of about 15-30 percent.[30]

63. **Malaria and NTD control is a regional public good**, which can be characterized by exclusion (non-endemic areas are excluded from the benefits of disease control policies) and non-rivalry (in endemic areas, implementing disease control policy will benefit everyone equally). Successful control and elimination programs in one country may be undermined by cross-border traffic from neighboring countries where there are limited or no malaria and NTD control or elimination programs. Disease distribution does not recognize national borders, and thus because cross-border movement of populations, often on a large scale, is very common, the effect of a successful malaria or NTD control program in one country may be offset by incoming populations from neighboring countries where there are weak disease control programs. Concerted action across the whole of the sub-Saharan region is vitally important to gain the full benefit of the integrated malaria and NTD control programs and prevent erosion of the gains already made.[31] Neighboring countries will need to work together to exchange experience in planning, implementation, training and advocacy via a regional approach to NTD and malaria control and elimination.

64. **Given the regional public good dimension of malaria and PC-NTD control and elimination, in an environment of limited donor funding for malaria and PC-NTD elimination, regional funds would present a novel and attractive option to leverage contributions from national governments of PC-NTD and malaria-eliminating countries as well as from other government donors.**

B. Technical

65. **This project proposes to support activities and interventions that are evidence-based, respond to the priorities expressed by the borrowers and are consistent with international standards and guidelines as well as regional and national strategies.** A detailed discussion of malaria and PC-NTD control and elimination, including disease burden, national and regional strategies and the partnership landscape are discussed in detail in **Section I.C Sector and Institutional Context** of this document.

66. **This project proposes scaling up four key technical strategies, two for the prevention and treatment of malaria and one for the prevention of PC-NTDs and one for the treatment of the reversible complications of NTDs.** All of these interventions are implemented through community delivery platforms. The key interventions are:

[29] Jamison, DT, Summers LH, Alleyne, G, et al. (2013) Global health 2035: a world converging within a generation. Lancet; 382(9908), 1898-1955.
[30] Molyneux DH, Hotez PJ, Fenwick A. "Rapid-impact interventions": how a policy of integrated control for Africa's neglected tropical diseases could benefit the poor. PLoS Med. 2005 Nov; 2 (11):e336.
[31] Fenwick A, Zhang Y, Stoever K. Control of the Neglected Tropical Diseases in sub-Saharan Africa: the Unmet Needs. *International Health* 2009; 1: 61-70.

1. SMC for children 3-59 months
2. Home or community-based diagnosis and treatment of malaria
3. Integrated MDA for preventive treatment of the PC-NTDs
4. Collective action for eliminating the reversible consequences of PC-NTDs

The technical rationale for the selection of these interventions and a review of the evidence concerning their safety, efficacy and potential impact on morbidity, mortality and disability is provided in detail in Annex 6. A brief summary of each intervention is provided below.

67. **Seasonal Malaria Chemoprevention:** SMC has been recommended by the WHO since 2012 for use in areas with seasonal malaria transmission of four months or less and is ideally suited to the African Sahel. SMC is defined as the intermittent administration of full treatment courses of an anti-malarial treatment combination during the malaria season to prevent illness and death from the disease in children 3-59 months of age. Children in this age range are the most likely to develop severe disease or die from malaria and most likely to benefit from SMC. At present the evidence base for the use of SMC in school age children and adults is limited and further assessment is underway. The objective of SMC is to maintain therapeutic anti-malarial drug concentrations in the blood throughout the period of greatest risk. This will reduce the incidence of both simple and severe malaria disease and associated anemia and result in healthier, stronger children able to develop and grow without the interruption of disease episodes. SMC has been shown to be cost-effective and feasible for the prevention of malaria among children in areas with seasonal malaria transmission.

68. **Home/Community-based Diagnosis and Treatment of Malaria**: Home and community-based management of febrile illness and uncomplicated malaria essentially involves the diagnosis of suspected malaria cases with RDTs by CHWs or private sector drug vendors and the treatment of RDT positive patients with ACTs. WHO guidance on malaria diagnosis and treatment was published and disseminated in 2010.[32] The move towards universal diagnostic testing of malaria is a critical step forward in the fight against malaria as it will allow for the targeted use of ACTs for those who actually have malaria. Ideally this intervention is integrated at a policy level into an approach to child heath known as integrated community case management (iCCM) which also addresses other causes of young child mortality including diarrhea and acute respiratory infections (ARI).

69. **Integrated approach to PC-NTDs:** Most of the preventable NTDs have common features that make integrated treatment possible. Current treatment for NTDs is mostly focused on MDA, either through school-based treatment of children between 5–12 years and community-based treatment via house-to-house distribution or centralized distribution.[33,34] Most of the medicines

[32] Guidelines for the treatment of malaria: Second Edition, WHO 2010.

[33] Massa K, Magnussen P, Sheshe a, Ntakamulenga R, Ndawi B, et al. (2009) Community perceptions on the community-directed treatment and school-based approaches for the control of schistosomiasis and soil-transmitted helminthiasis among school-age children in Lushoto District, Tanzania. Journal of biosocial science 41: 89–105 Available: http://www.ncbi.nlm.nih.gov/pubmed/18647439.

used for MDA can be taken together, making distribution more efficient. MDA involves the distribution a combination of two or three drugs once or twice a year to the entire target or eligible population at risk for a period of five to six or more years, depending upon the disease prevalence in the target population.

70. **Collective Action for Eliminating the Reversible Consequences of PC-NTDs:** NTDs, like LF and trachoma, if not treated early, leave patients with physical disabilities. LF is responsible for hydrocele and trachoma is responsible for triachiasis. Treatment for these disabilities requires surgical interventions. Surgery is just one component of a four part strategy – SAFE[35] – for prevention, control and treatment of trachoma. Within the project, these surgeries will be performed in the community-based surgical camps by multi-country teams of doctors and nurses. Surgical camps will be organized in each of the three countries at least once a year.

C. Financial Management

71. A financial management (FM) assessment of the project was performed by the Bank's FM team in accordance with the new financial assessment principles. During its assessment, the Bank's FM team consulted the various texts establishing the national institutions in charge of implementing the project and reviewed the fiduciary arrangements of proposed implementing entities which have experience in managing IDA financing. The proposed FM arrangements for this Project are considered adequate to meet the Bank's minimum fiduciary requirements under OP/BP 10.00. The detailed assessment is provided in Annex 3 for WAHO, Burkina-Faso, Mali and Niger, and is summarized in Table 7.

72. The "Guidelines on Preventing and Combating Fraud and Corruption in projects Financed by IBRD Loans and IDA Credits and Grants," dated October 15th, 2006 and updated January 2011, shall apply to the project.

[34] Katabarwa MN, Mutabazi D (2000) Controlling onchocerciasis by programmes in Uganda: why do some communities succeed and others fail? Annals of Tropical Medicine and Parasitology 94: 343–353.
[35] SAFE: Eyelid surgery, antibiotic treatment, facial cleanliness and environmental improvement.

Table 7: Summary of Financial Management Assessment

Organization/Country	PIU	Conclusions of FM assessment	Overall fiduciary risk rating	Comments	Mitigation measures
WAHO	WAHO has experience implementing World Bank-financed projects under the Sahel Women Empowerment and Demographic Dividend Project and West Africa Regional Disease Surveillance Capacity Strengthening project. The same PIU will implement this project.	FM arrangements meet the Bank's minimum requirements under OP/BP10.00	**Moderate**	WAHO has (i) a sound financial regulations in line with ECOWAS financial rules; (ii) a procedural manual with adequate separation of duties; (iii) qualified and experienced FM staff; and (iv) satisfactory accounting software; and (internal audit) in place.	(i) Amend the contracts for FM officer and Account (3 months after effectiveness) to include the new project in their ToRs; (ii) amend contract of ongoing projects' external auditor to include this project's financial statements (6 months after effectiveness)
Burkina Faso	Same PIU created for *Programme d'Appui au Développement Sanitaire*" (Support Program for Health Development, PADS) set up within MoH will also be responsible for this project.	FM arrangements meet the Bank's minimum requirements under OP/BP10.00	**Moderate**	PADS has (i) experience with WB projects, (ii) a PIM and an internal audit function; (iii) accounting software acceptable to the project; and (iv) adequate number of qualified FM staff. No overdue audit report.	Amend contract of ongoing projects' external auditor to include this project's financial statements (6 months after effectiveness)
Mali	To be set up in the MOHPH's National Directorate of Finance and Material (*Direction* des *Finances et du Matériel*, *DFM*) with representation from the National Directorate of Health (*Direction Nationale de la Santé*, DNS) and the National Directorate of the National Malaria Program (DPNLP). DPNLP and DNS will have overall responsibility for technical implementation of the project, while DFM will have the overall responsibilities of the FM activities.	FM arrangements considered satisfactory under OP/BP 10.00 once mitigation measures are implemented.	**Substantial**	DFM has previously managed Bank-funded projects and the current FM arrangements is considered acceptable in terms of staffing and FM system. However, (i) the FM team does not have sufficient FM experience in managing Bank funded operations; and (ii) there is no procedure manual on the internal control system nor operating internal audit function, leading to weak internal control environment.	(i) Recruit a senior FM and accounting consultant (before effectiveness); (ii) include FM procedures as part of PIM (two months after effectiveness); (iii) customize existing accounting software at DFM (two months after effectiveness); and (iv) internal auditor whose recruitment is ongoing at DFM will also carry out ex-post reviews of this project; TORs to be revised accordingly.

Organization/Country	PIU	Conclusions of FM assessment	Overall fiduciary risk rating	Comments	Mitigation measures
Niger	To be anchored in the National Directorate of Health (*Direction Nationale de la Santé or* DNS) of MOH. A PIU will not be established for the proposed project. MoH will be responsible for the overall management and M&E as it has a long track record in implementing Bank-financed projects. Its pooled fund[36] demonstrates strong capacity to coordinate project implementation and FM arrangements in key areas are adequate.	FM arrangements considered satisfactory under OP/BP 10.00 once mitigation measures are implemented.	**Substantial**	MOH's pooled Fund (*Fond Commun*) is well staffed and experienced enough to carry out the project activities without any additional staff. However, 2013 Audit report issued a qualified opinion due to some internal control issues which led to ineligible expenditures.	Internal control system will be reinforced by stronger involvement of the internal audit unit and pooled fund unit will ensure internal audit reports will be systematically communicated on quarterly basis to the Bank. In addition, the pooled fund unit will ensure (i) project FM procedures are elaborated as part of the project procedures manual (one month after effectiveness); and (ii) accounting software is customized to fit the new project needs (two months after effectiveness).

D. Procurement

73. **Procurement for the proposed project will be carried out in accordance with the World Bank guidelines.** The guidelines include: "Guidelines: Procurement of Goods, Works and Non Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 and revised July, 2014, "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 and revised July, 2014, and the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006 and revised in January 2011, and the provisions stipulated in the Financing Agreement. National Competitive Bidding (NCB) shall be in accordance with procedures acceptable to the Bank. Procurement capacity assessment was conducted prior to appraisal of this project. A summary of its findings are summarized in Table 8.

Table 8: Summary of Procurement Assessments

Organization/ Country	Project Implementation Unit (PIU)	Overall risk rating	Comments	Mitigation measures
WAHO	WAHO consists of four departments among which a Financial Direction including a Procurement Unit which is responsible for all procurement activities. The arrangements convened between ECOWAS and WAHO for implementing of West Africa Regional Diseases Surveillance Project and Sahel Women's Empowerment and Demographic Dividend projects should be extended to the Sahel Malaria and Neglected Tropical Diseases Project.	**Moderate to Substantial**	No significant and complex procurement expected under the project. Hence the existing staff is sufficient to take all procurement activities for the 3 bank-financed projects, subject to setting up an effective coordination mechanism.	(i) Apply increased thresholds for the project (one month after effectiveness); (ii) strengthen capacity of Direction des Marches Publics (Department of Public Procurement) (DMP) and evaluation committee members in Bank procedures (3 months after effectiveness); and (iii) update PIM (one month after effectiveness).
Burkina Faso	Same PIU created for Support Program for Health Development (PADS) set up within MOH will also be responsible for this project. Currently PADS is implementing two other Bank-financed projects under World Bank procedures. Same PIU to handle procurement.	**Moderate to Substantial**	No significant and complex procurement expected under the project. However, risks are: (i) limited experience in Bank procedures of Direction des Marches Publics (DMP) within MOH; (ii) difficulties to apply Bank's increased procurement thresholds to at national level; and (iii) enough complaints registered.	Recommend recruitment of a procurement specialist to reinforce the team to adequately handle procurement activities since PADS is also implementing other donors' activities.
Mali	To be set up in the MOHPH's National Directorate of Finance and Material (*Direction* des *Finances et du Matériel, DFM*).with representation from the National Directorate of Health (*Direction Nationale de la Santé*, DNS) and the National Directorate of the National Malaria Program (DPNLP). DPNLP and DNS will have overall responsibility for technical implementation of the project while DFM will ensure project coordination and fiduciary management. The PIU will benefit	**Substantial**	Risks are: (i) absence of procedural manual; (ii) insufficient proficient personnel; (iii) senior staff at MOH responsible for process control and approval are not familiar with Bank procedures; (iv) risk of exposure of civil servant procurement specialist to pressure from hierarchy; and (v) inadequate communication and interaction between DNS, DNPNLP and DFM.	(i) Prepare Project Implementation Manual (PIM) with procurement section; (before effectiveness); (ii) recruit a proficient procurement specialist experienced on WB procedures on competitive basis for a minimum duration of 2 years (3 months after effectiveness and training of technical staff involved in procurement; (iii) organize workshop on Bank procurement procedures; (iv) Control body (DGMP) and regulation authority (ARMDS) to ensure good governance; and (v) closely monitor procurement plans throughout project life.

	from the support of the General Secretariat and be guided by the National Steering Committee.			
Organization/ Country	**Project Implementation Unit (PIU)**	**Overall risk rating**	**Comments**	**Mitigation measures**
Niger	Procurement activities will be carried out by the MOH through the Unit managing the Pooled fund under the coordination of the Secretary General.	**Substantial**	MOH with the pooled fund unit has gained satisfactory knowledge, technical expertise and experience in WB procedures during the implementation of previous projects. Procurement Specialist has since left, and the Ministry has appointed notably two staff in charge respectively of procurement, and equipment and infrastructure contract management. The audit report in 2013 has revealed weaknesses in procurement notably in the regions. The procurement officer, with adequate training and experience, oversees the procurement activities in close collaboration with DMP.	(i) Appoint qualified Procurement assistants to be located at the central and if needed at regional levels; (ii) prepare a procurement plan for next 18 months; (iii) prepare a manual of administrative, financial and accounting procedures; and (iv) organize a workshop to train /update all key stakeholders involved in procurement on World Bank procurement procedures and policies.

E. Social (including safeguards)

74. **This project does not trigger the social safeguards policies OP 4.10 on Indigenous Peoples or OP 4.12 on Involuntary Resettlement.** OP 4.10 is not triggered because there are no groups that fulfill the criteria used by the World Bank to identify Indigenous Peoples in any of the project countries (Burkina Faso, Niger, and Mali). The project does not finance any activities whereby land acquisition and/or resettlement, loss of assets or restrictions of access to livelihoods or resources would occur. The project will not have a physical footprint and therefore does not trigger OP 4.12.

75. **A limited social assessment based on a desk-review will feed into the country-level social assessments to be done at the start of project implementation**. The social assessment (see Annex 3 section 6) was carried out during preparation to identify some of the social issues in service delivery and community engagement in the three countries. The project design addresses potential social and gender issues associated with the diseases and community-based interventions. The social assessment reviewed factors that could hinder or facilitate achievement of the PDO. The gender dimensions of the project and the control of malaria and NTDs can be addressed in part by involving women in the design of appropriate health interventions in the communities to reflect their needs and concerns. Although pregnant women are at increased risk of malaria, the project does not specifically address malaria in pregnancy as the focus is on prevention and treatment in children under 5 years of age. For the malaria interventions, mothers play a key role in care seeking and compliance with treatment for sick children and participation in SMC for well children. This is particularly burdensome when services are far from the home– community-based services will alleviate some of this burden. IEC/BCC strategies will need to take this into account.

F. Environment (including safeguards and climate change)

76. **Increasing access to high quality interventions for the prevention and treatment of malaria and NTDs will result in additional medical waste, which will need to be safely disposed of at health facilities.** In each of the three countries, a suitable National Medical Waste Management Plan (NMWMP) is under implementation (2011-2015). The NMWMP for Niger was updated during preparation of the Population and Health Support Project (P147638) to serve as the safeguards instrument for both projects in Niger. Those for Mali and Burkina Faso will be revised during the implementation of the proposed project.

77. **The *Environmental Assessment* (OP 4.01) policy is triggered based on the potential impacts of the project, which are related to medical waste.** For Burkina Faso and Mali, the Terms of Reference (ToRs) for the update of said studies were disclosed in-country, respectively, on April 3, 2015 and April 9, 2015, and at the Bank's InfoShop on April 12, 2015. For Niger, the National Medical Waste Management Plan, updated based on lessons learned from its implementation, was disclosed in-country on February 17, 2015 and re-disclosed under the proposed project at the InfoShop on March 31, 2015. Key mitigation measures are outlined in its implementation action plan (2016-2020) to further reinforce the capacity of the health workers and the health facilities to assure safer medical waste management. The proposed project will contribute to the implementation of the action plan.

78. **Contribution to the implementation (including the update) of the MWMPs in Burkina Faso and in Mali will be funded through the project in Burkina-Faso and Mali. In Niger, the contribution of the Population and Health Support Project (P147638) covers the proposed project.**

79. **No other safeguards policies besides OP 4.01 on Environmental Assessment are triggered by this proposed project.**

80. **Applying the climate and disaster risks screening tool indicates that the primary climate and geophysical hazards that may impact project impact are shorter and more erratic rainy seasons in the future leading to increased opportunity for drought and instability in target populations' livelihood stability.** In the case of any potential effects of increased drought, the project will contribute to the improvement in the availability and quality of malaria and NTDs health services for the targeted population. The full climate change risk assessment is available for review on WBDocs.

G. Grievance redress mechanism

81. **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 complaint 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 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.

H. Citizen Engagement

82. **The project will strengthen citizen engagement.** Engagement of community members in cross-border planning, implementation and evaluation of project activities will provide an opportunity for beneficiaries in border areas to take responsibility for achieving positive health outcomes and addressing the burden of disease in their communities. Cross-border Committees will include participation of health personnel, local government, traditional and religious leaders in the community and community-based organizations.

Annex 1: Results Framework and Monitoring

SAHEL MALARIA AND NTD PROJECT (P149526)

Results Framework

Project Development Objectives

PDO Statement

The objective of the Project is to increase access to and use of harmonized community-level services for the prevention and treatment of malaria and selected neglected tropical diseases in targeted cross-borders areas in Participating Countries in the Sahel region. [37]

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Country/regional	Baseline	Target Values YR1	YR2	YR3	YR4	Frequency	Data Source/ Methodology	Responsibility for Data Collection
(i) Target districts[38] with at least 70% coverage of 3 or more courses of SMC for children under five years old	☐	Percent	Regional	0	20	40	50	50	Annual	District reports LQAS	PNLP in each country
			Burkina Faso	0	20	40	50	50			
			Mali	0	20	40	50	50			
			Niger	0	20	40	50	50			
(ii) Children under five years old with fever in last two weeks who had a finger or heel stick (for malaria diagnosis) in the targeted districts	☐	Percent	Regional						Every 2 years	Malaria reporting LQAS	PNLP in each country
			Burkina Faso								
			Mali								
			Niger								
(iii) Targeted districts providing integrated annual treatment for schistosomiasis and STH for school aged children 5-14 years	☐	Percent	Regional		25	50	70	80	Annual	District reports, Campaign reports	NTD program in each country
			Burkina Faso		25	50	70	80			
			Mali		25	50	70	80			
			Niger		25	50	70	80			
(iv) Border districts that initiate SMC campaigns within two weeks of planned time line	☐	Percent	Regional	0	40	50	70	80	Annual	Campaign reports plans	WAHO with regional committee
(v) Project beneficiaries, of which female[39]	☒	Number (percent)	Regional	0	734,900	1,470,090	2,572,500	3,675,800	Annual	District reports	MOH in each country
			Burkina Faso	0	270,900	541,800	948,100	1,354,500			
			Mali	0	204,200	408,500	714,900	1,021,300			
			Niger	0	259,800	519,700	909,500	1,300,000			

37 A list of target districts in each country will be compiled for each country for monitoring purposes. Baselines are often zero given the Project interventions are yet to be implemented in the border areas. The Project will review experiences of districts that have piloted the drugs where there is already experience to ensure targets are realistic and sufficiently ambitious.

38 Indicators will be disaggregated by country where relevant; regional indicators will be reports at the regional level.

39 Project beneficiaries include only those persons who receive a service provided by the project and does not include caregivers. Beneficiaries of SMC interventions for malaria are children 3-59 months of age; beneficiaries of community based diagnosis and treatment of malaria include people (all age groups) who are tested for suspected malaria; beneficiaries of NTD treatment/drugs for schistosomiasis are school age children and other high risk groups; beneficiaries of treatment for STH are school age children in targeted districts; beneficiaries of treatments for trachoma, LF and onchocerciasis are total eligible populations in endemic districts.

				Target Values				Data Collection and Reporting		
	Intermediate Outcome Indicators	**Country/regional**	**Baseline**	**2016**	**2017**	**2018**	**2019**	**Frequency and reports**	**Data Collection Instruments**	**Responsibility for Data Collection**
Component 1: Improved regional collaboration	Extent to which the members report that their regional collaboration has harmonized defined aspects of malaria and NTD program management (average rating) [40]	Regional	Undeveloped	Largely undeveloped	Developed	Developed	Highly developed	Annual	Member survey, regional reports	WAHO with regional committee
	Results of learning/evaluation from the project implementation are re-incorporated into the project plan annually (Y/N)	Regional	N	N	Y	Y	Y	Annual	Review of project plans	WAHO with regional committee
	Countries that provide their procurement plans on time to the regional purchasing agency (number)	Regional	0	3	3	3	3	Annual	Regional reports	WAHO with regional committee
Component 2: Improved service delivery	Children under five years receiving at least 3 courses of SMC compared to the targeted number (percent)	Regional	0	20	40	50	50	Annual	District reports LQAS	PNLP in each country
		Burkina Faso	0	20	40	50	50			
		Mali	0	20	40	50	50			
		Niger	0	20	40	50	50			
	Coverage of preventive chemotherapy achieved by project campaigns among eligible populations in the targeted districts (percent) -- disaggregated for onchocerciasis, schistosomiasis, STH, LF, and trachoma	Regional	0	40	60	70	70	Annual	District reports LQAS	NTD programs in 3 countries
		Burkina Faso	0	40	60	70	70			
		Mali	0	40	60	70	70			
		Niger	0	40	60	70	70			
	Districts with local leaders participating in the planning of community campaigns (percent)	Regional	0	40	70	75	75	Annual	Campaign reports	WAHO with regional committees
		Burkina Faso	0	40	70	75	75			
		Mali	0	40	70	75	75			
		Niger	0	40	70	75	75			
	Community health agents who have received a quarterly supervision visit during which registers or reports were reviewed (percent)[41]	Regional		40	50	60	70	Annual	District reports LQAS	MOH in 3 countries
		Burkina Faso		40	50	60	70			
		Mali		40	50	60	70			
		Niger		40	50	60	70			
Component 3: Capacity strengthening	Countries with new/revised standards/guidelines for recruitment and retention of community-based health agent/distributer volunteers (number)	Regional	0	0	3	3	3	Annual	MOH reports	WAHO with regional committee
	Completeness of target district reporting on SMC and PC-NTD distribution (%)	Regional	0	40	70	80	80	Annual	MOH reports	MOH in each country
		Burkina Faso	0	40	70	80	80			
		Mali	0	40	70	80	80			
		Niger	0	40	70	80	80			

[40] Aspects for harmonization include policies and guidelines for community services; training and skill building; monitoring and data collection tools; and research and surveillance.

[41] The focus is specifically on health agents distributing the malaria and NTD services of the Project, which are being newly scaled-up.

Table 9: Definition and Interpretation of PDO and Intermediate Indicators

Indicator Name	Description (Definition etc.)
PDO indicators	
Percent of target districts with at least 70% coverage of 3 or more courses of SMC for children under five years old	Numerator: Number of target districts where at least 70% of children <5 years old received at least 3 courses of SMC. Denominator: Total number of districts targeted for SMC distribution among children <5 in the same year. *100 for percentage. This indicator provides information on coverage of SMC interventions for malaria in targeted districts.
Percent of children under five years old with fever in last two weeks who had a finger or heel stick (for malaria diagnosis) in the targeted districts	Numerator: Number of children <5 years old with fever in the previous two weeks who had a finger/heel stick. Denominator: Total number of children under five years old who had a fever in the previous two weeks. *100 for percentage. This indicator provides a proxy measure of the level of access of children under five years old to diagnostic testing for malaria infection. This is a malaria core indicator .
Percent of targeted districts providing integrated annual treatment for schistosomisis and STH for school aged children 5-14 years	Numerator: Number of districts providing integrated annual treatment for schistosomisis and STH for school aged children 5-14 years. Denominator: Total number of districts targeted for NTD treatment distribution in the same year. *100 for percentage. This indicator provides information on coverage of integrated NTD treatment among school children in targeted districts.
Percent of border districts that initiate SMC campaigns within two weeks of planned time line	Numerator: Number of SMC campaigns implemented by border districts within two (2) weeks of planned time line. Denominator: Total number of SMC campaigns planned by the same districts in the time period. *100 for percentage. The indicator provides information on the coordinated timing of SMC delivery, which is critical for impact on malaria.
Project beneficiaries, (%) of which female	Direct project beneficiaries are people or groups who directly derive benefits from a project intervention (including children <5 receiving SMC, persons receiving NTD treatments or surgical interventions, persons reached by community heath agents). The definition of direct project beneficiaries is a number, specifying what percentage of the beneficiaries are female. This is a mandatory core indicator.
Component 1: Improve regional collaboration for stronger results across participating countries	
Extent to which the members report that their regional collaboration has harmonized defined aspects of malaria and NTD program management (average rating)	Numerator: Sum of ratings provided by members of the coordination committees on a five-point scale: (5) Very highly developed, (4) highly developed, (3) developed, (2) largely undeveloped, (1) undeveloped, when they are asked about the extent that their regional collaboration has developed harmonization of key aspects of the community-based service delivery, including policies and guidelines for community services, training and skill building, monitoring and data collection tools, and research and surveillance. Denominator: Total number of members from the regional coordination/implementation committees that are surveyed. Verified by review of documentation from regional activity reports.
Results of learning/evaluation from the project implementation are re-incorporated into the project plan annually (Y/N)	This is whether the results of learning/evaluation during the project implementation are re-incorporated into the project plan annually, such as findings/lessons from process evaluation, operational research and knowledge exchange. The indicator is Yes or No.
Countries that provide their procurement plans on time to the regional purchasing agency (number)	This is the number of countries that provide their annual procurement plan for SMC and other drugs/supplies included in the project by the set time line to the purchasing country. This output indicator provides information on the drug supply chain and possible delays in campaigns. This is a yes/no indicator for country level reporting.
Component 2: Support coordinated implementation of technical strategies and interventions	
Children under five years receiving at least 3 courses of SMC compared to the targeted number (percent)	Numerator: Number of children <5 that received at least 3 courses SMCs. Denominator: Total number of children targeted during the same one year reporting period. *100 for percentage. The indicator provides information on annual progress on planned SMC interventions.
Coverage of preventive chemotherapy achieved by project campaigns among eligible population in the targeted districts (percent) -- disaggregated for onchocerciasis, schistosomiasis, STH, LF, and trachoma	Numerator: Number of eligible population who received preventive chemotherapy for the NTD in the project's target districts in the reporting year. Denominator: Total number of eligible population in the same targeted districts in the same one year reporting time frame. *100 for percentage. The indicator provides information on NTD coverage in the target districts. This is a core indicator used for NTDs. It will be disaggregated for the 5 PC-NTDS addressed by the project.
Districts with local leaders participating in the planning of campaigns (percent)	Numerator: Number of districts where local leaders participated in the planning of the malaria and or NTD campaigns. Denominator: Number of districts targeted in the same reporting time period. *100 for percentage. The indicator provides information on citizen engagement.
Community health agents who have received a quarterly supervision visit during which registers or reports were reviewed (percent)	Numerator: Number of district who reported quarterly supervisory visits of community health agents/distributers during the reporting period. Denominator: Number of districts reporting during the period. *100 for percentage. The indicator provides information on the quality of supervision.

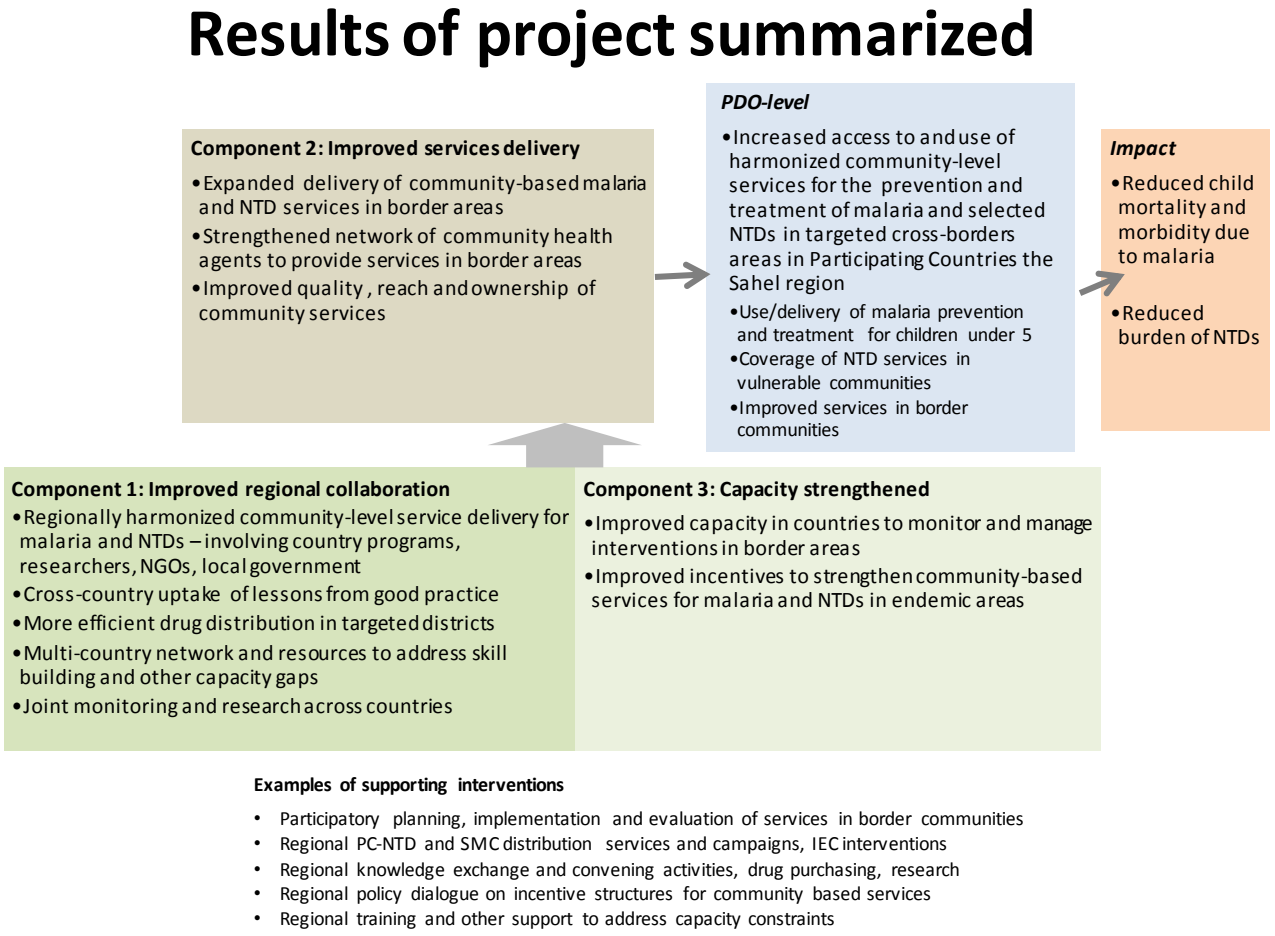
Component 3: Strengthen institutional capacity to coordinate and monitor implementation	
Countries with new/revised standards/guidelines for recruitment and retention of community-based health agent/distributer volunteers (number)	This is the number of countries in the project that adopt new/revised standards/guidelines for recruitment and retention of community-based health agent/distributer volunteer. This addresses a common bottleneck identified by the countries to project success.
Completeness of target district reporting on SMC and PC-NTD distribution (percent)	Numerator: Number of districts submitting complete reports on SMC and PC-NTD activities by set time line. Denominator: Total number of targeted districts required to report in the time frame.

Table 10: Project Theory of Change Summarized

Component 1. Improve regional collaboration for stronger results across participating countries			
Common challenges	Actors	Expected changes	Indicators to monitor progress
• The 3 countries share concerns about malaria and NTDs increasing due to various factors, and are struggling to scale-up services in remote communities. • Weak coordination among stakeholders responsible for malaria and NTD services, drugs, and research to monitor risk. • Concerns about drug costs and timely distribution to remote areas.	Regional committee: MOH in three countries National Malaria and NTD programs Universities and research centers WAHO WHO/AFRO Drug agencies Stakeholders implementing malaria and NTD programs	The countries will form regional committees for collective action and harmonized implementation of malaria and NTD services at the community-level. This will improve their ability to reach border areas. Joint actions will include drug purchasing, research/evaluation, skills building, and knowledge exchange.	• Extent to which the members report that their regional collaboration has harmonized defined aspects of malaria and NTD program management (average rating) • Results of learning/evaluation from the project implementation are re-incorporated into the project plan annually (Y/N) • Countries that provide their procurement plans on time to the regional purchasing agency (number)
Component 2. Support coordinated implementation of technical strategies and interventions			
Constraints	Actors	Expected changes	Indicators to monitor progress
• Communities have limited engagement in planning malaria and NTD services, and information on new interventions. • Border communities often lack access to fixed health services. Available services for malaria and NTDs are often inadequately delivered in endemic areas. • Existing interventions (e.g., LLINs, single disease systems) have limited impact. • Community-based systems for different diseases operate in	*Change agents:* Community health agents and volunteers Community leaders NGOs Women's groups *Beneficiaries:* Children <5 School age children Persons with reversible disabilities from NTDs Vulnerable populations in border areas	The countries will jointly scale-up community-based services for malaria and NTDs. The interventions will strengthen health systems, increase demand for services, promote behavioral change, and reduce the burden of disease. Specific interventions will include participatory community planning, IEC, diagnosis and treatment of malaria, integrated NTD treatment and mobile surgical teams for reversible NTDs.	• Children under five years receiving at least 3 courses of SMC compared to the targeted number (percent) • Coverage of preventive chemotherapy among eligible population in the targeted districts (percent) -- disaggregated for onchocerciasis, schistosomiasis, STH, LF, and trachoma • Districts with local leaders participating in the planning of community campaigns (percent) • Community health agents who have received a quarterly supervision visit during which registers or reports were

parallel, inefficiently serving the same communities.			reviewed (percent)
Component 3. Strengthen institutional capacity to coordinate and monitor implementation			
Constraints	Actors	Expected changed	Indicators to monitor progress
• Regional strategies for malaria and NTDs require accelerated country implementation of malaria and NTD interventions, yet country-level resources are inadequate to scale-up NTD and malaria programs. • Weak incentives to expand community-level services to border areas.	MoH, PNLP, NTD programs National secretariat convening stakeholders and partners Regional agencies providing monitoring and training	Countries will convene national stakeholders to support regional plans to implement and monitor malaria and NTD programs to better service border areas. This will involve updating policies and plans, adopting new practices, and strengthening technical capacities for delivery and targeting of community interventions.	• Countries with new/revised standards/guidelines for recruitment and retention of community-based health agent/distributer volunteers (number) • Completeness of target district reporting on SMC and PC-NTD distribution (%)

Figure 5: Results of Project Summarized



Annex 2: Detailed Project Description

SAHEL MALARIA AND NTD PROJECT (P149526)

1. The project will address three key areas:

- Improve regional collaboration for stronger results across countries
- Expand effective and efficient community-based delivery platforms to targeted areas
- Strengthen institutional capacity in countries to coordinate and monitor implementation

The table 11 below summarizes the level of implementation of the different project activities:

Table 11: Level of Implementation of Project Interventions

	Regional	**National**	**Community**
Activity	Coordinate pooled procurement	Coordinate drug distribution	Consolidated human resources for mobile surgery Coordinate joint training sessions with local community health workers (distributors) and health workers
Policy	Coordinate policy framework and operational guidelines for drug co-administration and timing	Coordinate technical support	Coordinate and harmonize incentives for local community health workers (distributors)
Organizational	Collaborate with implementing agencies for fiscal support, advocacy, communication dissemination, etc.	Consolidate disease surveillance	Consolidate multi-disease drug distributors or community health workers

2. There are strong linkages between the project, other World Bank investments at national and regional level and support from other technical and financial partners. The project complements but does not duplicate ongoing and new portfolio projects in all three participating countries. In Niger and Burkina Faso the project will be implemented through the same project implementation units (PIU) in the Ministries of Health as ongoing and new projects in the health sector. In Mali, the PIU will be under the DFM of the Ministry of

Health. The PIUs will be further strengthened by the project enabling resource sharing and more effective, efficient and timely management of implementation of all of the projects in the sector. Moreover the complementarity of the projects allows the World Bank to have a larger footprint and greater impact at country level. The project is also linked to three other regional investment projects: The Sahel Women's Empowerment and Demographic Dividend Project (SWEDD), which also finances a regional program that includes Burkina Faso, Niger and Mali; the West Africa Regional Diseases Surveillance Project (WARDS) which is funded by the Africa Catalytic Growth Fund (ACGF) and also seeks to strengthen capacity for disease monitoring and surveillance among ECOWAS countries; and the Senegal River Basin Water Resources Development Project (MWRDS2) which has a health component that focusses on the prevention of malaria and NTDs on Senegal, Guinea, Mauritania and Mali. In Mali, the project will expand the Bank's contribution to malaria and NTD control by targeting districts in border areas not covered by MWRD2. Project design has taken into consideration lessons learned from the regional project and, as with SWEDD and WARDS, is engaging WAHO as a regional implementation partner. The project will help to further strengthen the regional PIU so that it can more effectively manage the regional grants financed by the World Bank.

3. The choice of interventions and the geographic targeting of the project are based on considerable consultation with other key technical and financial partners, including the Global Fund, USAID and USPMI, UNITAID, UNICEF, The Malaria Consortium, Catholic Relief Services, MSF and HKI. The project is investing in interventions that are generally underfinanced and seeks to fill gaps at country level (for example, the districts in Niger that are targeted for SMC are contiguous with the districts where SMC is supported by CRS and MSF); and particularly in the area of cross-border collaboration and coordination of country actors through the establishment of a Regional Coordinating Committee supported by technical advisory groups (TAGs) and Country Coordinating Committees and cross-border planning committees at district level.

Description of Project Components

Component 1: Improve regional collaboration for stronger results across participating countries.

4. This component will support countries' efforts to harmonize policies, technical strategies, procedures, including implementation and monitoring tools, and engage in joint planning, implementation and evaluation of program activities. It will also provide a forum for countries and their implementation partners at both country and regional levels to share information, compare country experiences and consolidate lessons learned and best practices for wider dissemination in the region. Frequent dialogue and the regular exchange of information at regional level and in cross-border areas will contribute to increased quality and efficiency in the implementation of community based malaria and NTD interventions. This component will support the following activities:

- **Sub-component 1.1:** A regional committee comprised of national program managers and technical advisors will be established to: (i) harmonize technical strategies, implementation

and monitoring tools across countries; (ii) conduct joint planning of campaigns, cross-border activities and project evaluations; and (iii) identify operational research priorities and disseminate lessons learned in the context of project implementation and evaluation. Even though the committee is made up of the program managers and technical advisers, there is need for close collaboration at the implementation level especially in cross-border areas. The Regional Committee will be convened by WAHO, three times during the first year, and twice in subsequent years of the project. The Regional Committee will be supported by a technical advisory group (TAG) comprised of regional and national experts on malaria and NTD control, community service delivery, operational research, surveillance and monitoring and evaluation.

5. Transmission of NTDS and malaria across borders is related to the movement of populations. In order to succeed with either control or elimination of NTDs and malaria in any of the countries implementing the project, coordinated control and elimination efforts in neighboring countries are necessary. Harmonization of strategies, implementation and monitoring tools and joint planning will ensure that successful NTD and malaria control and elimination efforts undertaken in one country are not undermined by cross-border demand from another country where there are limited or no NTD or Malaria control efforts. It is imperative that the planning of activities and the quantification of commodity needs for project activities in areas which border non-participating countries take this into account.

6. Establishment of cross-border planning and implementation committees. The Project will establish committees for micro-planning at district level in border areas. The committees will be responsible for local planning of interventions and monitoring and evaluation activities involving two or more districts in adjacent countries. The committees will be comprised of district health personnel, local government, NGOs, community-based organizations and local community leaders. They will prepare for campaign style activities and monitor the implementation of routine services.

- **Sub-component 1.2:** Operational research and regional networks for monitoring and evaluation, including drug and insecticide resistance monitoring will be established or strengthened to increase the usefulness (timeliness, simplicity and reliability) of the information generated by country monitoring and surveillance systems. Efficient communication networks and systems of computerized data management will be established/upgraded for prompt reporting and feedback, exchange of information within and among countries and with regional and international authorities. The project will support a network of sentinel sites across the three countries to ensure early identification of changes in disease epidemiology or the efficacy of key interventions. Sentinel monitoring of certain indicators such as schistosomiasis prevalence and infection intensity will both provide an indication of intervention impact on project beneficiaries and will also contribute to risk mapping and targeting of interventions. There is a potential for drug or insecticide resistance to reduce the efficacy of malaria and NTD interventions and reverse the gains in disease control that have been obtained to date. Already there is parasite resistance to sulfadoxine-pyrimethamine (one of the two drugs used in SMC) in East and Southern Africa; artemesinin and ACT resistance has been documented in South-East Asia; and, mosquito resistance to

synthetic pyrethroids, which are the insecticide used in long lasting insecticidal nets (LLINs) for the prevention of malaria and LF, is on the rise in West Africa. As such, it is imperative for the region that any indication of emerging or increasing resistance is detected as early as possible. Routine monitoring for signs of drug and insecticide resistance at sentinel sites using molecular markers as well as clinical and entomological indicators is essential for the identification of emerging or increasing resistance to any of the medicines or insecticides used in NTD and malaria control and elimination strategies. Working closely with the WHO/AFRO and Roll Back Malaria, the project will contribute to strengthening the existing network of sentinel monitoring sites in West Africa.

7. Capacity building, including short and long-term training and technical assistance will be provided by regional institutions. This sub-component will increase the quantity, quality, performance and efficiency of the staff in the project countries to plan, implement, and monitor and evaluate regional disease control and elimination strategies at community level and in cross-border areas. The project will finance short and long term training in accordance with identified needs such as field epidemiology, entomology, BCC, monitoring and evaluation, data management, laboratory practice and quality assurance. WHO/AFRO, through the IST/WA will be the primary implementation partner for regional capacity building and technical assistance activities. WAHO and local institutions such as universities and research centers may also be engaged in training and technical assistance. For example, the Malaria Research and Training Center (MRTC) in Bamako is already providing some training and technical assistance to the three countries for implementation of malaria control strategies and there is potential scope to expand on this.

- **Sub-component 1.3:** Regional pooled procurement of drugs for SMC and other essential commodities will be established. The primary reason for regional pooled procurement is to facilitate the well-coordinated delivery of drugs for SMC to all three countries in advance of the annual malaria transmission season to ensure simultaneous roll out of the intervention. During project preparation, countries and implementing partners indicated that there were difficulties with the supply of co-packaged amodiaquine and sulfadoxine-pyrimethamine used for SMC which resulted in under-supply and stock outs during the 2014 malaria transmission season and has led to significant concerns about drug availability in 2015. This problem has arisen in part because SMC is a new intervention and a reliable projection of market demand is not yet established. In addition, there is only one WHO pre-qualified manufacturer of the co-packaged product with limited production capacity at this time; and, demand for a more child friendly formulation of the product, with tablets that can be easily dissolved in water or crushed, is as yet unmet because of the requirements of the pre-qualification process. The current market situation argues in favor of pooled procurement of AQ+SP as larger, more predictable orders placed early and backed by donor financing are more likely to have an effect on manufacturer decisions concerning production and will potentially be given priority over smaller orders to supply limited roll-out in individual countries or pilot projects. Pooled procurement of AQ+SP will give the countries greater bargaining power with manufacturer and will potentially lead to reduced transaction costs and timely delivery. After a review of several options, countries agreed to have the "*Centrale d'Achat des Médicaments Essentiels Génériques et des Consommables Médicaux*

(National Drug Procurement Agency, CAMEG)" in Burkina Faso undertake procurement and quality assurance of SMC drugs and other key commodities on behalf of all three countries taking into account findings of the recent assessment of CAMEG conducted by World Bank Procurement (GGODR). Other options considered included: (i) designation of WAHO as a procurement agent based on their experience and performance in regional procurement of HIV/AIDS drugs on behalf of ECOWAS member states; (ii) procurement through a UN Agency; and (iii) establishing competitively-bid contract frameworks.

8. For component 1, budget allocations (in US$M) are detailed in Table 12.

Table 12: Project Budget Allocations (Component 1)

Project activities	Burkina Faso	Mali	Niger	ECOWAS (including transfers and research institutions)	WHO/AFRO (from Technical Assistance Agreements with the countries)
COMPONENT 1	**6**	**5**	**2.8**	**6.7**	**6**
1.1. Establishing Regional Committee and cross-borders committees				2.7	4
1.2. Regional research				4	2
1.3. Regional pooled drugs procurement	6	5	2.8		

Component 2: Support Coordinated Implementation of Technical Strategies and Interventions

9. This component will support countries' efforts to jointly control malaria, and control and eliminate NTDs where possible through community-based interventions with particular emphasis on populations with poor access to services including populations living in border areas. These interventions will provide the means for decreasing the burden and transmission of these diseases within country, including imported cases, and generating positive externalities for neighboring states. The proposed project will contribute to the strengthening of health systems to facilitate effective and timely implementation of project interventions. The proposed interventions include: (i) community mobilization and intensive information, education and communications (IEC) campaigns; (ii) SMC for children 3-59 months of age; (iii) community-based biological diagnosis of malaria using RDTs and effective treatment of confirmed malaria with ACT; (iv) integrated community-based treatment of the preventable NTDs, and; (v) surgical treatment of reversible disabilities from trachoma and lymphatic filariasis at the community level. NGOs will be contracted to support implementation of community-level interventions and they will also be in charge of transferring payments to CHWs, according to the national guidelines about "motivation" of CHWs.

- **Subcomponent 2.1:** Community mobilization and IEC is central to the success of all four of the proposed medical interventions as well as project monitoring and evaluation. Community and religious leaders, women's groups and other local stakeholders will be engaged in project implementation to maximize buy-in and ownership of project

objectives. Intensive IEC, including BCC will be conducted throughout project implementation to ensure demand for and uptake of other project interventions and normative behavior change (i.e., care seeking for young children with fever; hygiene practices for the management of lymphedema; etc.) to sustain the health gains generated.

- **Subcomponent 2.2:** The malaria control strategy for countries in the Sahel has very recently been strengthened by the introduction of a new and highly effective intervention, SMC, which is the presumptive monthly treatment of the high risk population with an effective drug combination during the rainy season. SMC is specifically suited to the Sahel where the malaria transmission season is short and intense. SMC has been shown to be extremely cost effective in controlled trials and initial roll-out; however few countries have begun to take the intervention to scale. This project will accelerate that process, further contributing to reductions in morbidity and mortality and moving countries closer to malaria elimination. Children aged 3–59 months in areas with seasonal malaria transmission will be given a combination of two relatively inexpensive and readily available anti-malarial drugs at regular one-month intervals during the rainy season which runs from June to October. As SMC campaigns will need to be implemented by all three countries at the same time each year, planning, procurement, training and evaluation will be coordinated at the regional level.
- **Subcomponent 2.3:** Regional and country strategies for malaria control include community based diagnosis and treatment of malaria as a critical intervention for reaching the rural poor who have poor access to fixed health facilities. However, these strategies have not been taken to scale and the interventions have not reached the most remote and vulnerable communities. When malaria is undiagnosed and untreated it can progress to severe disease and death, particularly in young children. Project support for this intervention will complement presently inadequate domestic and external financing to ensure that the intervention reaches populations with poor access to services and those living in border areas. The project will promote and accelerate the integration of malaria diagnosis and treatment into community-based primary care approaches[42] using RDTs and treatment of confirmed cases of malaria with ACTs. As per national policies and protocols, children without malaria may be treated for other common infections or referred to a health center.
- **Subcomponent 2.4:** The drugs used for the treatment of the preventable NTDS are available through donations from the pharmaceutical industries to the WHO. Historically these diseases have been addressed through parallel mass treatment campaigns, but new policies are being adopted by countries in the region to integrate mass treatment of NTDs in an effort to increase efficiency, effectiveness, and reduce operational costs. The integrated mass treatment of NTDs will be delivered through the community health care delivery system and will be rolled out with support from this project. Integrated community MDA for NTDs represents exceptional value for money.

[42] Fever is the most common symptom requiring assessment and treatment or referral at the community level and in the absence of a confirmed biological diagnosis; fevers are often assumed to be due to malaria. The objective of integrating malaria diagnosis and treatment into community-based care is not only to ensure that malaria is treated, but also to identify cases of fever that are not due to malaria and treat or refer them appropriately. This integrated approach is variously known as Integrated Management of Childhood Illness in the Community (cIMCI) and Integrated Community Case Management (iCCM).

- **Subcomponent 2.5:** Part of the public health problem presented by NTDs is related to impairment and disability from lymphedema (elephantiasis) and hydrocele for LF and trichiasis for trachoma. Management of the morbidity and disability in lymphatic filariasis and trachoma require a broad strategy involving both secondary and tertiary prevention. Secondary prevention includes simple hygiene measures, such as basic skin care, to prevent progression of lymphoedema to elephantiasis, which can be done through family and community home-based care. The management of hydrocele and trichiasis will require simple surgery, which can be provided at the community level by mobile surgical teams. Although each country is providing this service, coverage is extremely limited and the backlog of surgical candidate is very large. This is in part due to the limited number of qualified and trained health professional available to conduct the surgeries within each country. The project will promote the mobilization of multi-country teams to provide these services "campaign-style" once or twice each year in each country.

10. For component 2, budget allocations (in US$m) are detailed in Table 13.

Table 13: Project Budget Allocations (Component 2)

Project activities	Burkina Faso	Mali	Niger
COMPONENT 2	**23.2**	**22.8**	**28.1**
2.1. BCC interventions	1.4	2	3.3
2.2. Seasonal malaria chemoprevention	8.2	3.6	8.5
2.3. Community-based diagnosis and treatment of malaria	7.1	8.9	3.2
2.4. Integrated treatment of neglected tropical diseases (NTDs)	3.8	4.7	7.8
2.5. Treatment of the reversible consequences of NTDs	2.7	3.6	5.3

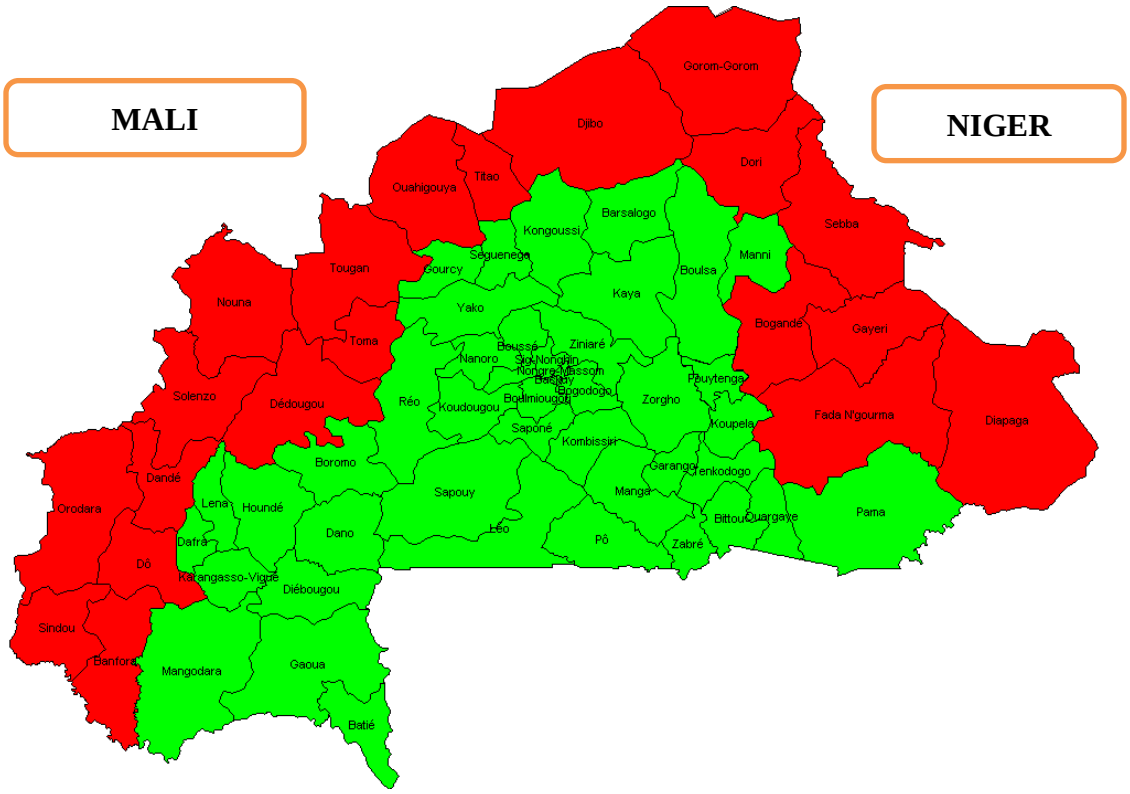
Areas for Project intervention

- Interventions of the project will be implemented in targeted cross-borders areas of the three countries, as shown in Maps 1 and 2 below.

- In Burkina-Faso, the Project will support malaria and NTDs interventions in twenty health districts of the country, highlighted in red[43] in the map below, covering 6.5 million inhabitants, including 1.2 million under five children (Table 14).

[43] When the document is printed in greyscale: "red" corresponds to dark grey.

Map 1: Targeted Districts of the Project in Burkina Faso (20 Districts in Red)



Source: Ministry of Health, Burkina Faso

Table 14: Targeted Districts of the Project in Burkina Faso

Health region	Health District	**Total population**	**Under 1**	**1-4 years old**	**5-14 years old**
BOUCLE DU MOUHOUN	DEDOUGOU	379,168	15,780	56,773	113,845
BOUCLE DU MOUHOUN	NOUNA	349,245	14,535	52,295	104,856
BOUCLE DU MOUHOUN	SOLENZO	342,288	14,246	51,252	102,767
BOUCLE DU MOUHOUN	TOMA	204,332	8,504	30,596	61,346
BOUCLE DU MOUHOUN	TOUGAN	273,392	11,379	40,937	82,084
CASCADES	BANFORA	364,262	13,416	48,120	105,943
CASCADES	SINDOU	161,487	6,184	22,681	47,860
EST	BOGANDE	356,368	16,168	56,814	113,101
EST	DIAPAGA	459,843	20,945	74,277	143,537
EST	FADA N'GOURMA	403,802	18,392	65,226	126,045
EST	GAYERI	109,972	5,009	17,763	34,327
HAUT BASSINS	DANDE	260,577	10,595	40,700	81,067
HAUT BASSINS	DO	514,036	16,525	60,316	140,570
HAUT BASSINS	ORODARA	382,668	13,111	49,216	109,468
NORD	OUAHIGOUYA	494,597	20,321	74,862	148,583
NORD	TITAO	183,235	7,913	28,277	55,437
SAHEL	DJIBO	457,017	19,140	68,457	135,411
SAHEL	DORI	342,920	14,355	51,355	101,588
SAHEL	GOROM-GOROM	261,723	10,962	39,204	77,546
SAHEL	SEBBA	210,885	8,832	31,588	62,486
TOTAL		**6,511,817**	**266,312**	**960,709**	**1,947,867**

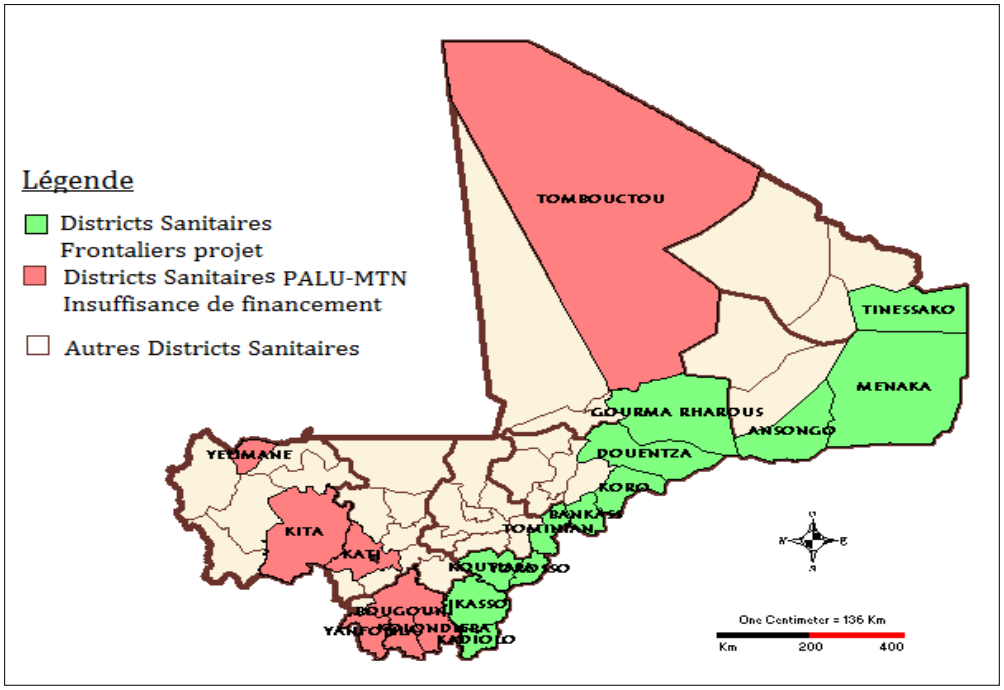
5. In Mali, nineteen health districts will be supported through the project. Twelve of them will benefit from integrated NTDs and malaria support (districts in green), and seven additional districts will have only NTDs or malaria support through the project (other partners already supporting some interventions in these districts):

   (a) Targeted districts for integrated malaria and NTDs interventions: Sikasso, Kadiolo, Koutiala, Yorosso, Tominian, Bankass, Koro, Douentza, Gourma-Rharous, Ansongo, Menaka, Tin Essako;

   (b) Districts with only NTDs interventions: Bougouni, Yanfolila, Kita et Kolondiéba;

(c) Districts with only malaria interventions: Yelimané, Tombouctou, Kati.

Map 2: Targeted Districts of the Project in Mali (19 Districts)



Source: Ministry of Health and Public Hygiene's National Directorate of Finance and Material, Mali

6. In Niger, the project will be implemented in seventeen health districts, in complementarity with other partners' interventions. Total population of these seventeen districts is above 9 million (Table 15).

Table 15: Targeted Districts of the Project in Niger

	District	SMC	PECA DOM iCCM	MDA NTD	Oncho	Bilharzi	LF	Trach	Geo helm	Population
1	Say	X	WB	WB						392,228
2	Ilela	WB		**WB**						440,079
3	Fiingue	WB		**WB**						584,765
4	Kollo	WB		**WB**						494,559
5	Tera	WB		**WB**						716,129
6	Zinder	CRS		**WB**						352,770
7	Matameye	CRS		**WB**						709,236
8	Mayahi	CRS		**WB**						594,205
9	Aguie	CRS		**WB**						434,772
10	Mirriah	CRS		**WB**						554,363
11	Madarounfa	MSF		**WB**						489,430
12	Guidan-Roumdji	MSF		**WB**						562,843
13	Magaria	MSF		**WB**						1,036,658
14	Boboye	X		**WB**						670,230
15	Gaya	X		**WB**						397,028
16	Thcin Tabaradem	X		**WB**						239,249
17	Birninkonni	X		**WB**						336,781
	Total for WB	4	1	17	4	17	16	11	17	9,005,325

World Bank (WB) districts are in Gray

Component 3: Strengthen institutional capacity to coordinate and monitor implementation

11. This component will provide support to country level implementing agencies and regional institutions to perform core functions and ensure that the project is well implemented, monitored and evaluated.

- **Subcomponent 3.1:** This component will support coordination at the national level for implementation of the project. The component will strengthen project management capacities for the implementing agencies, as the recruitment and training of key personnel including financial management, procurement, monitoring and evaluation as well as technical specialists at

country level when required. It will also support operating costs for the implementation agencies in the three countries. The component will also support institutional strengthening at the national level for NTDs and malaria programs and for regional institutions as WAHO, CAMEG and regional research institutions. This will include trainings and study tours for technical staff of the programs such as in epidemiology, monitoring and evaluation, medical waste management or supply chain. Equipment and operating costs for the NTD and malaria programs will also be funded through this component.

- **Subcomponent 3.2:** Monitoring and evaluation and operational research at the national level will also be strengthened. It includes regular evaluations activities of project interventions in the targeted areas, surveillance as well as specific surveys (for example to assess strategies at the community level).

12. For component 3, budget allocations (in US$m) are detailed in Table 16.

Table 16: Budget Allocations for Component 3

Project activities	Burkina Faso	Mali	Niger	ECOWAS
COMPONENT 3	**5.8**	**7.2**	**4.1**	**3.3**
3.1. National coordination and institutional strengthening	3.3	5.5	1.7	1.6
3.2. Monitoring and Evaluation	2.5	1.7	2.4	1.7

Annex 3: Implementation Arrangements
SAHEL MALARIA AND NTD PROJECT

Project Institutional and Implementation Arrangements

I. IMPLEMENTATION

A. Institutional and Implementation Arrangements

Overview

1. In order to fully integrate national and regional priorities, this operation combines support to the three countries to implement country-level activities, as well as support to the West African Health Organization (WAHO) to perform a regional coordination role and to implement activities at regional and sub-regional (cross-border) level. WHO/AFRO will be responsible for providing support to the three countries in building technical capacity for disease control and monitoring and evaluation and will serve as the liaison between the project countries and the pharmaceutical donation programs**,** working in collaboration with WAHO's implementation team. Funding for WAHO will flow from IDA through ECOWAS who will establish a subsidiary agreement with WAHO. It is proposed that funds will flow from IDA directly to the three countries for country level activities, and to WAHO (eligible to receive regional IDA financing, see below) for regional level activities. Separate service agreements would be signed out of the proceeds of the Agreement with WAHO to other regional research institutions who will provide training and specific technical support for research and sentinel surveillance at the regional level. Technical assistance provided by WHO/AFRO will be funded out of the Financing Agreements with the three countries. This proposed arrangement is fully in line with IEG's recommendations on regional projects.[44]

2. The project will be implemented by the Ministries of Health (MOH) in each country with support from WAHO and WHO/AFRO. While the situation differs from country to country, each MOH has the responsibility for overseeing all field community distribution, treatment and BCC programs. All project activities related to NTD and malaria are integral parts of MOH's sector action plans under the national strategy. Monitoring and evaluation systems, including health systems and program data, surveys, sentinel surveillance and operations research would be strengthened in the three countries with technical support from regional organizations such as WAHO, WHO/AFRO and MRTC. Knowledge generated will be used for decision-making, to enhance the learning processes, and to improve the quality of services.

[44] "What has generally worked best is reliance on national institutions for execution and implementation of program interventions at the country level, and on regional institutions for supportive services that cannot be performed efficiently by national agencies, such as coordination, data gathering, technical assistance, dispute resolution, and monitoring and evaluation." (IEG 2007).

3. Regional coordination will be under the responsibility of the WAHO. WAHO was set up by ECOWAS to help the region "attain the highest possible standard and protection of health of the peoples in the sub-region through the harmonization of the policies of the member states, pooling of resources and co-operation with one another and others for a collective and strategic combat against the health problems of the sub-region." WAHO, as the leader in sharing and advocating for common health policies and successful programming approaches from across the region, is well positioned to assume this coordination role.

4. A regional project implementation unit (R-PIU) has been established within WAHO and reports to the Director General of WAHO and World Bank, and is also implementing the WARDS and SWEDD regional World Bank Projects. The R-PIU will be responsible for day-to-day administration of regional activities, procurement, financial management, programming as well as monitoring and evaluation and will monitor and supervise project implementation. WAHO will also support knowledge management and regional learning, leading the policy studies on regional cross-border activities and policy coordination within health ministries. The R-PIU will be staffed as needed, taking into account the existing human resources and arrangements, as well as support provided to the WARDs and SWEDD projects in cross cutting areas (FM, Procurement, M&E and Communication). Operationally, WAHO will liaise with the countries through designated focal points at local level.

5. WAHO meets all the eligibility criteria for receiving regional IDA funding:

- Recipient is a bona fide regional organization that has the legal status and fiduciary capacity to receive grant funding and the legal authority to carry out the activities financed. As confirmed by the international protocol creating WAHO (ECOWAS protocol A/P.2/7/87), WAHO is a bona fide regional organization and has legal capacity for pursuing the activities proposed under the Project. Indeed, the objective of WAHO, as per Article III of the above mentioned Protocol is the following: "The objectives of West African Health Organization (hereinafter called "the Health Organization") shall be the attainment of the highest possible standard and protection of health of the peoples in the sub-region through the harmonization of the policies of Member States, pooling of resources, co-operation with one another and with others for a collective and strategic combat against the health problems of the sub-region."
- Recipient does not meet eligibility requirements to take on an IDA credit. WAHO does not carry out any income-generating activities. It is entirely funded by ECOWAS member states and donors.
- The costs and benefits of the activity to be financed with an IDA grant are not easily allocated to national programs. Given that WAHO will carry out its mandate of convening national institutions and technical experts from across ECOWAS member states, it would be extremely difficult to replicate such a regional function through national programs.
- The activities to be financed with an IDA grant are related to regional infrastructure development, institutional cooperation for economic integration, and coordinated interventions to provide regional public goods. The proposed activities for WAHO are related to convening national institutions and regional/international experts to facilitate

implementation of activities outlined in Component 1 of the project which constitutes a "coordinated intervention to provide a regional public good".

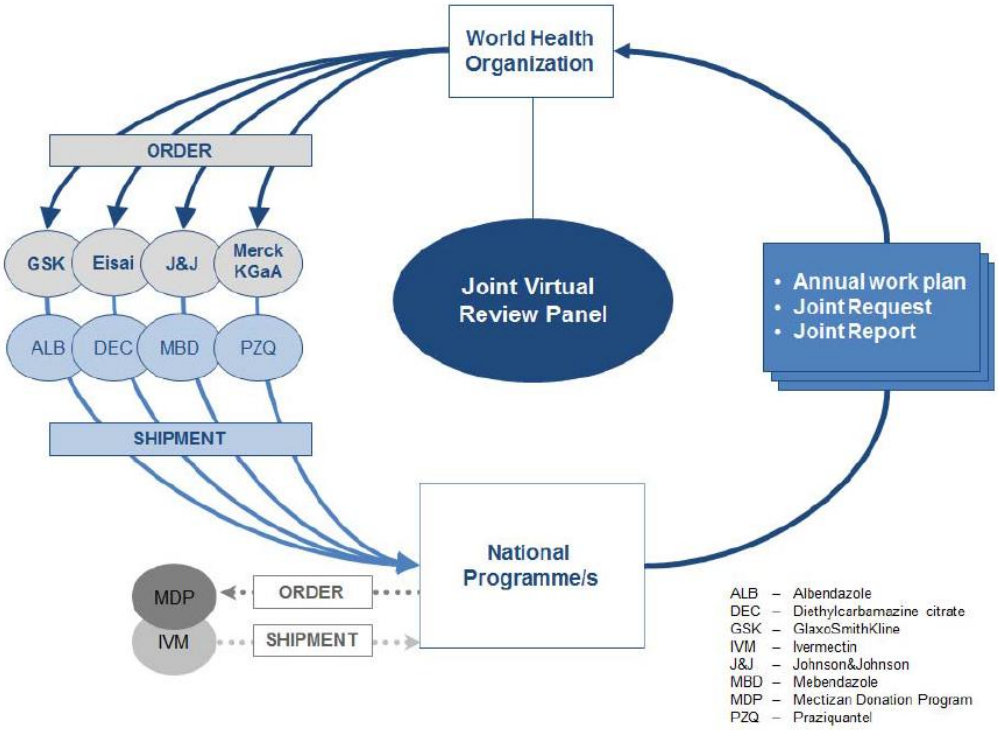
- Grant co-financing for the activity is not readily available from other development partners. Other donors (GFATM, USAID, and UNITAID) have been contacted during project preparation. No donors are currently considering providing a grant to WAHO.

6. This coordination role of WAHO to implement the project will be financed by a Regional IDA grant to WAHO. WAHO will sub-contract with other regional organizations for regional research. Based on WAHO's prior experience in managing similar World Bank and other donor projects, this project would be managed from the head office of WAHO in Bobo-Dioulasso under the supervision of the Directorate General. WAHO would liaise with the World Bank office in Ouagadougou throughout the project implementation. Within WAHO, the project would be coordinated by the Department of Disease Control.

7. WAHO will also convene the regional steering committee which will be comprised of national program managers and technical advisors of each country (of which one should be from MoE), donors and WHO. They will be responsible for (i) harmonizing technical strategies, implementation and monitoring tools across countries; (ii) conduct joint planning of campaigns, cross-border activities and project evaluations; and (iii) identify operational research priorities and disseminating lessons learned.

8. WHO will serve as the liaison between the project countries and the pharmaceutical donation programs to ensure timely access to an adequate supply of free drugs for the treatment of PC-NTDs to be used in project designated districts and other targeted areas of the countries. The process of acquiring the free donation for NTD treatment is detailed in Figure 6.

Figure 6: Process of Acquisition of the Free Donation for NTD Treatment



Source: http://www.who.int/neglected_diseases/preventive_chemotherapy/reporting/en/

9. WHO facilitates the supply of diethylcarbamazine citrate, albendazole, mebendazole, and praziquantel donated by the pharmaceutical industry to accelerate expansion of preventive chemotherapy for elimination and control of LF, schistosomiasis and STH. WHO also collaborates with the Mectizan Donation Program (MDP) to supply ivermectin for onchocerciasis and LF elimination programs. WHO has put in place a joint mechanism and a set of forms to facilitate the process of application, review and reporting as well as to improve coordination and integration among different programs. The ministries of health in the countries must submit (i) forms quantifying the number of tablets of the relevant medicines required to reach the planned target population and districts; (ii) forms reporting annual progress on integrated and coordinated distribution of medicines across diseases; and (iii) the annual work plan summarizing the key activities to be implemented by national programs, presenting timelines and identifying gaps in financial and technical resources for implementation. All three forms must be submitted together and donations are subject to review and/or availability of medicines. WHO will work with the countries to ensure that the forms are submitted on time.

10. **WHO/AFRO will be responsible for providing support to the three countries in building technical capacity for disease control and M&E, working in collaboration with WAHO's implementation team**. Based on an agreement to be established between WHO/AFRO and the three participating countries, WHO/AFRO will assist the countries to build their capacity to implement effective IEC/BCC strategies; provide MDA for PC-NTDs; scale-up SMC and community-based diagnosis and treatment of malaria; and to adapt WHO guidelines to local realities for an effective treatment program with appropriate M&E. WHO will coordinate with WAHO to mobilize technical and financial resources, particularly from domestic and sustainable sources, and ensure the joint planning, implementation and evaluation of cross-border malaria/NTD activities. WHO/AFRO administrative procedures would be followed in the management of these resources with annual reporting, and audit reports provided to WAHO/IDA. WAHO would be responsible for facilitating regional knowledge sharing among technical experts and policy makers in conjunction with WHO.

11. **Justification for engagement with the World Health Organization Regional Office for Africa (WHO/AFRO) to provide technical assistance and training to countries participating in the Sahel Malaria and NTD Project**: WHO/AFRO is uniquely placed to provide the necessary regional and national-level technical leadership and support functions required for the project. WHO/AFRO serves as the regional headquarters of the World Health Organization. The proposed activities for WHO/AFRO are directly related to the organizations core functions: providing leadership on matters critical to health and engaging in partnerships where joint action is needed; shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge; setting norms and standards, and promoting and monitoring their implementation; articulating ethical and evidence-based policy options; providing technical support, catalysing change, and building sustainable institutional capacity; and monitoring the health situation and assessing health trends. Support will be provide through WHO country offices in Niamey, Bamako, and Ouagadoudou; the Inter-Country Support Team for West Africa (IST/WA) and the African Program for Onchocerciasis Control, also in Ouagadougou, and the Regional Headquarters in Brazzaville, Congo. No other specialized technical organization in Africa can provide comparable support to health programs in the region.

12. National centers of excellence in research and training will coordinate regional research activities and contribute to specialized training activities. As noted above, operational research priorities will be identified by the regional steering committee.

13. The Central Medical Stores for Generic Medicines (*Centrale D'Achat des Médicaments Essentiels Génériques et des Consommables Médicaux*, the national drug procurement agency in Burkina Faso, referred to as CAMEG) plays a pivotal role in furnishing drugs to Burkina Faso's public and part of the private health sector. According to a study done by the World Bank in *Procurement and Risk Management Analysis: Performance, Institutional Structures and Value for Money*, "Generally CAMEG shows adequate performance of delivering on its mandate of supplying affordable generics drugs throughout Burkina Faso. Overall CAMEG's procurement has grown considerably (from US$39 million to US$55 million). The data on procurement performances, prices, availability of generics and expiration of drugs are all acceptable". CAMEG will undertake procurement and quality assurance of SMC drugs on behalf of all three

countries. Pooled procurement was deemed necessary for SMC drugs to reduce the risk of procurement associated delays in one or more of the countries that would prevent participation in cross-border SMC campaign activities which are tied to the rainy season once a year. Alternatives to CAMEG, such as central procurement through WAHO, were considered during the regional consultation, but a clear preference for using CAMEG as the procurement agent was expressed. Countries will have service contracts with CAMEG, and pay CAMEG directly from their project allocated budget for the purchase. The following is the justification to use CAMEG for the pooled procurement of SMC drugs for all three countries: (i) evaluations of this institution show strong capacities and weaknesses identified are addressed; (ii) important capacity to stock and distribute drugs; (iii) recognized expertise throughout the region; (iv) agreements established before signing contracts to guarantee transparency; and (v) control on prices.

14. The project implementation arrangements will rely as much as possible on the existing national structures, strengthening and coordinating with existing national institutions to better support the planned activities. Experienced National Project Coordination/Pooled funds Units were set-up in Burkina Faso since 2005 and in Niger for the past years, and have adequate fiduciary capacities to manage World Bank and partners funding and project activities. In Mali, the project will be anchored in the Directorate of Finance and Materials in the Ministry of Health.

15. To successfully implement this regional project the MOH of the three countries will coordinate and collaborate regionally, especially when planning and implementing cross-border interventions (surgery and MDA), research and BCC activities. The MOH of respective countries will implement national level activities in partnership with civil society organizations and research groups. The interaction between stakeholders involved in project implementation was discussed during a February 2015 regional workshop. When possible, experience was drawn from lessons learned from WARDS, SWEDD and Senegal River Basin Multi-purpose Water Resources Development Project (MWRD), as well as similar initiatives overseen by WHO and WAHO.

16. The three N-PIUs will be responsible for: (i) national Project management, including M&E, financial management of funds and procurement in accordance with World Bank guidelines & procedures; (ii) the finalization of the national Project Implementation Manuals (PIMs) before Project effectiveness; and (iii) producing national Project progress reports; and national Project communication. National Steering Committees (NSC) will be established at the relevant administrative level. The N-PIU will be staffed as needed, taking into accounts the existing human resources and arrangements. In all three Sahel countries, the executing agencies will be the line ministry in charge of health. A project coordinator position would be funded to strengthen the capacities of these units and 2-3 designated technical specialists would provide operational support. The project coordination unit would serve as the secretariat of the National Steering Committee.

17. Implementation at the community level through community health workers (CHW) (see Box 3 for roles) will depend very much on the strategy that the MOH puts in place. NGOs that have

been involved in control of the NTDs and iCCM may be contacted to serve as implementing agency at this level under the supervision of the MOH.

Box 3: Key role of CHWs in the Project and Regional Knowledge-sharing

In many low and middle-income countries, CHWs play a key role to improve access to health services for the population, especially in rural and remote areas. Receiving basic health training and delivering services in the community where they live, CHWs are used to provide a broad range of health services to their community (health promotion, support to campaign, curative services, treatments administration). However their profile and status can vary widely from one country to another and even inside the same country, depending on the program they are working with (and the partner involved in funding the community intervention). This is the situation in Burkina Faso, Mali and Niger even though the countries have developed a national CHW program/strategy.

Role of CHWs for health service delivery is recognized by WAHO. WAHO's Development of Human Resources for Health Programme states, "Furthermore, improved access to health care services particularly for the rural population depends on the availability of community health workers. The presence of community health workers who are able to detect early clinical signs of disease may alert the emergence of an epidemic, which would lead to in its early containment". Thus, one objective of the regional organization is to have the "qualification and the status of community health workers recognized in the ECOWAS region". At the international level, a "Joint Commitment to Harmonized Partner Action for CHWs and FLHWs (Front Line Health Workers)"[45] was agreed on in November 2013 between national governments and health development partners with the objective of having these health workers "recognized and supported within national health strategies through harmonized collaboration, accountable actions, and targeted research".

Malaria and NTDs interventions supported through the Project will be delivered at the community-level, relying on the performance of CHWs. Thus, the project will strengthen the capacity of CHWs through training, stronger supervision and improved access to adequate commodities. Also, regional efforts on CHWs will be supported by the project by developing regional knowledge-sharing on CHWs. The regional project will be an opportunity to create a regional forum for debate, information exchange and systematic evaluation of African CHW models, convened by WAHO.

[45] Joint Commitment to Harmonized Partners Action for Community Health Workers and Frontline Health Workers, Moving from fragmentation to synergy towards Universal Health Coverage, November 2013, Third Global Forum on Human Resources for Health, Recife, Brazil.

BURKINA FASO

National Implementation Arrangements

18. The Project will be anchored at the "General Direction of Health" of the MOH. It will be implemented by the MoH with support from the Support Program for Health Development (*Programme d'Appui au Développement Sanitaire*) (PADS), the project implementing unit established under the Bank-financed Health Sector Support and AIDS Project (P093987) and the Reproductive Health Project (P119917), for procurement and FM. The team has the skills and experience for fiduciary management which they have developed through the implementation of the World Bank projects since 2005. PADS has also been managing other large programs supported by the Global Alliance for Vaccination and Immunization (GAVI), the Global Fund, the Dutch Cooperation, UNICEF, French and German Cooperation and others.

19. A Steering Committee (*Comite de Pilotage*) is established at the national level at PADS (and is chaired by the Secretary General (*Secrétaire Général*) of the MOH and serve as a dialogue and orientation body. Technical activities will remain the responsibility of the technical directorates, the General Directorate for Health (*Direction générale de la Santé*) in charge of malaria and NTDs. The PADS is staffed by a multidisciplinary team headed by a Coordinator who reports to the SG-MoH. The National Coordinator is assisted by a technical team comprising all relevant disciplines a Financial Management Specialist, 3 Accountants, a Procurement Specialist, and a community/NGO and Gender Specialist and M&E specialist. It is expected that national focal points be appointed for NTDs and malaria in the concerned departments to facilitate the implementation.

Financial Management

20. A FM assessment of the Project Coordination Unit of the Support Program for Health Development (*Programme d'Appui au Développement Sanitaire*, (PADS/PCU)) that was set up within the MOH – Burkina Faso, Implementing Agency of the Sahel Malaria and Neglected Tropical Diseases Project at country (Burkina-Faso) level, was carried out in March, 2015. The objective of the assessment was to determine whether PADS/PCU have adequate FM arrangements in place to ensure that the Project funds will be used only for the purposes for which the financing was provided, with due attention to considerations of economy and efficiency.

21. The assessment found that PADS/PCU has: (i) experience on implementation of Bank financed-projects [Health Sector Support and AIDS Project (P093987) and the Reproductive Health Project (P119917)]; (ii) a Program Implementation Manual including policies and procedures of projects management, and an Internal Audit function with qualified and experienced staff; (iii) an accounting software acceptable for project management; and (iv) qualified and experienced financial management staff. In addition PADS/PCU does not have an overdue audit report. This is detailed in Table 17.

22. The assessment complied with the FM Manual for World Bank-Financed Investment Operations effective since March 1, 2010 and AFTFM Financial Management Assessment and Risk Rating Principles.

Table 17: Action Plan

#	Item		PADS/PCU
1	**Staff**		
	• Financial Management Specialist	By three months after effectiveness	N/A
	• Accountant	By three months after effectiveness	N/A
	Audits		
2	External auditor	By six months after effectiveness	Amend the contract of the ongoing Projects external auditor to include the Project Financial Statements.

Internal Control System PADS/PCU

23. *Policy:* the Project will rely on the existing internal control system comprising a Project Implementation Manual (including financial management policies, rules and procedures) and an Internal Audit function.

24. *Procedures*: the existing Project Implementation Manual will be revised to include the Project activities.

25. *Internal audit*: the existing Internal Audit Function will include the Project activities in its work program.

26. *Financial Management staff*: the existing FM staff is qualified and has sufficient experience on bank financed-projects financial management.

Planning and Budgeting System

27. *Policy*: PADS/PCU will prepare a detailed annual work plan and budget (AWP&B) which should be approved by its Steering Committee. Each Project will submit its AWP&B to IDA for comments, prior to each new fiscal year.

Accounting

28. *Accounting standards*: the SYSCOHADA, assigned accounting system in West African Francophone countries, will be applicable.

29. *Accounting software*: the existing accounting software (TOMPRO) will host the Project.

Financial Reporting

30. *Policy*: PADS/PCU will submit the Interim Financial Report (IFR) to the Bank within 45 days after the end of the calendar semester.

31. *Interim unaudited financial statements*: the report may include:

- Sources and Uses of Funds Statement, both cumulatively and for the period covered by the report, showing separately funds provided under the Credit
- Uses of funds by components Statement, cumulatively and for the period covered by the report
- Designated account reconciliation, including bank statements and general ledger of the bank account
- Disbursement forecast of the upcoming six months
- Explanation of variances between the actual and planned

Funds Flow and Disbursement Arrangements (Figure 7)

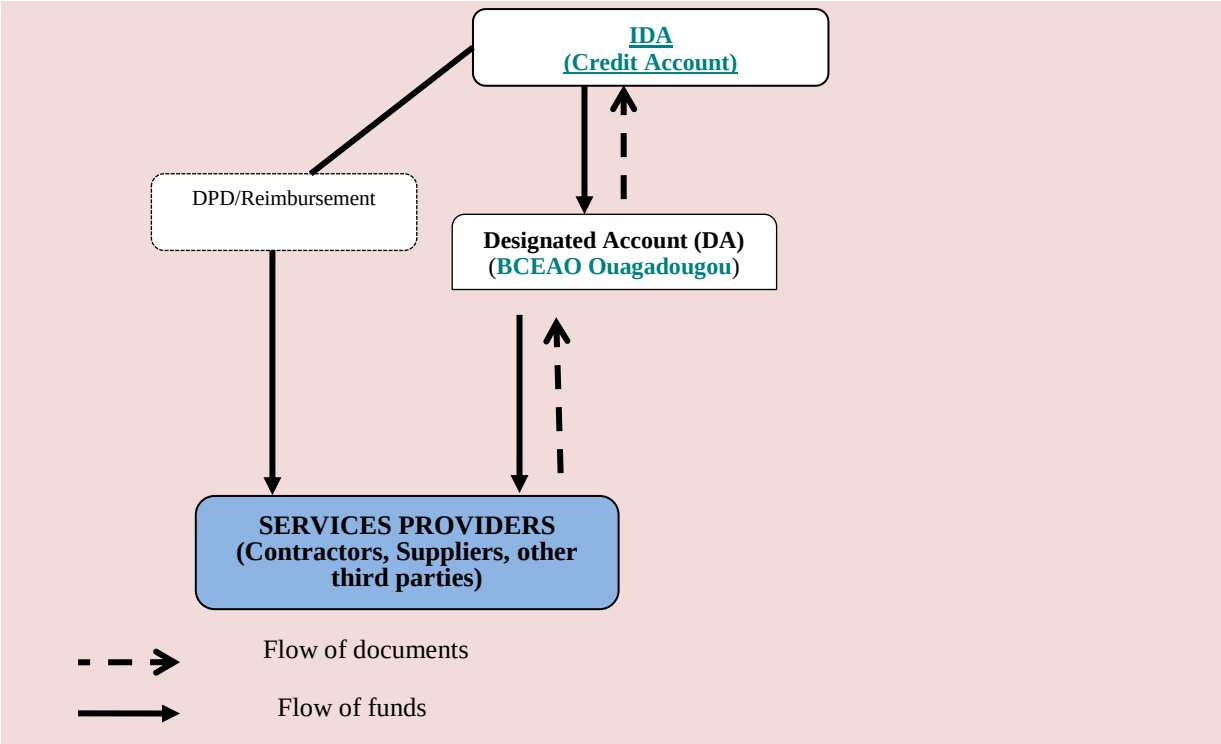
32. **Designated Account**. One Designated Account (DA) will be opened in FCFA at BCEAO Ouagadougou according to the disbursement procedures described in the Disbursement Letter (DL) which will be discussed in detail with the relevant government officials during negotiations and the Administrative, Accounting and Financial Procedures Manual. From the DA, funds will flow to Services providers and suppliers.

33. **Disbursement Methods.** Disbursement procedures arrangements will be detailed in the accounting, administrative and financial procedures and the disbursement letter (DL). Upon project effectiveness, transaction-based disbursements will be used. An initial advance up to the ceiling of the DA (FCFA 1.6 Billion) will be made into the designated account and subsequent disbursements will be made on a monthly basis against submission of SOE or records as specified in the DL. Thereafter, the option to disburse against submission of quarterly unaudited IFR (also known as the Report-based disbursements) could be considered subject to the quality and timeliness of the IFRs submitted to the Bank and the overall FM arrangements as assessed in due course. In the case of the use of the report-based disbursement, the DA ceiling will be equal to the cash forecast for two quarters as provided in the quarterly unaudited Interim Financial Report. If and when IFRs are used as the basis of disbursements, the contents and format will be revised to include disbursement-related information.

34. In addition to the "advance" method, the option of disbursing the funds through direct payments to a third party, for contracts above a pre-determined threshold for eligible

expenditures (e.g., 20 percent of the DA ceiling), will also be available. Another acceptable method of withdrawing proceeds from the IDA Credit is the special commitment method whereby IDA may pay amounts to a third party for eligible expenditures to be paid by the Recipient under an irrevocable Letter of Credit (LC). Figure 7 presents the flow of funds.

Figure 7: Funds of Flow Diagram (Burkina Faso)



The following table 18 specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Financing ("Category"), the allocations of the amounts of the Financing to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category.

Table 18: Expenditure categories (Burkina Faso)

Category	Amount of the Credit Allocated (expressed in USD)	Percentage of Expenditures to be Financed by the Credit (inclusive of Taxes)
(1) Goods, Non-Consulting Services, Consultants' Services, Operating Costs, Workshops and Training for the Project	34,000,000	100%
(2) Payments to Community Health Workers under Component 2 of the Project	2,000,000	100% of amounts disbursed
(3) Unallocated	1,000,000	
TOTAL AMOUNT	37,000,000	

Procurement

35. *Guidelines:* Procurement for the proposed project will be carried out in accordance with the World Bank Guidelines. The guidelines include: Guidelines: Procurement of Goods, Works and Non Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 and revised July 2014, "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 and revised July 2014, and the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006 and revised in January 2011, and the provisions stipulated in the Financing Agreement. National Competitive Bidding (NCB) shall be in accordance with procedures acceptable to the Bank.

36. *Procurement Documents:* Procurement will be carried out using the Bank's Standard Bidding Documents or Standard Request for Proposal (RFP) respectively for all International Competitive Bidding (ICB) for goods and the selection of consultants. For National Competitive Bidding (NCB), the Borrower will submit a sample form of bidding documents to the Bank for prior review and, once agreed upon, will use this type of document throughout the project. The Sample Form of Evaluation Reports published by the Bank will be used.

37. *Frequency of procurement reviews and supervision:* Bank's prior and post reviews will be carried out on the basis of thresholds indicated in Table 19. The Bank will conduct six-monthly supervision missions and an annual Post Procurement Review (PPR); the ratio of post review is at least one to fifteen contracts. The Bank could also conduct an Independent Procurement Review (IPR) at any time up to two years following the closing date of the project.

Table 19: Procurement and Review Thresholds

Expenditure Category	Contract Value (Threshold)	Procurement Method	Contract Subject to Prior Review
	US$		**US$**
1. Works	≥ 10,000,000	ICB	All
	< 10,000,000	NCB	
	< 200,000	Shopping	
	No threshold	Direct contracting	≥ 100,000
2. Goods	≥ 1,000,000	ICB	All
	< 1,000,000	NCB	
	< 100,000	Shopping	
	<500,000	Shopping (Vehicles & fuel)	
	No threshold	Direct contracting	≥ 100,000
3. Consultants			
Firms	No threshold	QCBS; LCS; FBS	All contracts of 500,000 and more
	< 200,000	CQ	
Individuals	No threshold	IC (EOI) : ≥ 100,000 IC (at least 3 CVs) : < 100,000	All contract of 200,000 and more
	No threshold	Single Source	≥ 100,000
		(Selection Firms &	
		Individuals)	
All TORs regardless of the value of the contract are subject to prior review			

38. All training, terms of reference for contracts, and all amendments of contracts raising the initial contract value by more than 15 percent of the original amount, or above the prior review thresholds, will be subject to IDA prior review. All contracts not submitted for prior review, will be submitted to IDA post review in accordance with the provisions of paragraph 5 of Annex 1 of the Bank's Consultant Selection Guidelines and Bank's procurement Guidelines.

39. *Procurement Plan:* For each contract financed by the grant, the procurement plan will define the appropriate procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, the prior review requirements, and the time frame. The procurement plan will be reviewed during project appraisal and will be formally confirmed during negotiations. The procurement plan will be updated at least annually, or as required, to reflect the actual project implementation needs and capacity improvements. All procurement activities will be carried out in accordance with approved original or updated procurement plans. All procurement plans should be published at the national level and on the Bank website

according to the relevant guidelines. The Client and the Bank have agreed on a procurement plan dated April 16, 2015 covering the first eighteen (18) months of the Project.

40. *Procurement Filing:* Procurement documents must be maintained in the project files and archived in a safe place until at least two years after the closing date of the project. The project Procurement Unit will be responsible for the filing of procurement documents, with support from the FMS.

41. *Anti-Corruption:* The Client will ensure that the project is carried out in accordance with the provisions of the Anti-Corruption Guidelines of the Bank: "Guidelines on Prevention and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006 and updated January 2011.

42. *Assessment of the Agencies' Capacity to Implement Procurement:* Procurement activities and overall fiduciary responsibility will be carried out by PADS the current Coordination Unit of the Reproductive Health (RH) and SWEDD Projects. PADS is hosted within the MOH and is familiar with implementing of bank-financed projects like Health Development Project (*Projet de Developpement sanitaire*, PDSN), Population and AIDS Control Project (*Projet Population et Lutte contre le Sida*, PPLS) and Support Project to the Health Sector (*Projet d'Appui au Secteur de la Sante*, PASS).

43. A procurement assessment was carried out by the Bank. The assessment reviewed the organizational structure for implementing the project, the institutional arrangement and the capacity of project staff responsible for procurement. It concluded that the PADS procurement department, headed by a Procurement Specialist with a procurement assistant, is well experienced with Bank procedures. It is recommended the recruitment of a procurement specialist to reinforce the team so as to handle adequately with the procurement activities since PADS is cumulatively implementing other donor activities.

Procurement risk at the country level

44. In 2013, under the initiative of the WAEMU Commission, the Bank funded a study on how to boost budget execution for a better development impact. The Boosting Budget Execution in WAEMU countries report noted that, most of the time, the contracts amounts are underestimated by bidders because of the weak capacity to correctly estimate contract and in order to be awarded the contract. The main consequences of this are (i) failing in contract execution; (ii) poor quality of deliverables; and (iii) no respect of contractual deadline.

45. The Burkina Faso country report recommended a series of actions in order to reduce the delays, enhance the procurement process and improve the value of money. The actions plan of this study at the regional level was approved on February 28, 2014 when the meeting of the Experts Committee (*Comité d'Experts*) of the WAEMU was held in Burkina Faso.

Procurement risk at the Project level

46. The main risks identified during the assessment are the following: **(**i) the limited experience in Bank procedures of staff from Directorate of Public Procurement (*Direction des Marches Publics,* DMP) within the MOH; (ii) the difficulties to apply the Bank increased procurement thresholds at national level; and (iii) enough complaints registered. Though regularly handled, these complaints result in delay for the procurement process.

Mitigation Measures

47. The mitigation measures proposed are presented in Table 20.

Table 20: Proposed Mitigation Measures

Action Plan for Strengthening Procurement Capacity			
Agency	**Tasks**	**Responsibility**	**Comments / Due date**
PADS	Allow the increased thresholds to apply for the project	ARCOP/DGCMEF	Not later than one month after effectiveness
	Strengthen the capacity of DMP and the evaluation committee members in Bank procedures	PIU/Bank	Not later than three month after effectiveness
	Update of the Implementation Manual (PIM)	PIU	Not later than one month after effectiveness

MALI

National Implementation Arrangements

48. The Project will be anchored in the Ministry of Health and Public Hygiene's National Directorate of Finance and Material (*Direction des Finances et du Materiel*, DFM) with strong representation from the National Directorate of the National Malaria Control Program (*Direction Nationale du Programme de Lutte Contre le Pauludisme*, DNPNLP) and the National Directorate of Health (*Direction Nationale de la Santé*, DNS). A PIU will located in the DFM and will do the day-to day management. DNS hosts the departments in charge of NTDs, while malaria control is under the responsibility of the National Directorate of Malaria (*Direction Nationale du Programme National de Lutte contre le Paludisme*, DNPNLP). Regular coordination between the DNS and DNPNLP is necessary to ensure that both play their role in project implementation, while DFM has to ensure that financial management and procurement are done efficiently so technical units access necessary funds and commodities when needed. All three directorates report to the General Secretariat that oversees them and will facilitate when needed. A Steering Committee (COP) will be established at the national level (chaired by the SG-MoH) and serve as a dialogue and orientation body. Local research will be done by the National Public Health Research Institute (*Institut National de Recherche en Santé Publique*), which already partner with both directorates and in coordination with MRTC.

49. The DFM will set up a project implementation unit chaired by a national coordinator who should have excellent management skills, as technical capacity does exist within the DNS and DNPLNP and their key partners. The national coordinator will report to the national director of Finances and Material. The national coordinator will be assisted by a technical team comprising all relevant disciplines: a financial management specialist, a procurement specialist and a monitoring and evaluation specialist. It will draw support from the General Secretariat and the DFM that usually ensures procurement and financial management for the sector. Those specialists will be selected on the basis of competition, based on terms of reference (ToR) agreed upon by IDA. The Internal Auditor appointed for the Strengthening Reproductive Health Program and who reports to the General Secretary will perform internal audit functions for the project for a specified number of days per month. The team would receive support from the technical departments of the MOHPH, especially the Directorate in charge of Strategic Planning (*Direction de la Cellule de Planification et de la Stratégie*) in charge of monitoring and evaluation, as well as the MOF. National focal points will be appointed in the concerned technical departments so as to facilitate project's implementation and regional coordination.

Financial Management and Disbursement Arrangements

50. *Staffing and Training:* The Project FM staff will consist of the DFM accounting team under the supervision of the director. Due to capacity constraints, the team will be supported for a limited period (no more than two (2) years) by a well experienced senior financial and accounting consultant under Terms of Reference (ToR) that will include a competency transfer clause. Trainings on IDA FM procedures and requirements will be provided over the project entire implementation period either by specialized institutions or by Bank FM team as and when needed.

51. *Budgeting arrangements:* All of the Project's transactions will be ring-fenced and will not go through the Malian Public Accounts. The budgeting process will be clearly defined in the FM Manual and the budget will be reviewed and adopted by the National Steering Committee before the beginning of the year i.e. not later than November, 30 each year. Annual budgets adopted by the steering committee will be submitted to the Bank's non-objection before implementation.

52. *Accounting arrangements:* The current accounting standards in use in in West African Francophone countries for on-going Bank-financed projects will be applicable. SYSCOHADA is the assigned accounting system in West African Francophone countries. Project accounts will be maintained on a cash basis, supported with appropriate records and procedures to track commitments and to safeguard assets. Annual financial statements will be prepared by the DFM in accordance with the SYSCOHADA and Bank requirements. Accounting and control procedures will be documented in the FM section of the implementation manual.

53. The project would be managed by a project implementation unit (PIU) that will set up within National Directorate of Finance and Material (*Direction des Finances et du Matériel, DFM*) of the Ministry of Health and Public Hygiene (MOHPH). The DFM will have overall responsibility for project coordination and implementation. Technical implementation will be the responsibility of National Directorate of Health (*Direction Nationale de la Santé, DNS*) and the National Directorate of the National Malaria Program (DPNLP). The overall responsibility of the FM activities will thus rely on the DFM.

54. The Bank FM team has, therefore, conducted an assessment of the implementing agency, the DFM to ensure its FM capacity meets minimum requirements under OP BP10.00. This assessment complied with the Financial Management Manual for World Bank-Financed Investment Operations that became effective on March 1, 2010 and AFTFM Financial Management Assessment and Risk Rating Principles. The assessment concluded that the DFM has previous experience with Bank funded Projects and the current FM arrangements at the DFM could be consider acceptable in terms mainly of staffing and financial management system. In fact, the FM team comprises qualified accountants all civil servants (one chief of the finances division and one accountant, both under the responsibility and supervision of the director of finances and material) and the DFM is endowed with a financial management system supported by a multi projects software. However, they are not adequate enough to carry out in a satisfactory manner Project FM activities mainly because (i) the FM team does not have required FM experience in managing Bank funded operations, (ii) there is no procedure manual surrounding the internal control system nor operating internal audit function, leading to weak internal control environment.

55. As a result of the above mentioned FM capacity constraints, the following actions need to be completed to ensure that the implementation unit at DFM have adequate FM arrangements to take care of the FM aspects of the Project: (i) a senior FM and accounting consultant will be recruited on a competitive basis for a limited period that could not exceed 2 years to support the PIU and build the PIU FM capacity; his ToR will thus reflect these requirements; and (ii) an FM procedures manual including internal controls, budget process, assets safeguards, and description of roles and responsibilities of all stakeholders will be elaborated as part of the Project

implementation manual; In this regard, existing customized procedures manual elaborated for Bank financed Projects in Cameroon will be made available to the Project preparation team and tailored to the Project specificities. As additional measures the existing accounting software at DFM will be customized to fit the Project specificities not later than two months after effectiveness.

56. In addition to these measures, the DFM will rely on the internal audit unit that is being set up within the Ministry to carry out ex post reviews of the Project transactions. Related terms of reference (ToR) will be revisited accordingly.

57. Based on the Bank's assessment, the FM residual risk for the Project is deemed Substantial. The proposed FM arrangements are considered satisfactory in fulfillment of the requirements under Bank OP 10.00 once the mitigation measures are implemented. The implementing entity will ensure that the Bank's Guidelines*: Preventing and Combating Fraud and Corruption in Projects financed by IBRD Loans and IDA Credits and Grants* (revised January 2011) are followed under the project

Internal control and internal auditing arrangements

Internal Control Systems: FM and administrative procedures will document the financial management and disbursement arrangements including internal controls, budget process, assets safeguards, and clarify roles and responsibilities of all the stakeholders.

58. **Internal audit:** An internal audit unit is being set up at the DFM of the MoH. It will be relied on to carry out ex post reviews of the Projects transactions on a risk based approach. Related Terms of Reference (ToR) will be revisited accordingly.

Funds Flow and Disbursement Arrangements (figure 8)

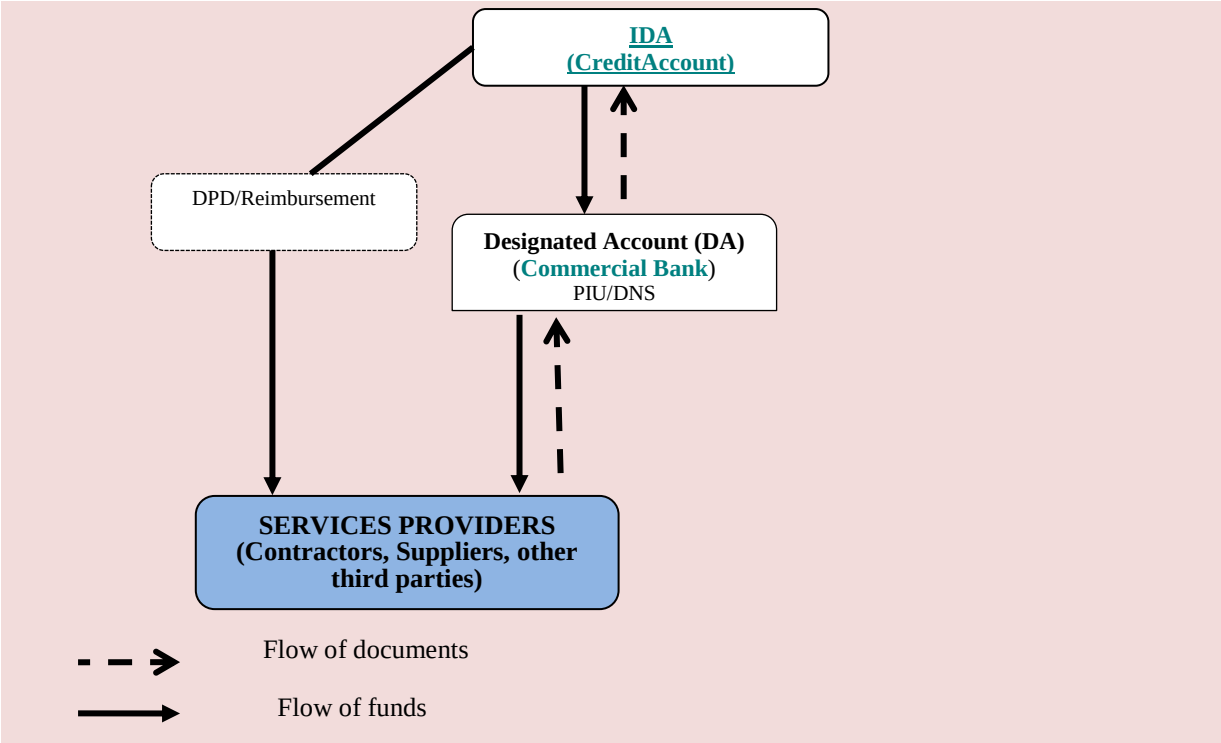
59. **Designated Account**. One Designated Account (DA) will be opened in Francs CFA (FCFA) in a commercial Bank under the co-signature of the project Coordinator and the FM officer according to the disbursement procedures described in the Disbursement Letter (DL) which will be discussed in detail with the relevant government officials during negotiations and the Administrative, Accounting and Financial Procedures Manual. From the DA, funds will flow to Services providers and suppliers.

60. **Disbursement Methods.** Disbursement procedures arrangements will be detailed in the accounting, administrative and financial procedures and the disbursement letter (DL). Upon Project effectiveness, transaction-based disbursements will be used. An initial advance up to the ceiling of the DA (FCFA 1.6 Billion) will be made into the designated account and subsequent disbursements will be made on a monthly basis against submission of SOE or records as specified in the DL. Thereafter, the option to disburse against submission of quarterly unaudited IFR (also known as the Report-based disbursements) could be considered subject to the quality and timeliness of the IFRs submitted to the Bank and the overall FM arrangements as assessed in due course. In the case of the use of the report-based disbursement, the DA ceiling will be equal to the cash forecast for two quarters as provided in the quarterly unaudited Interim Financial

Report. If and when IFRs are used as the basis of disbursements, the contents and format will be revised to include disbursement-related information.

61. In addition to the "advance" method, the option of disbursing the funds through direct payments to a third party, for contracts above a pre-determined threshold for eligible expenditures (e.g., 20 percent of the DA ceiling), will also be available. Another acceptable method of withdrawing proceeds from the IDA Credit is the special commitment method whereby IDA may pay amounts to a third party for eligible expenditures to be paid by the Recipient under an irrevocable Letter of Credit (LC). Figure 8 presents the flow of funds.

Figure 8: Funds of Flow Diagram (Mali)



The following Table 21 specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Financing ("Category"), the allocations of the amounts of the Financing to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category:

Table 21: Expenditure categories (Mali)

Category	Amount of the Credit Allocated (expressed in USD)	Percentage of Expenditures to be Financed by the Credit (inclusive of Taxes)
(1) Goods, Non-Consulting Services, Consultants' Services, Operating Costs, Workshops and Training for the Project	34,000,000	100%
(2) Payments to Community Health Workers under Component 2 of the Project	1,500,000	100% of amounts disbursed
(3) Unallocated	1,500,000	
TOTAL AMOUNT	37,000,000	

Financial Reporting Arrangements

62. The PIU/DNS will prepare Interim Financial Reports (IFRs). The format of IFRs includes the following: (i) reports on the sources and uses of funds for the period and the cumulative (year-to-date; project-to-date) and, showing budgeted amounts versus actual expenditures, including a variance analysis, by component/activity; (ii) forecast of sources and uses of funds by component/activity; (iii) reconciliation of advances to the DA. IFRs will be prepared on a quarterly basis reflecting operations of the designated account and submitted to the Bank within 45 days after the end of the calendar quarterly period. The DNS will prepare and agree with the Bank on the format of the consolidated IFRs by negotiations.

63. The PIU will also produce the Projects Annual Financial Statements and these statements will comply with SYSCOHADA and World Bank requirements. These Financial Statements will be comprised of:

- Statement of Sources and Uses of Funds which recognizes all cash receipts, cash payments and cash balances controlled by the PCU
- Statement of Commitments
- Accounting Policies Adopted and Explanatory Notes
- Management Assertion that project funds have been expended for the intended purposes as specified in the relevant financing agreements

Auditing Arrangements

64. The Financing Agreement (FA) will require the submission of Audited Financial Statements for the Project to IDA within six months after year-end. External auditor with qualification and experience satisfactory to the World Bank will be recruited to conduct an annual audit of the Project's financial statements. A single opinion on the Audited Project Financial Statements in compliance with International Federation of Accountant (IFAC) will be required. The external

auditors will prepare a Management Letter giving observations and comments, and providing recommendations for improvements in accounting records, systems, controls and compliance with financial covenants in the grant Agreement. Table 22 summarizes the auditing arrangements.

Table 22: Auditing Arrangements in Mali

No	**Action**	**Due Date**	**Responsible**
1	Agree on the format of the IFR	Completed during negotiation	DFM/IDA
2	Competitively recruit an FM officer based on ToR acceptable to the Bank	No later than one month after effectiveness	DFM/ MOHPH
3	Competitively recruit an accountant based on ToR acceptable to the Bank	No later than one month after effectiveness	PIU
4	Customized the FM procedures in the implementation manual elaborated for Bank financed Projects	No later than two months after effectiveness	PIU
5	Customized the multi projects version accounting software of the MoHPH to fit the Project accounting and reporting needs	Not later than two months after effectiveness	PIU
6	Recruit an external auditor	Five months after effectiveness	PIU

Financial Covenants

65. The Borrower shall establish and maintain a financial management system including records, accounts and preparation of related financial statements in accordance with accounting standards acceptable to the Bank. The Financial Statements will be audited in accordance with international auditing standards. The Audited Financial Statements for each period shall be furnished to the Association not later than six (6) months after the end of the Project fiscal year. The Borrower shall prepare and furnish to the Association not later than 45 days after the end of each calendar quarter, interim un-audited financial reports for the Project, in form and substance satisfactory to the Association. The Borrower will be compliant with all the rules and procedures required for withdrawals from the Designated Accounts of the Project.

Implementation Support Plan

66. Based on the outcome of the FM risk assessment, the proposed implementation support plan is detailed in Table 23. The objective of the implementation support plan is to ensure the project maintains a satisfactory financial management system throughout the project's life.

Table 23: Proposed Implementation Support Plan

FM Activity	Frequency
Desk reviews	
Interim financial reports review	Quarterly
Internal audit report review of the Project	On a risk based approach
External Audit report review of the Project	Annually
Review of other relevant information such as interim internal control systems reports.	Continuous as they become available
On site visits	
Review of overall operation of the FM system	Semi-annual (Implementation Support Mission)
Monitoring of actions taken on issues highlighted in audit reports, auditors' management letters, internal audit and other reports	As needed
Transaction reviews (if needed)	As needed
Capacity building support	
FM training sessions	During implementation and as and when needed.

Conclusion of the FM assessment

67. Based on the Bank's assessment, the FM residual risk for the Project is deemed Substantial. The proposed FM arrangements are considered satisfactory in fulfillment of the requirements under Bank OP 10.00 once the mitigation measures are implemented. The implementing entity will ensure that the Bank's Guidelines: Preventing and Combating Fraud and Corruption in Projects financed by IBRD Loans and IDA Credits and Grants (revised January 2011) are followed under the Project.

Procurement

68. The Procurement arrangements for the Project have been designed with consideration of the weakness of national procurement rules and procedures, and past experience in procurement carried out under other Bank financed projects.

Reference to National Procurement Regulatory Framework

69. A Country Procurement Assessment Review (CPAR) for Mali was carried out in 2007 and an evaluation of the national procurement system based on OECD/DAC methodology was done in September 2011 under EU funding. The assessment of the procurement regulation highlighted that the existing procurement principles and most of the procedures needed to be strengthened. The current regulation on Public Procurement in Mali is the Decree No. 08-045/P-RM dated August 11, 2008.

70. The focus has progressively shifted from reforming the legal and regulatory framework to focusing on strengthening the procurement capacity and the transparency of the national procurement system. In this regard, the Government has taken the following steps: (i) adopted an action plan based on the finding of the country procurement assessment review (CPAR); (ii) set up a new legal and regulatory framework under the new Procurement Code; (iii) issued procurement regulations and standard bidding documents; and (iv) created a regulatory body for public procurement and established procurement units in regions and technical ministries, including the Ministry of Finance.

71. In 2013, under the initiative of the WAEMU Commission, the World Bank funded a study on how to boost budget execution for a greater development impact. Based on data suggesting that a significant part of the capital investment budgets of WAEMU member states is underspent, this study was undertaken with a view to providing a comprehensive review of the systems, processes and practices used by finance and procurement to manage capital expenditure and to identifying practical recommendations that would allow countries to enhance the levels of budget execution. The country report of Mali recommended a series of actions in order to reduce the huge delays of procurement process in Mali and to improve the value of money. The actions plan of this study at the regional level was approved on February 28, 2014 when the meeting of the Experts Committee (*Comité d'Experts*) of the WAEMU held in Burkina Faso. Mali had implemented some of the measures of the action plan before its approval by the Council of Ministers of WAEMU held in June 28, 2014 in Dakar, Senegal.

72. A Prime Ministerial Decree was issued on April 10, 2014 and designated the authorities in charge of conclusion and approval of contracts and raises the threshold for concluding and approving for all authorities. This contributes in theory to reducing the time of the procurement cycle to a number of contracts (Decree No. 2014-0256/PM-RM). The ministerial decree signed on April 25, 2014, confirmed the new thresholds for concluding and approving contracts and reducing the time-limit for the different stages of the cycle of procurement. The ministerial decree removes the double review for government/donors for contracts subject to the prior review of donors (Decree No. 2014-1323/MEF-SG). These different measures aim to reduce the procurement cycle and to boost the budget execution.

73. The National Competitive Bidding (NCB) will be acceptable to the Bank subject to the procedures below and as reflected in the Financing Agreement:

(a) *Using of competitive method:* Even though the National Procurement Code does not apply to some small contracts, the procedures will require that for such contracts, a competitive method be used;
(b) *Advertising:* The General Procurement Notice would be advertised in the United Nations Development Business (UNDB) online and on the Bank's external website, specific invitation to bids would be advertised in at least one national widely circulated newspapers or on a widely used website or electronic portal of the Recipient with free national and international access;
(c) *Standard Bidding Documents:* All standard bidding documents to be used for the Project shall be found acceptable to the Association before their use during the implementation of the Project;

(d) *Eligibility:* No restriction based on nationality of bidder and/or origin of goods shall apply. Foreign bidders shall be allowed to participate in NCB without restriction and shall not be subject to any unjustified requirement which will affect their ability to participate in the bidding process. Recipient's government-owned enterprises or institutions shall be eligible to participate in the bidding process only if they can establish that they are legally and financially autonomous, operate under commercial law, and are not dependent agencies of the Recipient;

(e) *Bid preparation:* Bidders shall be given at least thirty (30) days from the date of the invitation to bid or the date of availability of bidding documents, whichever is later, to prepare and submit bids; except in cases of emergency declared by the Recipient, and provided that such emergency is recognized by the Association and the Association has given its approval for less time for the bids submission;

(f) *Bid Evaluation and Contract Award:* the evaluation and contract award process of alternative bids would be revised according to Bank's Procurement guidelines. The criteria for bid evaluation and contract award conditions shall be clearly specified in the bidding documents;

(g) *Preferences:* No preference shall be given to domestic/West African Economic and Monetary Union the West African Economic and Monetary Union (WAEMU) countries bidders; to domestically/WAEMU area manufactured goods; and to bidders forming a joint venture with a national firm or proposing national sub-contractors or carrying out economic activities in the territory of the Recipient;

(h) *Fraud and Corruption:* In accordance with the Procurement Guidelines, each bidding document and contract shall include provisions stating the World Bank's policy to sanction firms or individuals found to have engaged in fraud and corruption as set forth in the paragraph 1.16 (a) of the Procurement Guidelines;

(i) *Right to Inspect and Audit:* In accordance with paragraph 1.16 (e) of the Procurement Guidelines, each bidding document and contract financed from the proceeds of the financing shall provide that: (i) the bidders, suppliers, and contractor and their subcontractors, agents personnel, consultants, service providers or suppliers, shall permit the Association, at its request, to inspect their accounts, records and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Association; and (ii) the deliberate and material violation by the bidder, supplier, contractor or subcontractor of such provision may amount to obstructive practice as defined in paragraph 1.16 (a) (v) of the Procurement Guidelines; and

(j) *Suspension and Debarment:* The cases of suspension/debarment under the Recipient system shall result from fraud and corruption as set forth in paragraph 1.16 (a) of the Procurement Guidelines and approved by the Association provided that the particular suspension and debarment procedure afforded due process and that the suspension and debarment decision is final.

Use of Bank Guidelines

74. Procurement for the Project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated January 2011 and revised in July, 2014; and "Guidelines: Selection and Employment of Consultants by World Bank

Borrowers" dated January 2011 and revised in July, 2014, and the provisions stipulated in the Legal Agreement. In addition to complying with IDA's Guidelines, procurement will also comply with the Mali Public Procurement Decree. However, in the event of a conflict between IDA Guidelines and the Procurement Decree, the regulations of the World Bank will prevail. The various items under different expenditure categories are described in general below. For each contract to be financed by the Credit, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank in the procurement plan that will be prepared and agreed during negotiations. The procurement plan will be updated at least annually, or as required, to reflect the actual Project implementation needs and institutional capacity. The implementation entities, as well as contractors, suppliers and consultants will observe the highest standard of ethics during procurement and execution of contracts financed under this Project. "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA and Grants" dated October 15, 2006 and revised in January 2011 (the Anti-Corruption Guidelines) shall apply to the Project.

Advertising

75. A General Procurement Notice (GPN) will be prepared and published in UNDB online and on the Bank's external website and in at least one national widely circulated newspapers or on a widely used website or electronic portal of the Recipient with free national and international access after the Project is approved by the Bank Board, and/or before effectiveness. The GPN will show all International Competitive Bidding for goods and non-consulting services contracts, and all consulting services involving international firms. Specific procurement notices for all goods and works to be procured under ICB and expressions of interest (EoI) for all consulting services to cost the equivalent of US$300,000 and above would also be published in the same manner that the GPN.

Procurement methods

Procurement of Goods and Non-Consulting Services:

76. Procurement will be done under International Competitive Bidding (ICB) or Limited International Bidding (LIB), or National Competitive Bidding (NCB) using the Bank's Standard Bidding Documents for all ICB and National Standard Bidding agreed with or satisfactory to the Bank. Shopping in accordance with paragraph 3.5 of the Procurement Guidelines will be used for procuring readily available off-the-shelf goods of values not exceeding US$50,000. Direct contracting may be used where necessary if agreed in the procurement plan in accordance with the provisions of paragraph 3.7 to 3.8 of the Procurement Guidelines.

Selection and Employment of Consultants:

77. The selection method will be Quality- and Cost-Based Selection (QCBS) method whenever possible. The following additional methods may be used where appropriate: Selection under a Fixed Budget (FBS); and Least-Cost Selection (LCS); Selection Based on Consultants'

Qualifications (CQ), Single Source Selection (Firm and Individual) and Selection of Individual Consultants (IC).

78. Short lists of consultants for services estimated to cost less than US$200,000 per contract for consultancy assignments may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. However, if foreign firms express interest, they will not be excluded from consideration.

79. Single Source Selection (SSS) may be employed with prior approval of the Bank and will be in accordance with paragraphs 3.8 to 3.11 of the Consultant Guidelines. All services of Individual Consultants (IC) will be procured under contracts in accordance with the provisions of paragraphs 5.1 to 5.6 of the Guidelines.

Procurement Implementation Arrangements

80. The Project would be managed by a PIU set up in the MOHPH's DFM with representation from the DNS and the National Directorate of the National Malaria Program (DPNLP). DPNLP and DNS will have overall responsibility for technical implementation of the project, while DFM will ensure Project coordination and fiduciary management. The PIU will benefit from the support of the General Secretariat and be guided by the National Steering Committee. A proficient procurement specialist experienced on Bank procurement procedures will be recruited on the competitive basis, based on terms of reference agreed upon by IDA.

81. The procurement specialist's main tasks will be: (i) preparing and/or submitting procurement documents which require World Bank review and/or clearance; (ii) contributing to the preparation of annual work plans and budgets, semi-annual and annual progress reports, mid-term and completion review reports and (iii) updating and implementing the procurement plan, and submitting to the World Bank.

Procurement arrangements for Training and Workshops:

82. For all training activities, the PIU shall prepare and submit for Bank approval, annual training plans and budgets including the objectives of the training, the target participants, format of delivery and the qualifications of the resource person(s) as well as the expected impact of the training before the training can be undertaken. In case where the training is to be outsourced, the procurement of the trainer or the training institution shall be integrated into the project PP and agreed with the Bank. Similarly, the procurement of venues for workshops and training materials will be done by comparing at least three quotations.

Assessment of the capacity to implement procurement

83. Procurement capacity assessment is carried out to determine the institutional and management arrangements that would ensure proper execution of the project. They mainly focused on the capacity and internal arrangements of the recipient and the executing agency to carry out by themselves procurement planning and implementation, or otherwise proposed alternative arrangements to ensure transparent and efficient implementation.

84. ***Assessment of the PIU:*** Since the Implementing Project Unit to implement procurement actions for the Project has not yet been created, an assessment of the capacity was not possible. However a procurement assessment was carried out on March 12, 2015, in the DFM. The DFM is the only entity entitled to carry out fiduciary activities inside of the MoH. Procurement issues and risks for the implementation of the Project which have been identified include: (i) the absence of a manual of procedures within the DFM; (ii) the lack of personnel proficient in procurement capable of implementing procurement actions in line with Bank procurement procedures; (iii) the senior staff within the MoH responsible for process control and approval are not familiar with Bank procurement procedures; (iv) the risk of exposure of the procurement specialists who are civil servants to influence and pressure from their hierarchy, and (v) the inadequate communication and interaction between the DNS, the DNPNLP and the DFM which may lead to delays in the drafting of ToRs or technical specification and/or the poor estimation of the cost.

85. The overall unmitigated risk for procurement is "**Substantial**". An action plan in order to have a "Moderate" residual risk has been designed to address the risks identified during the assessment and includes the following main actions in Table 24.

Table 24 : Action Plan for Strengthening Procurement Capacity

Action Plan for Strengthening Procurement Capacity			
Risk	**Action**	**Responsibility**	**Due date**
1-Absence of a manual of procedures	Preparation of project implementation manual with section on procurement detailing out all applicable procedures, instructions and guidance for handling procurement, the SBDs and other standard procurement documents to be used. The PIM will outline the interaction between the Project's staff responsible for procurement and the Ministry's relevant central unit for finance and procurement (DFM)	DFM	Before effectiveness
2- Lack of proficient procurement personnel to implement procurement actions in line with Bank procurement procedures	Hire a procurement specialist on competitive basis, experienced and familiar with Bank procurement procedures for a minimum duration of 2 years. Participation in procurement training workshops for technical staff of the PIU, DNS and DNPNLP involved in the procurement process and procurement staff in DFM in the specialized procurement training institutions acceptable by the Bank to enhance their knowledge.	DFM Project Coordinator	No later than three months after effectiveness No later than six months after effectiveness and throughout the project life
3- High level staff within MoH responsible for process control and approval are not familiar with Bank procurement procedures	Organize a workshop to update staff on current changes in Bank procurement procedures Hands-on training of identified high level staff within the MoH on Bank procurement procedures Capacity building for the all Project staff involved in the procurement decision-making process and tender committee members, customized and hands-on training for the procurement staff on procurement focusing on: procurement planning, preparation of bidding documents, evaluation of bids or proposals, and procurement documents filing	PIU/IDA Procurement Specialist - PIU Procurement Specialist - PIU	Three months after effectiveness No later than three months after effectiveness Throughout the Project life
4- Risk of exposure of the procurement specialists within DFM who are civil servants to the influence and pressure from their hierarchy	The Control Body (DGMP) and the Regulation Authority (ARMDS) will have to play their role to ensure good governance and limit the opportunities for undue influence by anyone	DGMP-DS/ARM-DS	Throughout the project life
5- Inadequate communication and interaction between the DNS, the DNPNLP and the DFM which may lead to delays in the drafting of terms of reference (ToRs) or technical specification and poor estimation of the costs	All interactions related to the procurement responsibility must be concordant with the institutional arrangements agreed on with the Borrower Closely monitoring of procurement plans and exercise quality control on all aspects of the procurement process, including evaluation, selection and award on a monthly basis.	PIU/DFM/DNS/ DNPLNP PIU/IDA	Throughout the project life Throughout the project life

86. *Operating Costs:* Operational costs means the incremental expenses incurred by the Project, based on the annual work plans and budget as approved by the Association, on account of project implementation, management, and M&E, including the reasonable costs for materials and

supplies (but not the purchase of equipment), bank charges, communications, vehicle operation, maintenance, and insurance (but not the purchase of fuel), equipment maintenance, public awareness-related media expenses, travel and supervision, and salaries of contractual and temporary staff, and bonuses of members of the Borrower's civil service. These items will be procured using the procedures detailed in the PIM, which will be reviewed and found acceptable to IDA before credit effectiveness.

87. *Procurement Plans (PP):* The Recipient developed and submitted on April 16, 2015 to the Bank for its approval a PP. This PP indicates procurements to be carried out over the first 18 months of the Project. The procurement plan consists of the procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements. The Bank approved the PP on the same day, i.e. on April 16, 2015. The PP would be updated at least annually, or more frequently as required, to reflect the actual Project implementation needs and improvements in institutional capacity.

88. *Prior-Review Thresholds:* The PP shall set forth those contracts which shall be subject to IDA Prior Review. All other contracts shall be subject to Post Review by IDA. However, relevant contracts below prior review thresholds listed below which are deemed complex and/or have significant risk levels will be prior-reviewed. Such contracts will also be identified in the PP. A summary of prior-review and procurement method thresholds for the Project are indicated in Table 25. All ToRs for consultants' services, regardless of contract value, shall also be subject to the prior review by IDA.

Table 25: Thresholds for Procurement Methods

Expenditure Category	Contract Value (Threshold) (US$ 000)	Procurement Method	Contract Subject to Prior Review (US$ 000)
1. Goods and Non-consulting services	3,000 or more	ICB	All
	Below 3,000	NCB	All except contracts below 1000
	Below or equal to 50	Shopping	None unless contract specified in the PP
	No threshold	Direct Contracting	All except contracts below 100
2.Consultancy	Firms	QCBS, FBS, LCS, QC	All contracts of 500 and more and contracts specified in the PP
	Individual	IC (at least 3 CVs)	All except contracts below 200 and contracts specified in the PP
	No threshold	Single Source	All except contracts below 100

NB: All terms of reference for consulting services will be subject to IDA's prior review.

Frequency of Procurement Supervision

89. In addition to the prior review, supervision which is to be carried out by the Bank, the procurement capacity assessment recommends at least two supervision missions each year and also one visit to the field to carry out post-review of procurement actions.

90. **Post Review Procurement**: Post-reviews can be done either by IDA's specialists or by independent consultants hired under the IDA Project according to procedures acceptable to the Bank to ascertain compliance with procurement procedures as defined in the legal documents. The procurement post-reviews should cover at least a 15 percent of contracts subject to post-review, as the risk rating is substantial. Post review consists of reviewing technical, financial and procurement reports carried out by the Recipient's executing agencies and/or consultants selected. The threshold levels for various methods of procurement may be revised based on the assessment results during these post reviews.

NIGER

National Implementation Arrangements

91. The Project will be anchored in the Directorate of Studies and Programming (*Direction des Etudes et de la Programmation* or DEP) of the Ministry of Health. A PIU will not be established for the proposed project. The MOH will be responsible for the overall management as well as the monitoring and evaluation of the Project. The MOH has a long track record in implementing Bank-financed projects. Its pooled fund[46] demonstrates strong capacity to coordinate project implementation, and the arrangements in the key areas of financial management (FM), procurement, as well as monitoring and evaluation remain in compliance with World Bank's fiduciary and reporting requirements. The pooled fund is headed by a National Coordinator (civil servant), who reports to the Secretary General of the MOH. The National Coordinator is assisted by a technical team comprising all relevant disciplines. It will (i) coordinate overall project activities including those implemented by the MOH; (ii) carry out financial management and procurement for Project activities under the four components; and (iii) prepare consolidated annual work plans, budgets, M&E report, and the project execution report for submission to the Steering Committee and the Association (IDA). Concerned Technical Departments will provide support in project implementation through the technical focal points. A Steering Committee (CP) will be established at national level and serve as a dialogue and orientation body.

92. Implementation at the community level will depend very much on the strategy that the MOH puts in place. NGOs that have been involved in control of the NTDs and iCCM may be contacted to serve as implementing agency at this level under the supervision of the MOH.

Financial Management

93. *Staffing and Training:* The Project FM staff will consist of: (i) one senior accountant and one accountant at the national level, and (ii) eight accountants at the regional level with acceptable experiences who are in place. The project FM staff will be trained on IDA FM procedures and requirements over the project entire implementation period either by specialized institutions or by Bank FM team when needed.

94. *Budgeting Arrangements:* The Project budgeting process will follow World Bank procedures and be clearly defined in the budget section of the FM section of the procedures manual. The budget will be adopted before the beginning of the year and monitor through the project accounting software. Annual draft budgets will be submitted to the World Bank's non-objection before implementation. The consolidated annual work plan and budget approved by the Steering Committee will be submitted to the Bank no later than November 30 every year.

95. *Accounting Arrangements:* Project accounts will be maintained and supported with appropriate records and procedures to track commitments and to safeguard assets. Annual

[46] The MOH has operated a pooled account into which all contributions from donors (UNICEF, AFD, Spain, GAVI and UNFPA) participating in the pooling arrangements are paid to finance the agreed upon Annual work plan. The pool account has been established in a commercial bank, which received funds disbursed based on periodic Financial Monitoring Reports (FMRs). Accounts at different levels (each Health District and each Regional Directorate) will receive funds from the Pool account.

financial statements will be prepared by the FM team of the pooled funds unit (*Fonds Commun)* by using appropriate accounting software to generate automatically acceptable IFRs and financial statements. The accounting policies and procedures will be documented in the accounting procedures. The project through its administrative and financial management units will apply the Organization for the Harmonization of Business Law in Africa (*Organisation pour l'Harmonisation en Afrique du Droit des Affaires*, OHADA) accounting principles.

Internal control and internal auditing arrangements:

96. *Internal Control Systems:* FM procedures will be developed as part of the Project implementation manual of the Project. It would include budgeting, accounting, consolidated reporting, disbursement and auditing arrangements. To maintain a sound control environment, the project team is expected to follow the control mechanisms that will be described in the manual of procedures. The said manual will ensure that adequate internal controls are in place for the preparation, approval and recording of transactions as well as segregation of duties and will be subject to updates as needed.

97. *Internal Audit*: The internal audit function has been carried out by an experienced internal within the FC coordination unit. A second internal auditor is being recruited. Both them will be relied on to carry out post reviews of the Projects transactions on a risk-based approach. Their ToRs scope will be revisited accordingly.

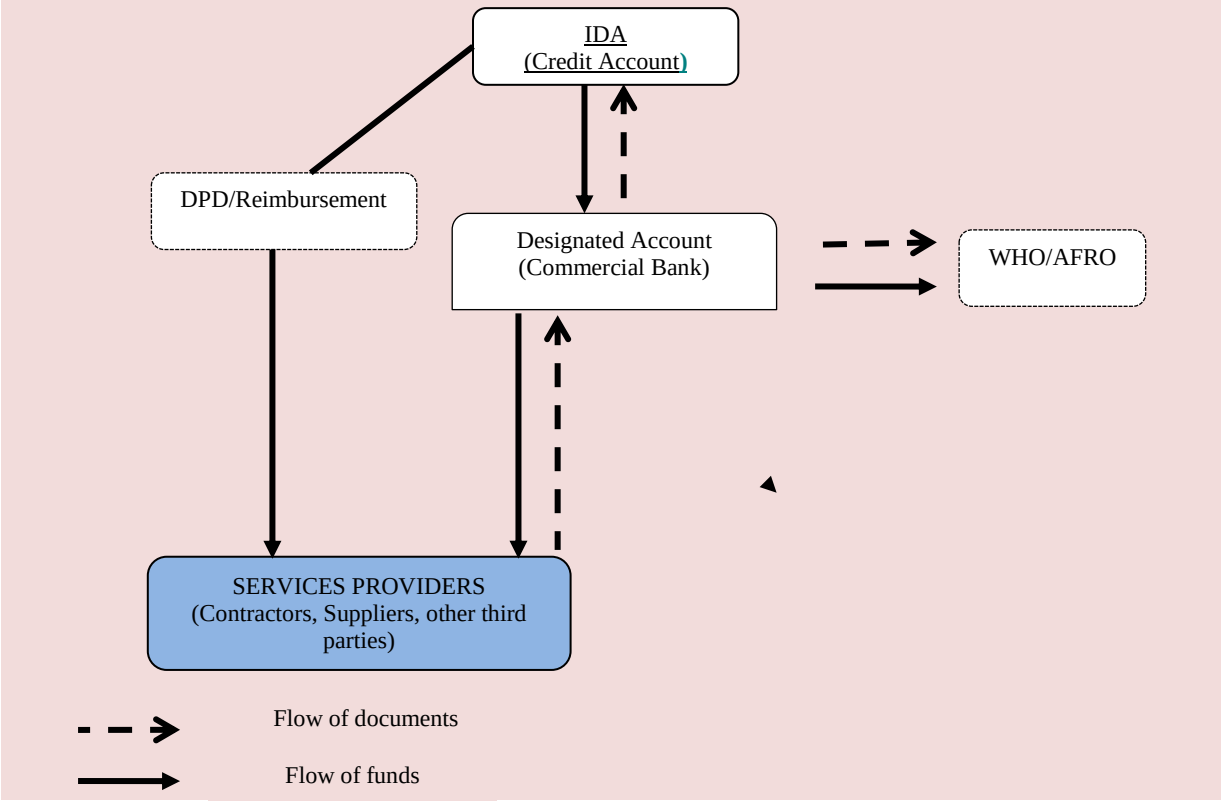
Funds Flow and Disbursement Arrangements (Figure 9)

98. *Designated Account:* The MOH will open a Designated Account (Segregated Account) to receive IDA funds only in a commercial bank acceptable to the Bank, which will be managed by the DRFM and the General Secretary of the MOH according to the disbursement procedures described in the DL which will be discussed in detail with the relevant government officials during negotiations and the Administrative, Accounting and Financial Procedures Manual. At the regional and district level, the MOH will open a 90-day account. From the DA, funds will flow to Services providers and suppliers.

99. *Disbursement Methods:* Disbursement procedures arrangements will be detailed in the manual of accounting, administrative and financial procedures and the disbursement letter. Upon project effectiveness, transaction-based disbursements will be used. An initial advance up to the ceiling of the DA (FCFA 1.6 Billion) will be made into the DA and subsequent disbursements will be made on a monthly basis against submission of SOE or records as specified in the disbursement letter. Thereafter, the option to disburse against submission of quarterly unaudited IFR (also known as the Report-based disbursements) could be considered subject to the quality and timeliness of the IFRs submitted to the Bank and the overall FM arrangements as assessed in due course. In the case of the use of the report-based disbursement, the DA ceiling will be equal to the cash forecast for two quarters as provided in the quarterly unaudited Interim Financial Report. If and when IFRs are used as the basis of disbursements, the contents and format will be revised to include disbursement-related information. In addition to the "advance" method, the option of disbursing the funds through direct payments to a third party, for contracts above a pre-determined threshold for eligible expenditures (e.g., 20 percent of the DA ceiling), will also be

available. Another acceptable method of withdrawing proceeds from the IDA Credit is the special commitment method whereby IDA may pay amounts to a third party for eligible expenditures to be paid by the Recipient under an irrevocable Letter of Credit (LC). Figure 9 presents the flow of funds.

Figure 9: Funds of Flow Diagram (Niger)



The following table 26 specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Financing ("Category"), the allocations of the amounts of the Financing to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category:

Table 26: Expenditure categories (Niger)

Category	Amount of the Credit Allocated (expressed in USD)	Percentage of Expenditures to be Financed by the Credit (inclusive of Taxes)
(1) Goods, Non-Consulting Services, Consultants' Services, Operating Costs, Workshops and Training for the Project	34,000,000	100%
(2) Payments to Community Health Workers under Component 2 of the Project	1,500,000	100% of amounts disbursed
(3) Unallocated	1,500,000	
TOTAL AMOUNT	37,000,000	

Financial Reporting Arrangements

100. The Pooled Fund Coordination unit (*Fonds Commun*, FC) will prepare IFRs. The format of IFRs includes the following: (i) reports on the sources and uses of funds for the period and the cumulative period (year-to-date; project-to-date) and showing budgeted amounts versus actual expenditures, including a variance analysis, by component/activity; (ii) forecast of sources and uses of funds by component/activity; and (iii) reconciliation of advances to the Designated Account. IFRs will be prepared on a quarterly basis reflecting operations of the designated account and submitted to the Bank within 45 days after the end of the calendar quarterly period. The FC will prepare and agree with the Bank on the format of the consolidated IFRs by negotiations.

101. The FC will also produce the projects annual financial statements and these statements will comply with SYSCOHADA and World Bank requirements. These financial statements will be comprised of:

- Statement of sources and uses of funds which recognizes all cash receipts, cash payments and cash balances controlled by the project implementing unit of the MOH
- Statement of commitments
- Accounting policies adopted and explanatory notes
- Management assertion that project funds have been expended for the intended purposes as specified in the relevant financing agreements

Auditing Arrangements

102. The Financing Agreement (FA) will require the submission of Audited Financial Statements for the project to IDA within six months after year-end. External auditor with qualification and experience satisfactory to the World Bank will be recruited to conduct an annual audit of the project's financial statements. A single opinion on the Audited Project Financial Statements in compliance with International Federation of Accountant (IFAC) will be required. The external auditors will prepare a Management Letter giving observations and comments, and providing recommendations for improvements in accounting records, systems, controls and compliance with financial covenants in the grant Agreement. Table 27 summarizes the auditing arrangements in Niger.

Table 27: Auditing Arrangements in Niger

No	**Action**	**Due Date**	**Responsible**
1	Agree on the format of the IFR.	Completed during negotiation	DNS/IDA
2	Finalize the recruitment of the second internal auditor.	No later than two (2) months after effectiveness	DNS/MoH
3	Customize the FM procedures in the implementation manual elaborated for Bank financed Projects.	No later than two (2) months after effectiveness	FC coordination unit
4	Update the existing administrative, accounting and financial procedures manual to fit the SMNTD project needs.	Not later than two (2) months after effectiveness	FC coordination unit
5	Customize the multi projects version accounting software of the MoH to fit the Project accounting and reporting needs	Not later than two (2) months after effectiveness	FC coordination unit
6	Recruit an external auditor	Four (4) months after effectiveness	DNS/ MoH

Financial Covenants

103. The Borrower shall establish and maintain a financial management system including records, accounts and preparation of related financial statements in accordance with accounting standards acceptable to the Bank. The financial statements will be audited in accordance with international auditing standards. The audited financial statements for each period shall be furnished to the Association not later than six (6) months after the end of the project fiscal year. The Borrower shall prepare and furnish to the Association not later than 45 days after the end of each calendar quarter, interim un-audited financial reports for the Project, in form and substance satisfactory to the Association. The Borrower will be compliant with all the rules and procedures required for withdrawals from the designated Accounts of the project.

Implementation Support Plan

104. Based on the outcome of the FM risk assessment, Table 28 outlines the proposed following implementation support plan. The objective of the implementation support plan is to ensure the project maintains a satisfactory financial management system throughout the project's life.

Table 28: Proposed Implementation Support Plan

FM Activity	Frequency
Desk reviews	
Interim financial reports review	Quarterly
Internal audit report review of the Project	On a risk based approach
External Audit report review of the project	Annually
Review of other relevant information such as interim internal control systems reports.	Continuous as they become available
On site visits	
Review of overall operation of the FM system	Semi-annual (Implementation Support Mission)
Monitoring of actions taken on issues highlighted in audit reports, auditors' management letters, internal audit and other reports	As needed
Transaction reviews (if needed)	As needed
Capacity building support	
FM training sessions	During implementation and as and when needed.

Conclusion of the FM assessment

105. Based on the World Bank's assessment, the FM residual risk for the Project is deemed substantial. The proposed FM arrangements are considered satisfactory in fulfillment of the requirements under Bank OP 10.00 once the mitigation measures are implemented. The implementing entity will ensure that the Bank's Guidelines*: Preventing and Combating Fraud and Corruption in Projects financed by IBRD Loans and IDA Credits and Grants* (revised January 2011) are followed under the project.

Procurement

106. *Procurement Arrangements:* Procurement of the proposed project will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated July 2014, and "Guidelines: Selection and Employment of Consultants by World Bank borrowers" dated July 2014, and the provisions stipulated in the Financing and the Project Agreements.

107. *Procurement of Goods*: The procurement will be done using the Bank's SBD for all ICB and National SBD agreed with or satisfactory to the Bank. Procurement may be done under NCB and Shopping depending on the thresholds.

108. *Procurement of Non-Consulting Services*: Procurement of non-consulting services will follow procurement procedures similar to those stipulated for the procurement of goods, depending on their nature.

109. *Improvement of Bidding Procedures under National Competitive Bidding*: The Niger procurement reform has led to the adoption of a new procurement law in October 2011 and the implementing decree on procurement Code in December 2011. Implementing texts are adopted in 2012 and 2013. Niger's legal framework is now better aligned to the West African Economic Monetary Union (WAEMU) Directives and international standards.

110. Although the legal framework seems acceptable, the Recipient shall ensure that the following additional requirements are met under National Competitive Bidding:

a) Invitation to bid shall be advertised in at least one national newspaper with wide circulation, at least 30 days prior to the deadline for the submission of bids;
b) Foreign bidders shall not be precluded from bidding and no preference of any kind shall be given to national bidders in the bidding process;
c) Bidding shall not be restricted to pre-registered firms;
d) Qualification criteria shall only concern a bidder's overall capability and financial capacity to perform the contract, taking into account objective and measurable factors. All qualification criteria shall be clearly specified in the bidding documents;
e) Bids shall be opened in public, immediately after the deadline for submission of bids;
f) Bids shall not be rejected merely on the basis of a comparison with an official estimate without the prior concurrence of the Bank;
g) Before rejecting all bids and soliciting new bids, the Bank's prior concurrence shall be obtained;
h) Contracts shall be awarded to the lowest evaluated and qualified bidder;
i) No domestic preference shall be given for domestic bidders;
j) Fees charged for the bidding documents shall be reasonable and reflect only the cost of their printing and delivery to prospective bidders, and shall not be so high as to discourage qualified bidders.
k) Any firm declared ineligible by the World Bank, based on a determination by the World Bank that the firm has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for or in executing a Bank-financed contract, shall be ineligible to be awarded a World Bank-financed contract during the period of time determined by the World Bank; and
l) Each contract financed from the proceeds of the Credit shall provide that the suppliers, contractors and subcontractors shall permit the Bank, at its request, to inspect their accounts and records relating to the performance of the contract and to have said accounts and records audited by auditors appointed by the Bank. The deliberate and material violation by the supplier, contractor or subcontractor of such provision may amount to obstructive practice.

111. *Selection of Consultants:* Consultancy services will be done using the World Bank's standard Request for Proposals when required. Assignments estimated to cost the equivalent of US$300,000 or more would be advertised for expressions of interest (EOI) in Development Business (UNDB), and in at least one newspaper of wide national circulation. In addition, EOI for specialized assignments may be advertised in an international newspaper or magazine. Foreign consultants who wish to participate in national section should not be excluded from consideration. Shortlists of consultants for services estimated to cost less than $200,000 equivalent per contract for supervising engineers and $100,000 equivalent per contract for other consulting services, may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines

112. *Capacity Building and Training Programs, Seminars, Conferences, Workshops, etc.:* All training and workshops will be carried out on the basis of the project's Annual Work Plans and Budget which will have been approved by the Bank on a yearly basis, and which will inter-alia, identify: (i) the envisaged training and workshops; (ii) the personnel to be trained; (iii) the institutions which will conduct the training and selection methods of institutions or individuals conducting such training; (iv) the justification for the training, how it would lead to effective performance and implementation of the project and or sector; and (v) the duration of the proposed training; (vi) the cost estimate of the training. Report by the trainee upon completion of training would be required.

113. *Operating Costs*: Project operating costs would be procured using the implementing agency's administrative procedures, which have been reviewed and found acceptable to the Bank.

114. *Fraud and Corruption:* All procuring entities, as well as bidders, suppliers, and contractors shall observe the highest standard of ethics during the procurement and execution of contracts financed under the project in accordance with paragraph 1.15 and 1.16 of the Procurement of the Procurement Guidelines and paragraphs 1.25 and 1.26 of the Consultant Guidelines. 'Guidelines on Preventing and Combatting Fraud and Corruption in Projects financed by IBRD loans and IDA Credits and Grants" dated October 15, 2006 and revised in January 2011, shall also apply to the project.

115. *Procurement responsibilities and accountabilities.* Procurement activities will be carried out by the Ministry in charge of Health through the Unit managing the FC under the coordination of the Secretary General (SG).

116. The procurement activities in the Ministry will be supported by the Procurement Directorate (DMP) and the technical directorates in their respective area of competency. All procurement requests will be sent by the SG to the World Bank.

117. The Ministry in charge of Health under the overall coordination of the SG will be responsible for all procurement related to the project and will carry out the following activities in close collaboration with the respective beneficiaries: (i) preparation and updating of the procurement plan; (ii) preparation of the bidding documents, draft requests for proposals (RFP),

evaluation reports, contracts in compliance with World Bank procedures; (iii) monitoring the implementation of procurement activities; (iv) development of procurement reports; and (iv) seeking and obtaining approval of national entities and then IDA on procurement documents as required.

118. A preliminary assessment of the capacity of the Ministry to implement procurement activities of the project was carried out in October 2014 and will be finalized during appraisal. The assessment reviewed the organizational structure for implementing the Project, the procurement capacities of the agencies (past procurement experience, staff in charge of procurement, tools including manuals, procurement reporting, filing, use of software, etc.) and the interactions between the different agencies involved in the Project.

119. The assessment found that the MOH with the FC has gained satisfactory knowledge, technical expertise and experience in WB procedures during the implementation of previous projects. The procurement specialist has since left, and the Ministry has appointed two staff in charge respectively of procurement, and equipment and infrastructure contract management. The audit report in 2013 has revealed weaknesses in procurement notably in the regions. The procurement officer who oversees the procurement activities in close collaboration of DMP has received training in WB procurement procedures; his experience in practicing seems acceptable. Procurement filing is acceptable.

120. The overall project risk for procurement is rated Substantial prior to mitigation efforts. The key risks for procurement are staff involved in the project who may not have experience with complex technical procurement will be responsible for process control and approval. This could cause misprocurements, possible delays in evaluation of bids and technical proposals leading to implementation delays, poor quality of contract deliverables, and reputational risks to the Bank and the project. The residual risk is assessed as Moderate after adopting the following measures including:

a) Appointing qualified procurement assistants to be located at the central and if needed at regional levels of Ministry in charge of Health, depending of the volume of activities, to fully support the team in all procurement activities related to the Project;
b) A procurement plan (PP) for the first 18 months of program implementation will be prepared during appraisal. The final version of this PP will be discussed and approved during negotiations. During implementation the PP will be updated in agreement with all the pooled fund donors as required - at least annually - to reflect actual program implementation needs and improvements in institutional capacity;
c) A manual of administrative, financial and accounting procedures will be prepared to clarify the role of each team member involved in the procurement process of the project, the maximum delay for each procurement stage, specifically with regards to the review, approval system and signature of contracts; and
d) A workshop will be organized at the beginning of the Project to train /update all key stakeholders involved in procurement on World Bank procurement procedures and policies.

121. *Procurement Methods*: For Niger, International Competitive Bidding (ICB) thresholds have been set at US$5 million for works and US$500,000 for goods. Table 29 summarizes the procurement and selection thresholds applicable to this project.

Table 29: Procurement Method Thresholds

NO	Expenditure Category	Contract Value Threshold**(US$)	Procurement Method
1	Goods and Services (*other than Consulting Services)*	C>=500,000	ICB
		50,000= <C < 500,000	NCB
		C<50,000	Shopping
		All values	Direct Contracting
2	Consulting Services Firms	C>= 200,000 firms	QCBS, QBS
		< 200,000 firms	QCBS, FBS, CQS, LCS
		All Values	Single Source Selection
	Individual Consultant	All values	IC
		All Values	Single Source Selection
3	Training, Workshops, Study Tours	All Values	With the approval of the TTL
All TORs, regardless of the value of the contract and the selection method, are subject to prior review.			

ICB – International Competitive Bidding

NCB – National Competitive Bidding

QCBS – Quality and Cost-Based Selection method

IC – Individual Selection method

SSS – Single Source Selection

QBS – Quality Based Selection

FBS – Fixed Budget Selection

CQS – Consultants' Qualification Selection(for Contracts below 100 000 USD)

LCS – Least Cost Selection

122. *Procurement Prior Review Thresholds*: The procurement prior review thresholds are tied to the substantial procurement risk as shown in Table 30 and reflected in the procurement plan.

Table 30: Procurement Prior Review Thresholds

No	Expenditure Category		Amount in USD
1	Goods and Services (*other than Consulting Services)*		>=1 000 000
2	Consulting Services		>=500 000
3	All Direct contracting and Single Source contracts with consultant (firms)	*Works*	>=100 000
		Goods	
		Consultants services	
4	Individual Consultants (*Single Source contracts)*		>= 100 000
	Individual consultants (*based on comparison of CVs*)		>=200 000

123. Contracts estimated to cost above these thresholds for works and goods, consulting services will be subject to prior review by IDA.

124. Further, it was agreed on the following additional mitigation measures:

a) All TORs for consulting services will be subject to prior review by the World Bank.

b) At least once a year, the World Bank and the Government will agree on a procurement plan which will detail the procurement methods to be used and specific contracts to be reviewed by the World Bank.

125. *Revision:* The prior review thresholds and other measures to be taken to mitigate the procurement risk should be re-evaluated once a year with a view of adjusting them to reflect changes in the procurement risk that may have taken place in the meantime and to adapt them to specific situations. In case of failure to comply with the agreed mitigation measures or World Bank guidelines, a re-evaluation measure of both types of thresholds, ICB and prior review, may be required by IDA.

126. *Additional Notes*:

a) The threshold for shopping is defined under para. 3.5 of the Guidelines and should normally not exceed US$50,000 equivalent for off-the-shelf goods and commodities, and for simple civil works;
b) Operating expenditures are neither subject to the procurement and consultant guidelines nor prior or post reviews. Operating expenditures are normally verified by TTLs and FM specialists;
c) Irrespective of the thresholds and category of risk, the selection of all consultants (firms or individuals) hired for legal work or for procurement activities are respectively cleared by the LEG VPU unit with the relevant expertise and the designated PS/PAS or RPM as required;
d) Prior review contracts for the hiring of individual consultants: Apart from legal work and procurement assignments, irrespective of the thresholds and category of risk, which shall respectively be reviewed by LEG VPU Unit with the relevant expertise and the designated PS/PAS or RPM as required, review of the selection process for all other individual consultants (technical experts) shall be solely be reviewed by the TTL and the relevant technical specialist within the Bank team;
e) Contracts below the threshold but falling within an exception as defined in clause 5.4 of the Guidelines: Selection and Employment of Consultants are also subject to prior review or require the Bank's prior no objection; and
f) Special cases beyond the defined thresholds are allowed based on applicable market conditions.

127. *Frequency of Procurement Supervision:* In addition to the prior review which will to be carried out by the World Bank, the procurement capacity assessment has recommended two supervision missions each year.

128. *Post Review Procurement*: IDA will carry out sample post review of contracts that are below the prior review threshold for contracts implemented to ascertain compliance with the

procurement procedures as defined in the legal documents. The procurement post-reviews should cover at least 15 percent of contracts subject to post-review, as the risk rating is Substantial.

129. *Procurement information and documentation – filing and database*: Procurement information will be recorded and reported as follows:

a) Complete procurement documentation for each contract, including bidding documents, advertisements, bids received, bid evaluations, letters of acceptance, contract agreements, securities, related correspondence, etc., will be maintained at the level of respective ministries in an orderly manner, readily available for audit;
b) Contract award information will be promptly recorded and contract rosters as agreed will be maintained; and
c) Comprehensive quarterly reports indicating: (i) revised cost estimates, where applicable, for each contract; (ii) status of on-going procurement, including a comparison of originally planned and actual dates of the procurement actions, preparation of bidding documents, advertising, bidding, evaluation, contract award, and completion time for each contract; and (iii) updated procurement plans, including revised dates, where applicable, for all procurement actions.

WAHO

Financial Management

130. A Financial Management (FM) assessment of the Interstate West African Health Association (WAHO) Implementing Agency of the Sahel Malaria and Neglected Tropical Diseases Project at regional level was carried out in March, 2015. The objective of the assessment was to determine whether WAHO has adequate FM arrangements in place to ensure that the Project funds will be used only for the purposes for which the financing was provided, with due attention to considerations of economy and efficiency.

131. The assessment found that WAHO has experience in implementation of Bank-financed projects. WAHO is an implementing agency of the Bank-financed projects: Sahel Women Empowerment and Demographic Dividend (P150080) and West Africa Regional Disease Surveillance Capacity Strengthening (P125018). In addition, WAHO has: (i) a sound financial regulations in relationship with ECOWAS financial rules; (ii) a manual of procedures with adequate segregation of duties; (iii) qualified and experienced financial management staff (finance director, chief accountant, two accountants, budget officer, and financial controller); (iv) satisfactory accounting software, accounting policies and procedures; (v) acceptable budgeting arrangements; and (vi) an Internal Audit Unit. In addition WAHO does not have an overdue audit report. Further information is provided in Table 31.

132. The assessment complied with the Financial Management Manual for World Bank-Financed Investment Operations effective since March 1, 2010 and AFTFM Financial Management Assessment and Risk Rating Principles.

Table 31: WAHO's Financial Management

#	Item		WAHO
1	**Staff**		
	• Financial Management Specialist	By three months after effectiveness	Amend the contract of the Financial Management Specialist to include the new Project in their terms of reference
	• Accountant	By three months after effectiveness	Amend the contract of the Accountant to include the new Project in their terms of reference
	Audits		
2	External auditor	By six months after effectiveness	Amend the contract of the ongoing Projects external auditor to include the Project Financial Statements.

Internal Control System

133. *Policy:* Project will rely on the existing internal control system comprising (a) policies, rules and procedures documented in ECOWAS Financial Regulations, (b) a financial controller position (ex-ante controls) who reports to the Chief Financial Controller in ECOWAS headquarters, and (c) an internal audit function headed by a Chief Internal Auditor. This internal control system is satisfactory to the Bank.

134. *Procedures*: Policies, rules and procedures of WAHO include provisions pertaining to segregation of duties, delegation of authority, fixed asset management, accounts reconciliation. Specific internal measures of control will be designed as needed.

135. *Internal audit*: Work-program of the current internal audit function will be updated to include the new project specificities.

136. *Financial Management Staff*: WAHO has dedicated one financial management specialist and one accountant for the two World Bank financed ongoing Projects: WARDS and SWEED. These two staff can manage this Project in addition to the aforementioned projects. WAHO should amend their contracts to include the new Project in their ToR.

Planning and Budgeting System

137. *Policy*: WAHO will prepare a detailed annual work plan and budget (AWP&B) which should be approved by its Steering Committee. Each Project will submit its AWP&B to IDA for comments, prior to each new fiscal year.

Accounting

138. *Accounting Standards*: The ECOWAS Financial Regulations, which call for the International Public Sector Accounting Standards (IPSAS) accounting principles, will be applicable.

139. *Accounting Software*: WAHO migrated from TALLY to SAP on April 13, 2015. The Project accounting will be managed through this new SAP.

Financial Reporting

140. Interim Financial Reporting: WAHO will submit the Interim Financial Report (IFR) to the Bank within 45 days after the end of the calendar semester.

141. *Interim Unaudited Financial Statements*: The report may include:

- Sources and Uses of funds Statement, both cumulatively and for the period covered by the report, showing separately funds provided under the Credit
- Uses of funds by components Statement, cumulatively and for the period covered by the report
- Designated account reconciliation, including bank statements and general ledger of the bank account
- Disbursement forecasts of the upcoming six months
- Explanation of variances between the actual and planned

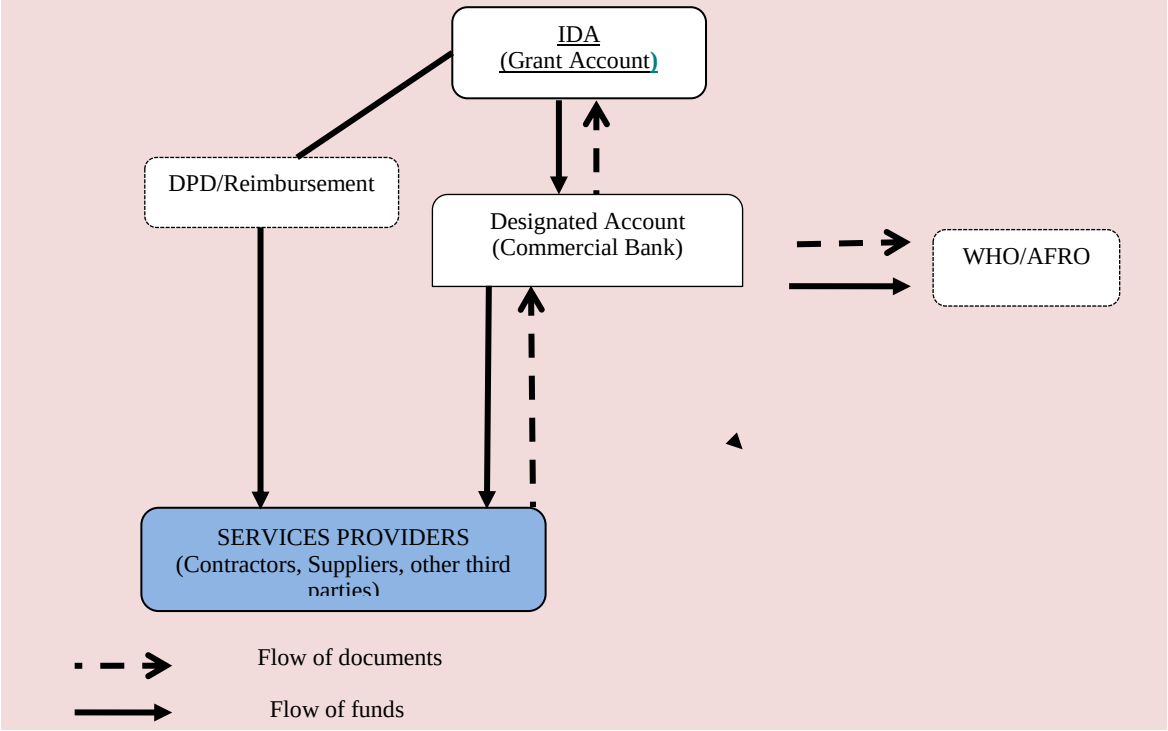
Funds Flow and Disbursement Arrangements

142. *Designated Account:* The ECOWAS will open a segregated Designated Account to receive IDA funds only in a commercial bank acceptable to the Association, according to the disbursement procedures described in the DL which will be discussed in detail with the relevant government officials during negotiations and the Administrative, Accounting and Financial Procedures Manual. From the DA, funds will flow to Services providers and suppliers.

143. *Disbursement Methods:* Disbursement procedures arrangements will be detailed in the manual of accounting, administrative and financial procedures and the disbursement letter. Upon project effectiveness, transaction-based disbursements will be used. An initial advance up to the ceiling of the DA (US$900,000) will be made into the DA and subsequent disbursements will be made on a monthly basis against submission of SOE or records as specified in the disbursement letter. Thereafter, the option to disburse against submission of quarterly unaudited IFR (also known as the Report-based disbursements) could be considered subject to the quality and timeliness of the IFRs submitted to the Bank and the overall FM arrangements as assessed in due course. In the case of the use of the report-based disbursement, the DA ceiling will be equal to the cash forecast for two quarters as provided in the quarterly unaudited Interim Financial Report. If and when IFRs are used as the basis of disbursements, the contents and format will be revised to include disbursement-related information. In addition to the "advance" method, the option of disbursing the funds through direct payments to a third party, for contracts above a pre-

determined threshold for eligible expenditures (e.g., 20 percent of the DA ceiling), will also be available. Another acceptable method of withdrawing proceeds from the IDA Grant is the special commitment method whereby IDA may pay amounts to a third party for eligible expenditures to be paid by the Recipient under an irrevocable Letter of Credit (LC). Figure 10 presents the flow of funds.

Figure 10: Funds of Flow Diagram (WAHO)



The following table 32 specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Financing ("Category"), the allocations of the amounts of the Credit to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category:

Table 32: Expenditure Categories (WAHO)

Category	Amount of the Grant Allocated (expressed in USD)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Goods, Non-Consulting Services, Consultants' Services, Operating Costs, Workshops and Training for the Project	10,000,000	100%
TOTAL AMOUNT	10,000,000	

Procurement

144. *Guidelines:* Procurement for the proposed project will be carried out in accordance with the World Bank's "Guidelines: Procurement of Goods, Works and Non Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 and revised July, 2014, "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 and revised July, 2014, and the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006 and revised in January 2011, and the provisions stipulated in the Financing Agreement. National Competitive Bidding (NCB) shall be in accordance with procedures acceptable to the Bank.

145. *Procurement Documents:* Procurement will be carried out using the Bank's Standard Bidding Documents or Standard Request for Proposal (RFP) respectively for all International Competitive Bidding (ICB) for goods and the selection of consultants. For National Competitive Bidding (NCB), the Borrower will submit a sample form of bidding documents to the Bank for prior review and, once agreed upon, will use this type of document throughout the project. The Sample Form of Evaluation Reports published by the Bank will be used.

146. *Frequency of procurement reviews and supervision:* World Bank prior and post-reviews will be carried out on the basis of thresholds indicated in Table 33. The World Bank will conduct six-monthly supervision missions and an annual Post Procurement Review (PPR); the ratio of post review is at least one to fifteen contracts. The World Bank could also conduct an Independent Procurement Review (IPR) at any time up to two years following the closing date of the project.

Table 33: Procurement and Review Thresholds

Expenditure Category	Contract Value (Threshold)	Procurement Method	Contract Subject to Prior Review
	US$		**US$**
1. Works	≥ 10,000,000	ICB	All
	< 10,000,000	NCB	
	< 200,000	Shopping	
	No threshold	Direct contracting	≥ 100,000
2. Goods	≥ 1,000,000	ICB	All
	< 1,000,000	NCB	
	< 100,000	Shopping	
	<500,000	Shopping (Vehicles & fuel)	
	No threshold	Direct contracting	≥ 100,000
3. Consultants			
Firms	No threshold	QCBS; LCS; FBS	All contracts of 500,000 and more
	< 200,000	CQ	
Individuals	No threshold	IC (EOI) : ≥ 100,000 IC (at least 3 CVs) : < 100,000	All contract of 200,000 and more
	No threshold	Single Source	≥ 100,000
		(Selection Firms &	
		Individuals)	
All TORs regardless of the value of the contract are subject to prior review			

147. All training, terms of reference for contracts, and all amendments of contracts raising the initial contract value by more than 15 percent of the original amount, or above the prior review thresholds, will be subject to IDA prior review. All contracts not submitted for prior review, will be submitted to IDA post review in accordance with the provisions of paragraph 5 of Annex 1 of the Bank's Consultant Selection Guidelines and Bank's procurement Guidelines.

148. *Procurement Plan:* For each contract financed by the grant, the procurement plan will define the appropriate procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, the prior review requirements, and the time frame. The procurement plan will be reviewed during project appraisal and will be formally confirmed during negotiations. The procurement plan will be updated at least annually, or as required, to reflect the actual project implementation needs and capacity improvements. All procurement activities will be carried out in accordance with approved original or updated procurement plans.

All procurement plans should be published at the national level and on the Bank website according to the relevant guidelines. The Client and the Bank have agreed on a procurement plan covering the first eighteen (18) months of the Project, dated April 27, 2015.

149. *Procurement Filing:* Procurement documents must be maintained in the project files and archived in a safe place until at least two years after the closing date of the project. The project Procurement Unit will be responsible for the filing of procurement documents, with support from the FMS.

150. *Anti-Corruption:* The Client will ensure that the project is carried out in accordance with the provisions of the Anti-Corruption Guidelines of the Bank: "Guidelines on Prevention and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants", dated October 15, 2006 and updated January 2011.

151. *Assessment of the Agencies' Capacity to Implement Procurement:* WAHO has the full mandate to coordinate all public health activities within ECOWAS member states. WAHO consists of four departments including a Financial Direction and a Procurement Unit which is responsible for all procurement activities. The arrangements convened between ECOWAS and WAHO for implementing of WARDS and SWEDD projects will be extended to the Sahel Malaria and Neglected Tropical Diseases Project. There will be no significant and complex procurement activities for the Sahel Malaria and Neglected Tropical Diseases Project. Hence the existing staff is estimated sufficient to take in charge all the procurement activities at WAHO level for the 3 bank-financed projects subject to set up an effective coordination mechanism.

152. *Procurement Risk at the Project Level:* The main risks identified during the assessment are the following: (i) the complaint mechanism existing in ECOWAS applies for WAHO activities. This mechanism is only based on judicial review and complaint not be disposed of administratively; (ii) the lack of experience from the evaluation committee members in Bank procedures; and (iii) the PIU is located in compact premises where records are not sufficiently secured.

153. *Mitigation Measures:* the mitigation measures proposed are presented in Table 34.

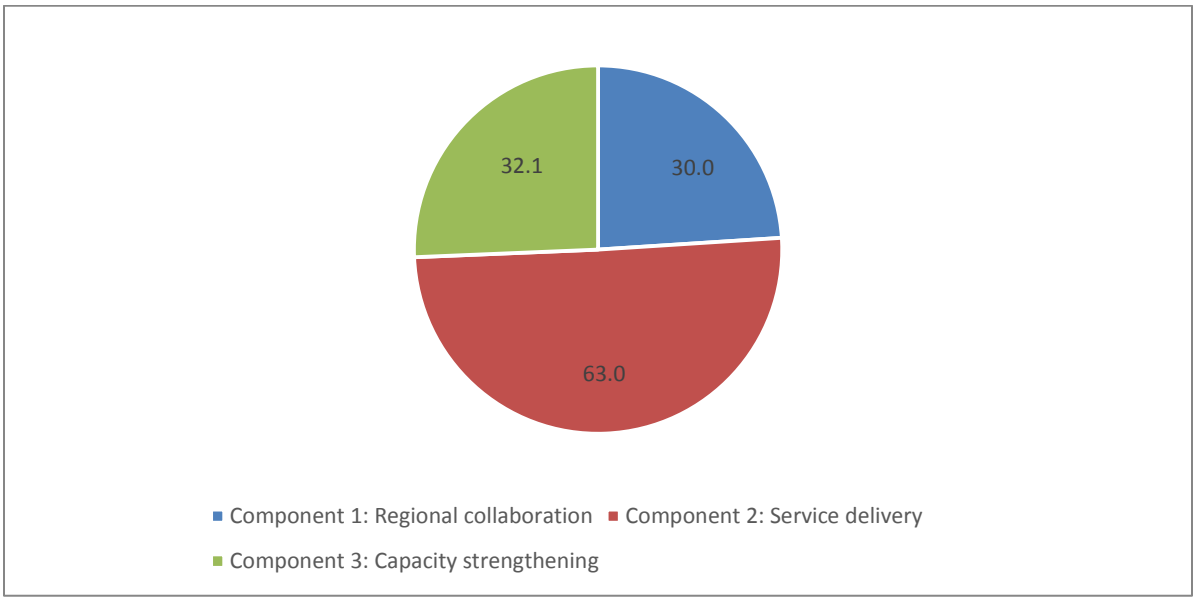
Table 34: Action Plan for Strengthening Procurement Capacity

Action Plan for Strengthening Procurement Capacity			
Agency	**Tasks**	**Responsibility**	**Comments / Due date**
WAHO	Set up a mechanism for complaints to be disposed of administratively	ECOWAS/WAHO	Not later than one month after effectiveness
	Improve the record Keeping & document Management Systems according to the Bank procurement document filing requirement	PIU/WAHO	Not later than one month after effectiveness
	Provide adequate premises for the PIU that will be in charge of 3 bank-financed projects	WAHO	Not later than three month after effectiveness
	Strengthen the capacity of the evaluation committee members in Bank procedures	PIU/Bank	Not later than three month after effectiveness

Sustainability

154. To ensure sustainable results, the Project is designed to support institutional capacity building at the regional and national levels. As shown in Figure 11, more than 60 percent of the overall budget is allocated to such capacity building activities, which address key institutional capacity constraints identified by the countries as barriers to improved malaria and NTD services.

Figure 11: Budget structure by components



Capacity building/strengthening (national level)	Capacity building/strengthening (regional level)
•Strengthened coordination of key implementing agencies to manage malaria and NTD programs •Strengthened technical skills and know-how to implement community-level NTD and malaria programs in boder areas •Strengthening of monitoring, evaluation, and operational research at national level	•Harmonization of policies and procedures •Joint planning, implementation and evaluation •Knowledge exchange across countries on lessons learned to improve service delivery •Training and technical assistance on specific skill/operational gaps provided by regional institutions •Creation of regional monitoring and evaluation network

155. The Project support to service delivery (component 2) is integral to the health programs in each country to help find sustainable solutions to the specific challenge/gaps of service delivery in border areas. The component represents a relatively small portion of the overall health government budget in the three targeted countries (from 1.5 percent in Burkina Faso to 3 percent in Niger) to specifically address the regional collaboration needed to complement country support. The project is expected to identify new lessons not only on how to strengthen the countries' platforms to deliver health services for malaria and NTDs but also other routine services in these areas.

156. The sustainability of the Project is also driven by the fact that anticipated benefits are expected to occur beyond the time horizon of the Project. Project beneficiaries, especially the younger ones, will benefit from reduced morbidity and mortality induced by malaria and NTD throughout their life. Moreover, the type of investment supported by the Project is also expected to carry over to future generation by reducing morbidity and mortality factors among pregnant women.

Citizen engagement

157. The Project will strengthen citizen engagement. In Component 1, the cross-border planning and implementation committees will convene participation of community groups in border areas, including health personnel, local government, NGO, community-based organizations and community leaders. In Component 2, these same community groups will participate in planning, implementation and evaluation. The results framework includes the indicator districts with local leaders participating in the planning of community campaigns. The Project will also assess citizen satisfaction with key aspects of malaria and NTD services delivered in communities as part of the process evaluation. Aspects of satisfaction may include the behavior of CHW, the timing of the service delivery, and the social acceptability of services offered. Community feedback will be reviewed collaboratively in planning to inform annual improvements in the project activities.

Environmental and Social (including Safeguards)

158. *Environmental:* The project will not support any investment (including civil works) that is likely to harm natural environment. However, based on project activities to increase access to high quality interventions for the prevention and treatment of malaria and NTDs, which is expected to result in increased generation of medical waste, the project is classified as category B and only OP 4.01 on Environmental Assessment has been triggered.

159. In each of the three countries, a National Medical Waste Management Plan (2011-2015) is under implementation with a Bank financed project. The one for Niger is already updated as part of the preparation of the Population and Health Support Project (P147638) to serve as the safeguards instrument for both projects in Niger. The revised MWMP was reviewed, consulted upon and was disclosed in country on February 17, 2015 for both projects and at the World Bank's InfoShop on February 23, 2015 under the Population and Health Support Project. It was re-disclosed on March 31, 2015 at the World Bank's InfoShop under the proposed project. Key mitigation measures with an implementation schedule, adequate budget, and clear institutional responsibilities are outlined in the action plan of the MWMP and the proposed project will contribute to its implementation.

160. For Mali and Burkina Faso, it has been agreed that the MWMPs will be updated during the beginning of implementation of the project. The ToRs to update the studies were disclosed in-country on respectively on April 3, 2015 and April 9, 2015, and at the World Bank's InfoShop on April 12, 2015.

161. In the three countries, the MWMP will be implemented by the MOH (Directorate of Public Hygiene). In each country, the Ministry of Environment, through its Directorate for Environmental Assessment, will be responsible for ensuring that the project complies with the national legislation on environment. The Bank team will supervise the implementation of each

Medical Waste Management Plan and provide guidance and advice to the Directorate of Public Hygiene.

162. *Social Safeguards:* This project does not trigger the social safeguards policies OP 4.10 on Indigenous Peoples or OP 4.12 on Involuntary Resettlement. OP 4.10 is not triggered because there are no groups that fulfill the criteria used by the World Bank to identify Indigenous Peoples in any of the Project countries (Niger, Mali and Burkina Faso). The project does not finance any activities whereby land acquisition and/or subsequent resettlement, loss of assets or restrictions of access to livelihoods or resources would occur. The project will not have a physical footprint and therefore OP 4.12 is not triggered.

163. *Social Assessment, Desk Review:* Challenges for effective community engagement can stem from social conditions, cultural beliefs and behaviors, poverty, lack of information, accessibility and availability of health services, stigma, and lack of motivation. Overall development problems such as lack of potable water, inadequate hygiene and sanitation, insufficient sensitization/information, stigma related to certain conditions/complications, lack of medication and extreme poverty conditions compound the problems of community engagement in the health sector. There can also be hierarchy in terms of who in a household gets treated first; for instance in the Malaria Consortium's work in Uganda, it was noted that men would get treated first, then the children and finally the women. It is therefore important to understand who is vulnerable in a given community, and how men and women differ in terms of health practices and level of information they have.

164. In Burkina Faso, some of the challenges identified for health service delivery at community level include weak leadership and overall poor engagement of the community, persistent negative behavior and practices on health matters, weak motivation and weak capacity on the part of the community level health agents. Further challenges include difficult access to certain areas particularly in rainy season, and difficulty in reaching people who move around from village to field. In addition, community level health workers are not well trained, they lack financial incentives and suffer from poor work conditions, communities do not participate actively, and the interventions are not properly coordinated.

165. In Niger, a study on children's health identified different factors for why children may not get in-time health care. According to the study this is because there are delays at three levels; firstly, there is a delay in deciding to seek medical care, which can be due to cultural factors, level of information and poverty. For instance, some vulnerable groups may fear discrimination at health care facilities by the staff and avoid going there. This could also be due to social stigma related to some NTDs. Secondly, delay can occur in physically seeking care, which can be due to long distance and poverty and indirect costs such as transport and income loss. Particularly during the rainy season, it is difficult to travel even shorter distances due to extremely poor road conditions. Thirdly, delay can occur in actually benefitting from the service, which may be due to availability and affordability of services. Very poor rural families may not be able to afford the cost of the doctor visit and/or the medication.

166. Similar challenges are faced in Mali as in Niger and Burkina; lack of equipment and resources, not enough qualified personnel on NTDs, prejudices/beliefs affecting acceptance of treatment, and motivating community agents. However, one of the particular challenges in Mali is the precarious situation in the northern regions of Gao, Kidal and Timbuktu, which suffer from armed conflict. In these regions, provision and access to health care is compromised due to difficult security conditions. Apart from some facilities supported by the International Red Cross, the regions lack basic health care due to departure of health personnel, lack of medicines and destruction of facilities. In addition to responding to the needs of the residents of the region, finding ways to adequately address refugees and internally displaced people in health programs remains an issue. Influx of people fleeing conflict further burdens the national health care services elsewhere.

167. Across the three countries, the central level health authorities rely on local level agents. Community level health care workers (*relais communautaire/agent de santé a base communautaire*/*agent de santé communautaire)* are crucial in ensuring not only the communication between central level health services and the community but also in promoting correct health practices and disseminating information in the community. One of the commonalities across these countries is the issue of motivating and incentivizing these community level actors. Based on literature review, there are a few characteristics that can facilitate the link between the health care worker and the community. These agents should preferably be members of the community/be originally from the area to ensure that both they and the interventions they bring are accepted in the community; elected by their fellow community members to ensure the community is the deciding entity; be literate and have a certain level of education; be well-respected to ensure they will be listened to and their example followed; and voluntary and motivated to carry out the tasks. However, these individuals are not so easy to find and keep motivated. There are various ways in which incentivizing has been tried across projects; assistance with small-scale income generating activities, per diems, transport subsidy or provisions of a motorcycle for work purposes, promotional materials etc. Acceptability of the community agents is crucial for any intervention to work: Hierarchy may play a role in taking part in community interventions; community members would comply with instruction more easily if there was respect for the community health worker. Acceptance of an intervention or a community worker by opinion leaders/chiefs can also important as a sign for the rest of the community to accept.

168. Women's role in community level health interventions varies depending on the country context. However, women may have difficulties assuming the role of a community health worker due to its nature which requires a certain level of independence and also empowers the person, which is not always looked upon favorably. In some countries, governments require 50-50 gender representation among community level health workers. Another factor that also heavily impacts women is social stigma related to some NTDs.

169. According to literature, NTDs can actually be seen as a driver of poverty due to the consequences they impose on the persons infected, which include negative impacts on child development, pregnancy outcomes and worker productivity.[47] Perhaps the most difficult consequence of NTDs, at least one that is difficult to measure, is the social stigma associated with many of them including diseases that are highly disfiguring (Buruli ulcer, leprosy, lymphatic filariasis). According to the Swiss Tropical Institute, health-related stigma can be defined as "social process…characterized by exclusion, rejection, blame or devaluation that results from experience or reasonable anticipation of adverse social judgment about a person or group identified with a particular problem".[48] Research shows how social stigma related to certain NTDs contributes to the burden of the disease and even poverty.[49] Basic illustration of this is the infected person getting sicker due to great delays in seeking medical treatment, which can be caused by others judging the infected person and that person not being able or comfortable appearing outside in fear of being blame for witchcraft or having caught the 'evil eye'. This kind of fear or experience may also prevent the person from working outside the home, which may deepen poverty of the household. For women in particular, the burden of stigma is higher from diseases that induce disfigurement. Women often have even less access to health care than men, and social isolation from disfigurement can lead to them not being permitted to touch their children, to marry or remain married.

170. In addition to motivating these extension workers, it is also important to engage all levels of the community itself. This means consulting with chiefs, religious and opinion leaders, local NGOs and faith-based organizations, women's groups and other existing structures. Addressing the underlying causes for social stigma should also be included in community awareness campaigns and information sessions to try to alleviate the additional burden shouldered by those infected with disfiguring diseases. However, there is probably no uniform way to reduce stigma, as it will be different based on the disease itself, country, beliefs and customs. Nevertheless, accurate information dissemination and the acknowledgement of how stigma can exacerbate the burden of NTDs are the first step. The communities should be involved in the planning of service delivery, as well as implementing, monitoring and giving feedback on it. Being able to give feedback and getting a response/corrective measures could enhance a community's ownership and trust in the program. In order to increase service uptake, it is necessary to change attitudes and health related practices and behavior, reduce stigma and increase local leadership and active participation in health interventions.

Monitoring & Evaluation

[47] Hotez PJ (2008) Stigma: The stealth weapon of the NTD. Plos Neglected Tropical Diseases 2(4):e230.
[48] Weiss MG, Ramakrishna J (2006) Stigma interventions and research for international health. Lancet 367: 536-538.
[49] Stienstra Y, Wan der Graaf WTA, Asamoa K, Van der Werf TS (2002) Beliefs and attitudes toward Buruli ulcer in Ghana. Am J Trop Med Hyg 67: 207-213; Vlassoff C, Weiss M, Ovuga EBL, Eneanya C, NWel PT et al.(2000) Gender and the stigma of onchocercal skin disease in Africa. Social Sci Med 50: 1353-1368; Perera M, Whitehead M, Molyneux D, Weerasooriya M, GuanatilekeG (2007) Neglected patients with a neglected disease? A qualitative study of lymphatic filariasis. PLos Negl Trop Dis 1:e128.

171. The MOH, PNLP, and national NTD programs in Burkina Faso, Mali, and Niger will be responsible for monitoring project implementation in each country. WAHO will coordinate the collection of data for regional reporting from the three countries. The countries and WAHO will collaborate with research institutes in defined evaluation/research activities.

172. The MOH, PNLP and national NTD programs in each country have already starting distributing SMC and NTD treatment in some districts, and have developed reporting formats at the district level, which will be strengthened through the project to build stronger local-level monitoring capacity. The indicators for the project draw on early results reported from SMC and NTD treatment campaigns and routine activities that have already started in the three countries and nearby countries. The results framework also includes core indicators proposed for malaria and NTD monitoring in countries.

173. The frequency and quality of routine district level reporting in remote areas may be a challenge. Districts may have variable completeness in the reporting from community health agents, as well as variable supervision of community health agents to improve delivery. For this reason the project will use Lot Quality Assurance Sampling (LQAS) to monitor indicators not available from routine district reports, as well as to validate selected data from routine district reporting on the malaria and NTD interventions. LSAQ is a method designed for decentralized monitoring of small samples. Further, the implementation of LSAQ will involve program managers in the targeted project districts to build their capacity to use data to make decisions on malaria and NTD interventions.

174. African research institutes will be identified to support the countries to conduct the LSAQ monitoring as well as other evaluations/assessments to strengthen the project results. This will include operational research and process evaluations, such as to understand changes in disease prevalence and drug and insecticide resistance, review the capacity building of community agents and understand barriers to communities accepting malaria and NTD treatment.

Annex 4: Implementation Support Plan

SAHEL MALARIA AND NTD PROJECT (P149526)

Strategy and Approach for Implementation Support

1. The implementation support plan (ISP) for the project has been developed based on the specific nature of the project activities, lessons learned from past operations in the countries and sector, and the project's risk profile as described in this PAD. The ISP will be reviewed regularly and revised as and when required.

2. The implementation support plan includes regular, thorough reviews of implementation performance and progress to be carried out by a team of Bank specialists with the project implementing agencies and with the two key supporting agencies (WHO and WAHO). In addition to these formal implementation support missions and field visits, which will be carried out at least semi-annually given project urgency and complexity, special workshops will be held at key decision points in the project. Midway during the project, the Bank team will hold a mid-term review mission to take stock of project implementation and to take any corrective actions, as necessary. The Medium Term Review is expected to take place by December 31, 2017. Prior to that mission, the implementing agencies, under the coordination of WAHO and the Regional Steering Committee, will prepare and send to the World Bank a report summarizing project progress, highlighting any particular issues that require special attention. At the end of the project, the Bank team will prepare an Implementation Completion Report (ICR) which will summarize achievements made under the project. This report will also include an assessment of the project by the project implementing agencies. This process will also be guided and coordinated by WAHO.

Implementation Support Plan

3. The Bank team will monitor progress on several fronts including: (i) key performance indicators as identified in the Results Framework; (ii) project components; (iii) compliance with key legal conditions and covenants; (iv) progress made against the project implementation plan and the procurement plan; (v) whether estimated project costs are sufficient to cover planned activities and whether reallocations of the Grant/Credit funds are required; (vi) compliance with the Bank's financial management and disbursement provisions; and (vii) compliance with environmental and social safeguards. In addition, the World Bank will also review the findings and results of third party assessments, community-based monitoring, and social audits which will be undertaken during the course of project implementation. The Bank team will also closely monitor the completion of surveys that will be used to evaluate the impact of key activities supported by the project, including user-satisfaction assessments.

4. In addition to monitoring project progress, the World Bank team will work closely with all implementing agencies and with WAHO and WHO to provide technical support as needed. The implementation support team will include health specialists (specifically on malaria and NTDs), health economist, specialist on social mobilization/advocacy, M&E specialist, and operations staff that will provide necessary just-in-time advice and support. The World Bank procurement

specialist will carry out annual ex-post review of procurement that falls below the prior review thresholds and will have separate focused missions depending on the procurement needs that arise. The World Bank financial management specialist will review all financial management reports and audits and take necessary follow-up actions as per Bank procedures. The Bank team members will also help identify capacity building needs to ensure successful project implementation.

5. The specific implementation support required through the project period is outlined in Table 35 as well as the support partners (Table 36).

Table 35: Implementation Support during the Project Period

Time	Focus	Skills Needed	Total Staff weeks	Number of trips
	Overall coordination	Task Team Leader (TTL)		
Year 1 (resource estimate: US$225,000)				
	Project launch (September 2015)	**Task team: total** TTL – Health specialist (malaria) Co-TTL Health specialist Co-TTL Health specialist Health economist Social/mobilization Monitoring and Evaluation Specialist Operations Officer FM Specialist Procurement Specialist	**41** 7 5 5 5 5 5 5 2 2	1 for each specialist listed
	Regular implementation support mission (March 2016)	**Task team: total** TTL – Health specialist (malaria) Co-TTL Health specialist (NTDs) Co-TTL Health specialist Health economist Social/mobilization Monitoring and Evaluation Specialist Environmental safeguard specialist Operations Officer	**21** 3 3 3 3 2 2 2 3	1 for each specialist listed
	Regular implementation support mission (October 2016)	**Task team: total** TTL – Health specialist (malaria) Co-TTL Health specialist (NTDs) Co-TTL Health specialist Health economist Social/mobilization Monitoring and Evaluation specialist Operations officer FM specialist Procurement specialist	**23** 3 3 3 3 2 2 3 2 2	1 for each specialist listed
Years 2-4 (resource estimate: US$500,000)				
	Bi-annual implementation	**Task team: total** TTL – Health specialist (malaria)	**26x4** 3	1 for each specialist listed

	support missions (technical and fiduciary reviews)	Co-TTL Health specialist (NTDs) Co-TTL Health specialist Health economist Social/mobilization Monitoring and Evaluation specialist Operations officer FM specialist Procurement specialist Environmental safeguard specialist Consultants on specialized issues	3 3 3 2 2 3 2 2 1 2	
	Special workshops (as required)	Specialists (as required)	3	1 for each specialist
	Mid-Term Review (September 2017)	**Task team: total** TTL – Health specialist (malaria) Co-TTL Health specialist (NTDs) Co-TTL Health specialist Health economist Social/mobilization Monitoring and Evaluation specialist Operations officer FM specialist Procurement specialist Environmental safeguard specialist Consultants on specialized issues	**28** 4 3 3 3 2 2 3 2 2 2 2	1 for each specialist listed
	Implementation Completion Review Mission (Dec. 2019) ICR preparation	**Task team: total** TTL – health specialist (malaria) Co-TTL Health specialist (NTDs) Co-TTL Health specialist Monitoring and Evaluation specialist Operations officer ICR author	**13** 2 2 2 3 4	1 for each specialist listed

Table 36: Implementation Support Partners

Name	Role
WAHO	Coordinate the overall project
WHO	Technical support to countries

Annex 5: Risk Rating and Overall Risk Rating Explanation
SAHEL MALARIA AND NTD PROJECT

Risk Rating

Risk Rating Summary

Risk Categories	Ratings (H,S,M or L)
9. Political and governance	H
10. Macroeconomic	M
11. Sector strategies and policies	M
12. Technical design of project or program	S
13. Institutional capacity for implementation and sustainability	S
14. Fiduciary	S
15. Environmental and Social	M
16. Stakeholder	L
Overall	S

Overall Risk Rating Explanation

1. **The overall risk rating for this is substantial.** The substantial rating is primarily due to (i) High risk for political and governance; (ii) Substantial risk for technical design of project or program; (iii) Substantial risk for institutional capacity for implementation and sustainability; and (iv) Substantial risk for fiduciary. Stakeholder risk is rated as low and all other risk categories are rated as moderate.

Political and Governance – HIGH

2. The high risk rating is based on recent political developments that may impact the government's priorities with respect to health programming in Mali and Burkina Faso. Given the fragile and distinct political climate in the three countries, the project will remain vigilant of political instability. The Project and implementing partners will learn from similar regional health projects, such as vaccination programs and from APOC, to identify tailored approaches to delivering and administering drugs at the community level in conflict-afflicted areas.

- **Mali is experiencing political unrest.** Northern Mali has been a flashpoint of conflict since Mali's independence from France in 1960, with Tuareg rebels campaigning for independence or greater autonomy. In January 2012, an armed conflict broke out between the Tuareg rebels and the Malian army in the north of the country. In March 2012, rebellious soldiers took control of Bamako and suspended the constitution after a coup d'état. With the assistance of foreign military assistance, the Malian military and the international coalition regained control of the northern territory in February 2013. Following the recapture of the north of the country from rebel groups in early 2013, the consolidation of security gains and negotiation of a

resolution to Tuareg calls for greater autonomy will continue to dominate domestic politics over the short to medium term. The political and security situation has settled down considerably since the dramatic events of March-April 2012, when rebels took control of the northern half of the country following the deposition of the President by mutinous soldiers. The successful holding of a presidential election followed by legislative elections allowed President Ibrahim Keïta to secure a strong ruling alliance for his platform of restoring peace, security and good governance. A key remaining challenge will be to find a durable agreement with Tuareg groups, such as the Mouvement national de libération de l'Azawad (MNLA) and the *Haut conseil pour l'unité de l'Azawad* (HCUA), on their demands for increased autonomy. Peace talks in Algiers have resulted in the signing of a preliminary peace accord between the government and six rebel groups. This peace accord needs to be ratified following consultation of the rebel groups with their supporters.

- **Burkina Faso is experiencing political instability.** After more than 27 years in power, Blaise Compaoré resigned from the presidency following large-scale street protests in late October 2014. To avert chaos, the army stepped in to fill the power vacuum left by the departing president, before it handed over to a civilian led interim administration. The continuing strength of street demonstrations means that political and social stability will remain fragile. Democratic elections are scheduled for October 2015, on which virtually all political actors, including many of those protesting in the streets, appear to agree. Assuming credible elections are held by late 2015, political stability will improve in 2016 as constitutional order returns and donors seek to support the democratically elected government. Nevertheless, the public mood is likely to remain volatile.

- **Niger is experiencing security threats.** Limited financial and military resources, and porous borders may mean that the authorities will struggle to contain the security threats posed by terrorist groups and trafficking networks.

Technical design of project or program – SUBSTANTIAL

4. There is substantial likelihood that factors related to the technical design of the project may adversely impact the achievement of the PDO. Both the client and the World Bank have experience with similar components of the project through its engagement with river blindness control through OCP/APOC and the community-based delivery of preventive medicine. There are three key risks associated with the technical design of the project:

- There are diverse and poorly coordinated models for community delivery of services. The malaria and NTD activities proposed under this project will be implemented at the community level and engage CHWs and volunteers. While each country regards community engagement as a critical issue, practices on the ground can be highly variable. Common challenges include: (i) inadequate or non-sustainable systems for motivation of CHWs; (ii) overlap of activities to be implemented by CHW and incoherence in the motivation paid across campaigns; (iii) disparities in the way CHWs are managed by governments and development partners. The Project Preparation Regional Workshop

hosted a forum to share lessons learned as well as identify appropriate mechanisms to strengthen supervision of CHWs, and harmonize motivation of the CHWs. The countries will develop a framework for engagement of community agents.

- There is an inadequate supply of quality co-packaged AQ+SP to meet demand in the sub-region for 2015. This is due to the limited number of pre-qualified manufacturers and their production capacity, partially a function of unpredictable demand which is increasing as countries move from research and pilot projects to programmatic implementation of SMC. Additionally, some children are unable to easily swallow the whole pills in the AQ+SP package and there is a need for the development and prequalification of more child-friendly (disbursable) formulation of the components of the drug combination. These constraints are currently being addressed though concerted efforts of the drug manufacturers, the WHO, regional bodies and development partners including MMV, UNITAID, the Global Fund, USPMI and UNICEF.
- Possible emergence of resistance to the drugs and insecticides used in the control and elimination of malaria and NTDs. A failure of the currently available insecticides for the control of malaria and LF could cause a reversal of trends and increase the number of cases. Resistance to the drugs for malaria prevention and control could also undermine SMC and community-based treatment. To address this issue, the project will ensure that sentinel systems for monitoring drug and insecticide resistance are in place.
- The project will mitigate the risks through multiple avenues: the three countries will harmonize motivations for volunteers to encourage sustained commitment to this project, partner with CAMEG to oversee pooled procurement for SMC drugs to minimize inadequate quantities or untimely delivery of medicines, and will upgrade communication networks and systems of computerized data management for prompt identification and reporting of drug resistance.

Institutional capacity for implementation and sustainability – SUBSTANTIAL

5. There is a substantial likelihood that weak institutional capacity for implementing and sustaining operational engagement may adversely impact the PDO. The three key risks are:

- Rapid scale-up of activities may be hindered by limited absorptive capacity. The countries have been successfully implementing interventions for malaria and NTD control, however few of the interventions are being implemented at full scale. There may be an issues of absorptive capacity that will need to be addressed by strengthening the programs and/or scaling-up interventions in a phased manner. In addition, none of the programs have experience facilitating cross-border collaboration but have limited experience implementing and sustaining regional programs.
- Effective collaboration within government and with non-governmental partners. The project will require active engagement and collaboration between Ministries of Health, Ministries of Education, and local government. Due to the perceived weak institutional capacity of Ministries in some countries and the need to clearly articulate the role of local government and non-governmental organizations, the Project Team conducted institutional assessments on country capacity to implement the project as envisioned.
- There is uncertainty regarding the clients' capacity to sustain the outcomes of the operation beyond the World Bank's support. The three countries do not currently have the necessary institutional capacity to sustain the treatment of complications from NTDs

and malaria case management when the project culminates. The country-identified goal of community-based diagnosis and treatment of malaria will require sufficient financing and multi-country participation in mobile surgical campaigns to address reversible complications of NTDs. The project will address this concern by strengthening institutional capacity.

- Component Three: Strengthen institutional capacity to coordinate and monitor implementation (US$32 million) has been put in place specifically to address this concern. This component will provide support to country level implementing agencies and regional institutions to perform core functions and insure that the project is well implemented, monitored and evaluated.

Fiduciary – SUBSTANTIAL

6. The overall fiduciary environment has substantial weakness in the integrity of the procurement system.

- Difference in procurement, fiscal management and project management capacities among the three countries could result delay in the acquisition of key project commodities and lead to disjointed implementation of key interventions. The project will employ regional pooled procurement of drugs for SMC and other essential commodities to mitigate this risk. The primary reason for regional pooled procurement is to facilitate the well-coordinated delivery of drugs for SMC to all three countries in advance of the annual malaria transmission season to ensure simultaneous roll out of the intervention. In addition, pooled procurement has the potential to reduce transaction time and costs and result in savings through large quantity discounts.
- To provide a more granulated evaluation of the fiduciary environment in each country, Burkina Faso, Mali, and Niger completed financial and procurement assessments of implementing institutions and also reviewed the fiduciary arrangements of the implementing entities which have experience in managing IDA financing. The proposed FM arrangements for this project are considered adequate to meet the Bank's minimum fiduciary requirements under OP/BP 10.00. . Extensive technical assistance will also be included in the project to build the capacity at all levels, including financial management, procurement, and monitoring and evaluation.

Annex 6: Technical Rationale of Interventions and Lessons Learned and Reflected in the Project Design

SAHEL MALARIA AND NTD PROJECT

Technical Rationale

1. This Project has been designed in consultation with national stakeholders and public health practitioners, regional health authorities and international experts in the area of disease control and elimination. The project approach is to promote collaboration and collective action among countries to address disease control priorities and to strengthen health systems to deliver routine and campaign-style community based health services.

2. Malaria and the five PC-NTDs have been identified by stakeholders and experts as top public health priorities and are responsible for an immense burden of mortality, morbidity, disability and economic loss in the sub-region.

3. A detailed discussion of malaria and PC-NTD control and elimination, including disease burden, national and regional strategies and the partnership landscape are discussed in detail in Box 4. In summary, this project proposes to support activities and interventions that are evidence based, respond to the priorities expressed by the borrowers and are consistent with international standards and guidelines as well as regional and national strategies. The design includes consideration of participating country experience in piloting and scaling up the proposed technical interventions as well as lessons learned and best practices identified by academic and development partners including the London School of Hygiene and tropical medicine (LSHTM), USAID, the Malaria Consortium, the West African Regional Malaria Network (WARN), the African Programme for Onchocerciasis Control (APOC).

Malaria

4. The core technical interventions of malaria control programs in the region include the reduction of malaria transmission from mosquitoes to humans through the use of long-lasting insecticidal nets (LLIN) and/or indoor residual house spraying (IRS) of effective insecticides. Other preventive measures can include chemical or biological larviciding or the environmental management of vector breeding sites, such as drainage of swamps and the introduction of larviforous fish into ponds and irrigation channels. Although these measures are useful in specific contexts and against several species of mosquito vector, they have limited value in controlling transmission by *A. Funestus* and *A. Gambiae* which are by far the dominant vectors in the African Sahel due to their capacity to breed effectively in small quantities of water, such as hoof-prints from domestic animals.

5. In addition to vector control strategies, malaria can be prevented through the use of intermittent preventive treatment (IPT) for groups at very high risk of malaria and of developing severe forms of the disease. Until recently, pregnant women have been the primary focus of IPT interventions which were shown to reduce malaria incidence during pregnancy (all malaria infections during pregnancy are considered severe), reduce adverse pregnancy outcomes and decrease the incidence of low birth weight in newborns, thereby decreasing the risk of neonatal

and infant mortality. IPT for pregnant women, together with free or subsidized LLIN, is delivered through antenatal care (ANC) beginning in near the end of the second trimester and then repeated monthly. At each ANC visit, expecting mothers are offered a treatment dose of sulfadoxine-pyrimethanime (SP). Ideally, each woman should receive 3 doses of SP at monthly intervals prior to delivery, however even two doses has been shown to have a very beneficial effect. The success of IPT in pregnant women led to the evaluation of similar strategies in other high risk groups including infants, young and school aged children and populations living in areas with seasonal malaria transmission where risk is concentrated in the rainy season. IPT for young children (3-59 months) living in areas with seasonal malaria transmission has been re-christened Seasonal Malaria Chemoprevention (SMC). The scale-up of SMC is one of the core technical interventions included in this project.

6. Although malaria prevention strategies have had significant impact on malaria transmission and associated morbidity and mortality, malaria prevention is not a perfect science. There is presently no vaccine against malaria that can offer lifetime protection from the disease and the coverage of vector control interventions is neither universal nor universally effective. LLINs must be replaced periodically due to wear and tear and decreasing insecticidal action with age; ownership of LLIN does not guarantee daily use by the most vulnerable members of the household; IRS must be repeated at least annually and sometimes up to twice a year at great expense, and; there is increasing resistance to public health insecticides used in malaria control. As such, the ability to diagnose and treat malaria remains a core intervention in malaria control programs and the best hope for further reducing malaria mortality to near zero deaths.

7. WHO recommendations, regional and national strategies call for biological diagnosis of malaria (rather than clinical or presumptive diagnosis based on signs and symptoms alone) in suspected malaria cases. Diagnosis is made either by microscopy or rapid diagnostic test (RDT). Although microscopy is considered the gold standard when conducted by a well-trained and experienced technician, quality microscopy is usually only available at higher level health facilities. RDTs are a simpler technology that provide quick and accurate results and can be used at any level of the health system and at the community level by trained community health workers with proper supervision.

8. In the three countries included in this project and throughout much of sub-Saharan Africa the vast majority of malaria infections are caused by P.falciparum, the deadliest is a the four human malaria species, and the recommended treatment for uncomplicated malaria combination of an artemesinin derivative with another effective longer acting anti-malarial drug. These artemesinin-based combination treatments (ACT) are safe, very effective and have the potential to slow the development of drug resistance. Patients with a positive biological diagnosis can be treated with ACTs at both facility and community level. Severe malaria, which is immediately life-threatening, is treated with quinine or injectable artesunate and supportive therapy that may include IV hydration and blood transfusion.

9. The capacity to diagnose and treat malaria at the community level is essential for populations at risk of malaria but with poor access to health services provided at fixed facilities due to geographic or other barriers. Community based diagnosis and treatment will help countries further reduce the malaria burden, eliminate deaths due to malaria and set the stage for the

elimination of malaria itself. The scale-up of community based diagnosis and treatment of malaria at the community level is another core technical intervention of this project.

10. *Seasonal Malaria Chemoprevention (SMC):* SMC, previously known as Intermittent Preventive Treatment for Children (IPTc) has been studied over a number of years and a strong evidence base has been established in its favor. In 2011, Anne Wilson of the London School of Hygiene and Tropical Medicine published a meta-analysis of data on IPTc in the Sahel and sub-Sahelian areas of Africa where malaria transmission is markedly seasonal. The review and meta-analysis, prepared on behalf of the WHO IPTc Task Force concluded "*IPTc is a safe method of malaria control that has the potential to avert a significant proportion of clinical malaria episodes in areas with markedly seasonal malaria transmission and also appears to have a substantial protective effect against all-cause mortality. These findings indicate that IPTc is a potentially valuable tool that can contribute to the control of malaria in areas with markedly seasonal transmission*".[50] In 2012, the Cochrane Collaboration published a review of intermittent preventive treatment for malaria in children living in areas with seasonal transmission[51]. The findings of this review can be summarized as follows "*In areas where malaria is common, younger children have repeated episodes of malarial illness, which can sometimes be severe and life threatening. In areas where malaria is seasonal, a practical policy option is to give drugs to prevent malaria at regular intervals during the transmission season, regardless of whether the child has malaria symptoms or not. This is known as Intermittent Preventive Treatment (IPTc) [later renamed Seasonal Malaria Chemo-prevention (SMC)]. The authors identified seven trials (12,589 participants); all were conducted in West Africa, and six of seven trials were restricted to children aged less than 5 years. The results show [SMC] prevents three quarters of all malaria episodes, including severe episodes, and probably prevents some deaths. Several antimalarial drugs or combinations have been tried, and shown to be effective. The most studied is amodiaquine plus sulphadoxine-pyrimethamine (AQ+SP). This combination probably doesn't have serious side effects but does cause vomiting in some children.*"

11. In March 2012 the World Health Organization issued the WHO Policy Recommendation titled "Seasonal Malaria Chemoprevention (SMC) for Plasmodium falciparum malaria control in highly seasonal transmission areas of the Sahel sub region in Africa".[52] This recommendation has been incorporated into the regional strategy for the countries of the ECOWAS region and the National Malaria Control Strategies for all three of the countries participating in this project, all of which have begun piloting or incremental scale-up of the intervention. SMC is defined as the intermittent administration of full treatment courses of an anti-malarial treatment combination during the malaria season to prevent illness and death from the disease on children 3-59 months of age. The objective of SMC is to maintain therapeutic anti-malarial drug concentrations in the blood throughout the period of greatest risk. This will reduce the incidence of both simple and

[50] Wilson AL, on behalf of the IPTc Taskforce (2011) A Systematic Review and Meta-Analysis of the Efficacy and Safety of Intermittent Preventive.
Treatment of Malaria in Children (IPTc). PLoS ONE 6(2): e16976. doi:10.1371/journal.pone.0016976.

[51] Meremikwu MM, Donegan S, Sinclair D, Esu E, Oringanje C Intermittent preventive treatment for malaria in children living in areas with seasonal transmission (Review). Copyright © 2012 The Cochrane Collaboration. Published by JohnWiley & Sons, Ltd.

[52] SMC for Plasmodium falciparum malaria control in highly seasonal transmission areas of the Sahel subr egion in Africa. World Health Organization, March 2012.

severe malaria disease and the associated anemia and result in healthier, stronger children able to develop and grow without the interruption of disease episodes. SMC has been shown to be effective, cost effective and feasible for the prevention of malaria among children in areas where the malaria transmission season is no longer than four months.[53] A summary of evidence on SMC Interventions is listed in Table 37.

12. *Home/Community-based Diagnosis and Treatment of Malaria:* Home and community-based management of febrile illness and uncomplicated malaria essentially involves the diagnosis of suspected malaria cases with RDTs by community health workers or private sector drug vendors and the treatment of RDT positive patients with ACTs. WHO guidance on malaria diagnosis and treatment was published and disseminated in 2010.[54] The move towards universal diagnostic testing of malaria is a critical step forward in the fight against malaria as it will allow for the targeted use of ACTs for those who actually have malaria. This will help to reduce the emergence and spread of drug resistance. It will also help identify patients who do not have malaria, so that alternative diagnoses can be made and appropriate treatment provided. In most cases this intervention is integrated at a policy level into an approach to child heath known as integrated community case management (iCCM) which also addresses other causes of young child mortality including diarrhea and acute respiratory infections (ARI). The WHO has provided guidance on iCCM and the package of interventions includes, in addition to malaria diagnosis and treatment, oral rehydration therapy (ORT) and zinc for children with diarrhea and antibiotics for children with ARI which are also administered by community health workers.[55] It should be noted that one of the challenges to full implementation of iCCM are regulations which prohibit community health workers from administering antibiotics. At the community level, children with severe symptoms or who cannot be treated are referred to a higher level of care at fixed health care facilities.

13. In March 2014, 35 countries in sub-Saharan Africa and 59 international partner organizations gathered in Accra, Ghana for an evidence review symposium on iCCM which concluded that "iCCM, in the hands of well trained, supplied and supervised community health workers can reduce child mortality." Recognizing this, the World Health Organization and UNICEF released a Joint Statement for iCCM as an equity-focused strategy to improve access to case management, emphasizing important standard practices that should be part of any such programming in countries.[56] However iCCM implementation has faced challenges considering the poor health care infrastructure in the countries in which the strategy has been introduced.[57] The project takes into account the key findings of the symposium, including best practices and lessons learned to ensure that the home/community-based diagnosis and treatment of malaria is implement in conformance with country level adoption of iCCM. The project aims to improve diagnosis and case management by community health workers and will, at a minimum, seek to ensure the availability of RDTs and ACTs in the package of ICCM interventions in target

[53] Seasonal Malaria Chemoprevention: Briefing Note. The Malaria Consortium, 2013.
[54] Guidelines for the treatment of malaia: Second Edition, WHO 2010.
[55] Iccm Guidance insert reference.
[56] WHO/UNICEF Joint Statement: Integrated Community Case Management (iCCM) an equity-focussed strategy to improve access to essential treatment services for children. New York: UNICEF, June 2012.
[57] Diaz, T., Aboubakar, S. and Young, M. "Current scientific evidence for integrated community case management in Africa: Evidence from the iCCM Symposium, Journal of Global Health, Vol 4, No 2 December 2014.

populations, particularly in border areas. The project will work with the MOH and other donor partners to ensure that other elements of the iCCM package (zinc, ORT, antibiotics) are furnished.

Table 37: Evaluation of Evidence on SMC Interventions

Evidence		Source
Protective efficacy of SMC in children <5 in endemic areas	The meta-analysis concluded that SMC, previously referred to as IPTc can be a safe and valuable tool to contribute to the control of malaria in areas with high seasonal transmission. The meta-analysis gave an overall protective efficacy of monthly administered IPTc of 82% (95%CI 75%–87%) during the malaria transmission season. Further, the results from twelve studies demonstrated a protective effect of IPTc against all-cause mortality of 57% (95%CI 24%–76%) during the malaria transmission season.	Wilson AL, on behalf of the IPTc Taskforce (2011) A Systematic Review and Meta-Analysis of the Efficacy and Safety of Intermittent Preventive Treatment of Malaria in Children (IPTc). PLoS ONE 6(2): e16976.
	A review of trials that evaluated the impact of SMC in preventing malaria in pre-school children living in endemic areas with seasonal transmission showed that SMC prevented approximately three quarters of all clinical malaria episodes and a similar proportion of severe malaria episodes, and that these benefits remained even where insecticide treated net usage is high.	Intermittent preventive treatment for malaria in children living in areas with seasonal transmission (Review), 2012. The Cochrane Collaboration. John Wiley & Sons, Ltd.
Benefit of SMC alongside other malaria interventions	Studies have also showed the beneficial additive effect of SMC given during the transmission season alongside other malaria control interventions such as the distribution and Promotion of use of LLINs.	Dicko A. et al. Intermittent preventive treatment of malaria provides substantial protection of malaria in children already protected by an insecticide-treated bednet in Mali. PLoS Medicine (2011). Vol. 8 Issue 2. Konate A. et al. Intermittent preventive treatment of malaria provides substantial protection of malaria in children already protected by an insecticide-treated bednet in Burkina Faso – A Randomised, Double-Blind, Placebo-Controlled Trial.PLoS Medicine (2011). Vol. 8 Issue 2.
Community-based delivery	Delivery of SMC by community health workers in a large-scale study in Senegal achieved high coverage at a lower cost than delivery by reproductive and child health teams or health personnel at health centers.	Kweku M et al. Options for the delivery of intermittent preventive treatment for malaria to children; a community randomised trial. PLoS One, 2009, 4:e7256.

Neglected Tropical Diseases

Box 4: NTD Landscape

Burkina Faso: The MOH in Burkina Faso adopted the Master Plan for NTDs in January 2013. The Directorate for the Control of Disease (DLM) has also begun integrating strategies for the control and elimination of PCT-NTDs with the water, sanitation and hygiene (WASH) strategy with the aim of accelerating efforts to meet its control/elimination objectives. LF, STH, and schistosomiasis are endemic in all 63 districts. Trachoma is endemic in 30 districts and onchocerciasis is endemic in six districts. All districts have been mapped for the five targeted NTDs.

Mali: Mali established an integrated NTD program and a strategic plan for the control of PC-NTDs in 2007. The program aims to maintain 80 percent of therapeutic coverage for the eligible population and 100 percent geographical coverage each year. Mali aims to integrate MDA, treatment of cases, epidemiological and entomological surveillance, vector control and school-based intervention to control PC-NTDs as well as to address NTDs requiring intensified case management. Mapping exercises found that five PCT NTDs are co-endemic in the south and four are co-endemic in the north (excluding onchocerciasis) of Mali.

Niger: The National Integrated NTD Control Program in Niger started in 2007. Niger recently elaborated its National NTD Strategic Plan (2012-2016), emphasizing integrated treatment of NTDs susceptible to preventive chemotherapy (PCT). Furthermore, the Health Development Plan (2011- 2015) highlights NTD control as a priority. LF, schistosomiasis, STHs and trachoma still require MDA, and onchocerciasis requires post-endemic surveillance without MDA. However, there is a high risk of recrudescence as political conflict in neighboring countries may complicated control efforts. Mapping of all the NTDs susceptible to preventive chemotherapy in Niger has largely been completed.

Population Requiring Preventive Chemotherapy for NTDs

	Burkina Faso	Mali	Niger
Lymphatic Filariasis	15.2 million	Endemic throughout Mali with the entire population at risk	11.5 million
Onchocerciasis	333,000	Endemic in 17 districts in the regions of Kayes, Koulikoro and Sikasso	Hypo-endemic
Schistosomiasis	12.2 million	Present throughout Mali	12.7 million
Soil-Transmitted Helminths	6.3 million	Endemic throughout Mali	7.2 million
Trachoma	7.2 million at risk; 23,000 active cases	11.3 million	11.3 million

14. The NTDs and particularly the PC-NTDS are endemic in areas where the population has little access to adequate health care, sanitation, housing, education and clean water especially in rural and underserved communities in the Middle East, Southeast Asia and Africa. These diseases attack both male and females though males appear to be at greater risk of infection due to their social and occupational roles. However, some of the NTDs have particularly serious consequences for women. For example, schistosomiasis can cause pregnancy complications. The NTDs as a group cause stigma and discrimination especially for girls and women.

15. The WHO's Global Plan to Combat Neglected Tropical Diseases 2008 – 2015, presents several NTDs including the PC- NTDs for which there are at the moment tools and strategies for their control.[58] In 2012, the Global Plan was translated into a roadmap to guide implementation of policies and strategies set out in the Global Plan to combat neglected tropical diseases 2008–2015 and presented an objective to eliminate or reduce neglected diseases by 2020.[59] This was followed by the elaboration of a Regional strategy and Strategic Plan 2014 – 2020 by WHO/AFRO.[60] This required countries to prepare national master plans and commit finances for the implementation of their plans. By 2014, several countries in the WHO Africa Region, including Burkina Faso, Mali and Niger had developed their master plans for control and elimination of the neglected tropical diseases.

16. NTDs are a consequence of poverty, and at the same time a cause of poverty. Peter Hotez[61] (2009) states that "the cognitive and intellectual impairments that derive from hookworm-associated anemia severely affect childhood education in terms of school performance and attendance. Reduced attendance leads to reduced future wage-earning capacity, possibly by as much as 43 percent, while chronic hookworm infection among agricultural workers reduces their productivity in Africa, Asia, and the Americas". Without addressing these diseases, the broader aim of poverty alleviation is unlikely to be achieved. NTDs like the STH consume key nutrients that are needed by people especially children to be heathy, thereby impacting negatively on any nutritional transfer.[62] Furthermore, adults with NTDs are less able to work and produce food that is needed to feed the population. NTDs therefore have a negative impact on nutrition and food security – by lowering productivity. NTDs like LF, onchocerciasis, and trachoma cause disabilities and disfigurement, which prevents infected adults from working or generally contributing to economic development of their country. It has been shown that when people were treated in the USA during their childhood, an estimated increase in future wages was approximately 40 percent. In addition, following up a cohort of children for the long term impact

[58] WHO. *Global plan to combat neglected tropical diseases 2008–2015*. Geneva, World Health Organization, 2007 (WHO/CDS/NTD/2007.3). (http://whqlibdoc.who.int/hq/2007/who_cds_ntd_2007.3_eng.pdf).

[59] WHO. Accelerating work to overcome the global impact of neglected tropical diseases – A roadmap for implementation, Geneva. World Health Organisation. 2012. WHO/HTM/NTD/2012.1. (http://www.who.int/neglected_diseases/NTD_RoadMap_2012_Fullversion.pdf).

[60] WHO. Regional Strategic Plan for Neglected Tropical Diseases in the African Region 2014–2020. Brazzaville, World Health Organization, Regional Office for Africa, 2013.

[61] Peter Hotez, Devastating Global Impact of Neglected Tropical Diseases. American Society for Microbiolgy. Microbes Magazine, 2009. (http://www.microbemagazine.org/index.php?option=com_content&view=article&id=536:devastating-global-impact-of-neglected-tropical-diseases&catid=187&Itemid=361).

[62] UKCANTDs (2012) *Annual Report 2012 – Report for the All-Party Parliamentary Group on Malaria and Neglected Tropical Diseases (APPMG)*, UK Coalition against NTDs. http://www.schoolsandhealth.org/Documents/APPMG%20Annual%20NTD%20Report%202012.pdf.

of deworming, it was observed that future earnings increase to 29 percent higher for children targeted by the deworming campaign, and hours worked also increased by 12 percent while days lost to disease decreased by a third[63].

17. *Integrated Approach to PC-NTD:* Most of the PC-NTDs have common features that make integrated treatment possible. The treatment for each of the PC-NTDs has in the past not been coordinated. However, the individual treatment programs have several similarities that warrant integration:

- All benefit from major drug donations, with a guarantee of sufficient drugs to allow their elimination from Africa
- All are implemented through community-based interventions using the community health service delivery system. The first three (trachoma, onchocerciasis and LF) are implemented community-wide and the latter two (schistosomiasis and STH) using the school platform. APOC is the longest established and best funded program, and the only one with an implementing secretariat (in Burkina Faso)
- All involve drug donation mechanisms, with an effective model for coordination already established between Merck & Co and GlaxoSmithKline
- Some major NGOs play key roles in the control of several of these diseases
- Some of the same major donors support several of the individual NTD programs, but there is a general movement towards integration

18. Treatment of the NTDs has been made easier with the donation of the needed medicines for most of the diseases. Drugs have been donated by Merck & Co., Merck Serono, Eisai, GlaxoSmithKline, Johnson & Johnson, and Pfizer. These pharmaceutical industries committed to increase their donations in a coordinated push to control and/or eliminate ten neglected tropical diseases in a meeting held in London in January 2012. Current treatment for NTDs is mostly focused on MDA, either through school-based treatment of children between 5 – 12 years and community-based treatment via house-to-house distribution or centralized distribution.[64,65] Most of the medicines used for MDA can be taken together, making distribution more efficient. MDA involves the distribution a combination of two or three drugs once or twice a year to the entire target or eligible population at risk for a period of five to six or more years, depending upon the disease prevalence in the target population. For example, ivermectin for onchocerciasis should be given with albendazole for LF. Ivermectin and albendazole have effects on STH. This therefore means that where treatment for onchocerciasis and FL is given to a population, there are at the

[64] Massa K, Magnussen P, Sheshe a, Ntakamulenga R, Ndawi B, et al. (2009) Community perceptions on the community-directed treatment and school-based approaches for the control of schistosomiasis and soil-transmitted helminthiasis among school-age children in Lushoto District, Tanzania. Journal of biosocial science 41: 89–105 Available: http://www.ncbi.nlm.nih.gov/pubmed/18647439.

[65] Katabarwa MN, Mutabazi D (2000) Controlling onchocerciasis by programmes in Uganda: why do some communities succeed and others fail? Annals of Tropical Medicine and Parasitology 94: 343–353.

same time being treated for STH. Praziquantel for schistosomiasis can also be given together with ivermectin and albendazole. However, co-administration of azithromycin with ivermectin and albendazole is still being researched, hence a 2 week period should be respected between treatment with azithromycin and the other drugs.[66]

19. *Collective Action for Eliminating the Reversible Consequences of PC-NTDs***:** Neglected tropical diseases like LF and trachoma if not treated early leave patients with physical disabilities. LF is responsible for hydrocele and lymphedema while trachoma is responsible for triachiasis. Treatment for these disabilities require surgical interventions. Surgery is just one component of a four part strategy[67] – SAFE[68]– for prevention, control and treatment of trachoma. Within the project, it is proposed that this surgery be performed in the community by nurses who will be trained and supervised on a regular basis. It is proposed to train a multi-country group of nurses who should organize surgical camps in each of the three countries for between two and three weeks every quarter.

Why a Regional Approach to the Control of Malaria and NTDs in the Sahel?

20. The Sahel Malaria and NTDs Project complies with the IDA regional projects criteria:

(a) Involve three or more countries, all of which need to participate in the Project, to achieve the objectives (at least one of which is an IDA country). The required minimum number of countries is reduced from three to two if at least one fragile country participates in the regional project: The Sahel Malaria and NTDs Project will be implemented in three countries of the Sahel region: Burkina Faso, Mali and Niger. Other countries may join during project implementation.

(b) Benefits spill over country boundaries (e.g., generate positive externalities or mitigate negative ones across countries): Malaria and PC-NTD control is a regional public good. The project will strengthen disease control strategies in cross-border areas where disease prevalence and transmission is highest and access to services lowest. The regional benefits and positive externalities of effective malaria and PC-NTD control are substantial. If a country successfully reduces the burden of malaria and PC-NTDs, its neighbors are directly benefiting from this success as there will be a reduction in "exported cases" of malaria and PC-NTDs and people travelling to the country with the effective program are less likely to become infected. Benefits are expected to accrue to the three participating countries and their immediate neighbors.

(c) Clear evidence of country or regional ownership (e.g., by ECOWAS or SADC) which demonstrates commitment of the majority of participating countries: WAHO (part of ECOWAS) will be responsible for the regional coordination of the Project and day-to-day regional level management of the Project.

[66] WHO. *Preventive chemotherapy in human helminthiasis: coordinated use of anthelminthic drugs in control interventions: a manual for health professionals and programme managers.* - http://whqlibdoc.who.int/publications/2006/9241547103_eng.pdf

[68] SAFE: Eyelid surgery, antibiotic treatment, facial cleanliness and environmental improvement

(d) Platform for a high level of policy harmonization between countries and is part of a well-developed and broadly-supported regional strategy. The project will support countries' efforts to harmonize policies and procedures, including regulatory policies associated with pharmaceuticals and diagnostics and approaches to engaging, supervising and motivation community health workers to implement project activities. Countries will be empowered to engage in joint planning, implementation and evaluation of program activities across borders at regional national and district levels.

21. There are many advantages to addressing the control of malaria, PC-NTDs and other endemic or emerging communicable diseases through a regional approach which complements national programmatic efforts. It is often repeated that neither malaria, NTDs nor other communicable diseases respect national boundaries that separate sovereign states, and their prevention and control are largely dependent on collective and cross-border action to complement national disease control strategies. This has been substantively demonstrated by the ongoing Ebola crisis in West Africa.

22. The advantages of strengthening disease control and surveillance through regional investment in collective and cross-border action are highlighted throughout the document, however a brief summary includes the following key points:

- The design of the Sahel regional initiative is modeled on the lessons learned during the first phase of the Senegal River Basin Water Resources Development Project. The Success of the Senegal River Basin Multipurpose Water Resources Development Project, which significantly reduced the burden of malaria and schistosomiasis in border areas of Mauritania, Senegal, Mali and Guinea, relied on a few key components: a regional technical entity to set standards, strong national implementing capacity, regional surveillance, and a governance system that is based on shared national ownership. These approaches have also been the key to the success of Phase I of the SRB RI project, and will be implemented in this regional Sahel project.
- In 2002, the Commission on the Macroeconomics of Health published "Global Public Goods for Health," which proposed that, by considering activities that can only be achieved through multi-country collaboration, priority should be placed on three areas of great importance to international health: (1) research, including targeted research and development; (2) the control and prevention of cross-border spread of communicable disease; and (3) standardized data collection efforts. Through a regional integration approach, this project will contribute to all three of these priority areas.
    - Operational research including sentinel surveillance of disease transmission as well as drug and insecticide resistance monitoring is one of the key activities that will be financed by the project. MOH and national research institutions will work with WAHO and WHO/AFRO to identify research priorities that address the common constraints in program implementation identified by countries in the region.
    - Malaria and PC-NTD control is a regional public good. The project will strengthen disease control strategies in cross-border areas where disease

prevalence and transmission is highest and access to services lowest. The regional benefits and positive externalities of effective malaria and PC-NTD control are substantial.

- If a country successfully reduces the burden of malaria and PC-NTDs, its neighbors are directly benefiting from this success as there will be a reduction in "exported cases" of malaria and PC-NTDs and people travelling to the country with the effective program are less likely to become infected.
- However, successful control programs in one country may be undermined by cross-border traffic from neighboring countries where there are poorly funded poorly implemented programs and associated high levels of disease prevalence and transmission.
- Disparity in the effectiveness of malaria and NTD control among neighboring countries and across-borders is highly undesirable, and even more so when cross-border movements are facilitated under the banner of economic collaboration, as they are in the ECOWAS region.

- *Standardized Data collection efforts, Monitoring and Evaluation:* The three countries taking part in this regional project have all developed master plans with assistance from the World Health Organization. Monitoring is important to assess program progress. Advocacy for more resources for SMC and NTD control and elimination need strong evidence which can only be provided through monitoring and evaluation. Each of these plans have sections about monitoring and evaluation but funding of the NTD programs in these countries does not emphasize sufficiently monitoring and evaluation of the impact of MDA. As the SMC strategy is at an early stage of implementation, there is need to ensure monitoring and evaluation is harmonized across the countries and in the other areas of the Sahel for which the project will serve as both test case and model for monitoring the implementation and impact of this intervention more broadly.

23. Given the regional public good dimension of malaria and PC-NTD control and elimination, in an environment of limited donor funding for malaria and PC-NTD elimination, regional funds would present a novel and attractive option to leverage contributions from national governments of PC-NTD and malaria affected countries as well as from other government donors.

24. In the absence of a regional investment progress toward the goals and objectives set out in the regional strategies for malaria control and NTD control and elimination as well as attainment of individual country targets would be compromised. New interventions, such as SMC, would be implemented through pilot projects in each country and there would be no formal mechanism for sharing programmatic experience. The risk of procurement delays for SMC drugs (in the absence of pooled procurement) could result in one or more of the countries not being able to implement the intervention at the appropriate time. This would delay scale up and result in increased mortality. Approaches to PC-NTD integration would not be standardized and implementation would continue to be inefficient. The backlog of reversible disability would remain large in the absence of motivated multi-country teams to carry out the interventions. Data

sharing and impact evaluation would not be promoted and this would further slow progress toward regional goals. Drug and/or insecticide resistance might not be detected in a timely manner and countries would continue to invest in failing technologies rather than switch to better options.

25. The project will be implemented in the context of regional strategies for the control of malaria and the PC-NTDs that have been developed based on regional best practices and WHO guidance.

- As regards malaria, a regional strategy for control and elimination of malaria among ECOWAS covering the period 2014-2020 was developed in December 2013, with objectives to (i) intensify the cross-border cooperation; (ii) coordinate the inter-country efforts for control and elimination; (iii) mobilize resources to increase efficiency; and (iv) strengthen and improve the national response performances of member countries.
    - The Plan is a major step forward in tackling the issue from a regional perspective, seeking regional collaboration in prevention, diagnosis and treatment of malaria, as well as improving surveillance and monitoring.
    - Collaboration in the areas of capacity building, governance and management and coordination, as well as resource mobilization are also highlighted as priority challenges.
    - The strategy is accompanied by a Regional Action Plan for malarial control in the West African countries that have just been validated.
- The WHO/APOC has developed a regional strategy to eliminate onchocerciasis and LF and support control the other PC-NTDs between 2016 and 2025.

26. Collective action and cross-border collaboration are emphasized throughout the project. Concerted action across the whole of the sub-Saharan region is vitally important to gain the full benefit of the integrated malaria and NTD control programs and prevent erosion of the gains already made. Neighboring countries will need to work together to exchange experience in planning, implementation, training and advocacy via a regional approach to NTD and malaria control. This will be done by this project by improving regional collaboration, facilitating consultations between the countries, cross-border meetings and implementing interventions that add value to the efforts of each individual country. Some examples of activities that illustrate this approach include:

- The project will support countries' efforts to harmonize policies and procedures, including regulatory policies associated with pharmaceuticals and diagnostics and approaches to engaging, supervising and motivation community health workers to implement project activities
- Countries will be empowered to engage in joint planning, implementation and evaluation of program activities across borders at regional national and district levels. The project will allow for setting common standards and timetables across borders; and sharing of scarce skills and lessons-learned in order to quickly build national capacity to implement both campaign style and routine interventions to combat malaria and PC-NTDs to maximize impact and quality as well as share scarce skills and lessons-learned.

        - Cross-border district level planning will allow populations on both sides of the border to access to high quality services at the same time.
        - With support from WAHO and WHO/AFRO the project will support the multi-country surgical teams to address the backlog of reversible consequences of PC-NTDs such as trichiasis. With larger multi-country teams many more beneficiaries can be reached in each country and the surgical campaigns can serve as hands on training opportunities for doctors and ophthalmic nurses from all three countries.
    - Pooled procurement of the drugs required for SMC will reduce the risk of delayed or failed implementation. Regional procurement and management of commodities or services, particularly the drugs needed to implement SMC will result in reduced risk of drug shortfalls in the context of current market dynamics, timely delivery of drugs in advance of the rainy season and potentially financial savings due to economies of scale.

27. The economic rationale for investment in the control and eliminations of malaria and NTDs is very strong. These "diseases of poverty" contribute significantly to extreme poverty, social and economic inequity. The have an important negative impact on human development, productivity and economic growth. Yet, the interventions to control and eliminate these diseases are inexpensive and highly cost-effective. The control of malaria and NTDs produces excellent returns on investment.

Lessons Learned and Reflected in the Project Design

28. This project will incorporate lessons learned from comprehensive literature reviews on community level delivery platforms.

- Pilot programs working on iCCM on childhood illness, including malaria, and integrated NTD drug delivery in communities have identified coordinated drug procurement mechanisms as necessary to ensure a continuous supplies and avoid delays in distribution schedules.[69,70] The MOH in Burkina Faso, Mali, and Niger will integrate drug procurement requests for the five NTDs of interest, a process that has historically been done in parallel. Moreover, the project will conduct pooled procurement of SMC medicines to ensure coordinated and timely delivery—a concern that cannot be understated as a delay in drug procurement in could postpone the SMC intervention by one calendar year. The Malaria Consortium has effectively used this model in East Africa and the project will build upon its example.
- The project may pilot emerging low cost technologies to collect district-level data on MDA and SMC in remote areas. Evaluations in Mali show that mHealth technologies, including SMS text messages, are effective methods to collect monitoring data to plan

[69] Dembe le M., et al. (2012) Implementing preventive chemotherapy through an integrated national neglected tropical disease control program in Mali. *PLoS Negl Trop Dis*, 6(3): e1754.
[70] Young M., et al. (2014) The way forward for integrated community case management programmes: a summary of lessons learned to date and future priorities. *J Glob Health*, 4(2).

timely MDA campaigns.[71] This approach was also endorsed by in-country partners at the Project Preparation Regional Workshop as a method to conduct monitoring and evaluation.

- The experience shows that the involvement of regional and district health authorities from project design to implementation is central to ownership of MDA initiatives as well as community sensitization and utilization of community health services.[72] This project has engaged leadership at all levels to ensure acceptability of project design and will continue to involve local leaders and NGDOs in the roll-out of the campaigns at the community level.
- Projects in Mali have shown that limited knowledge of NTDs can impede compliance with MDA campaigns. Experience has proven that BCC, such as visual aids, are effective in educating and mobilizing populations especially those with low literacy to comply with MDA campaigns. The project in Mali also involved political and religious leaders as well as with village chiefs in the MDA to set an example of taking preventive medication. This project will build on this model.
- Community-level distribution of intermittent preventive treatment for malaria to children in Senegal identified that the provision of incentives played a major role in the commitment of community health workers. In an effort to ensure a consistent cohort of community health workers in this project, the three countries will work together so that community health workers receive harmonized motivation comparable to that paid in similar community-based delivery projects.

29. This project will draw from successful methods utilized in current World Bank projects in the region.

- The Bank-supported African Programme for Onchocerciasis Control (APOC) has proven community volunteers organized at a regional level can successfully administer preventive chemotherapy for onchocerciasis control in 31 endemic countries across sub-Saharan Africa. This project will build off of the APOC model of drug distribution and integrate MDA for five PC-NTDs and SMC.
- Lot Qualified Assurance Sampling (LQAS) and Sentinel Surveillance proved to be a low cost approach to monitoring and evaluating project indicators as well as disease prevalence and intensity in the Senegal River Basin Multi-Purpose Water Resource Development Project (P131323). As a result, these approaches will be incorporated into the monitoring and evaluation of this Project.
- The Priority Setting, Equity and Constitutional Mandates and Universal Health Coverage Project (P128249) in Latin America and the Project on Improving Governance in the Pharmaceutical Procurement and Supply Chain Management (P128104) in East Africa demonstrate that knowledge exchange across countries on shared problems, and precise lessons and experiences can lead to efficient processes to adapt new practices and scale-up implementation of already successful practices. This Project will promote knowledge sharing across Burkina Faso, Mali and Niger to address common challenges and build on shared successes.

[71] Torre C. et al. (2014) Evaluation of a mobile reporting system for the collection of routine malaria data in Mali. MEASURE Evaluation.
[72] Kweku M., et al. (2009) Options for the delivery of intermittent preventive treatment for malaria to children; a community randomized trial. *PLoS One*, 4: e7256.

- The experience of the HIV/AIDS, Malaria and TB Control Project (HAMSET) in Angola (P083180) showed that constrains to capacity building must be adequately assessed and financed during early implementation. In addition, HAMSET found it is critical to review performance and achievements to assess whether capacity building activities contributed to the Project results. As a result, this Project includes indicators to measure institutional capacity, knowledge and learning. It also includes dedicated support for countries to address identified capacity constraints.
- The Malaria Control Booster Program (P096482) in Benin demonstrated that strong collaboration among government and partners can achieve significant synergies and efficiencies in planning, financing, implementation, and evaluation. Joint studies and evaluations, the second mass malaria campaigns for LLINs, and the provision of essential commodities are examples of such collaboration from this project. The current project builds on these lessons of collaboration at the regional level to strengthen efficiencies across countries.

32. This Project takes into consideration lessons identified from the IEG portfolio review of World Bank communicable disease Projects.[73]

- Projects supported by the World Bank have often included a pro-poor rationale in the design of communicable disease projects. However, the socio-economic distribution of outcomes influenced by these projects have rarely been measured. Further, outcomes have also rarely been disaggregated by geography, despite being focused on particular areas. A mid-term study will review the socio-economic distribution of outcomes influenced by the Project to assess if the interventions are reaching the intended populations from the poorest and most vulnerable beneficiary groups in remote areas with limited access to health services.
- While projects supported by the World Bank have increased investment in health system reforms, projects have often lacked indicators to track success of objectives in strengthening the systems that underpin national disease control programs. The Malaria Control Booster Program (P096482) in Benin found that addressing a single disease through a health systems approach, while leading to some inefficiencies and weaknesses, can be a vehicle for health systems strengthening. The project-supported malaria program, with its clear set of inputs, activities, outputs and outcomes, contributed to improved capacity in the health sector. This proposed Project plans to increase investment in cost-effective and basic public health measures through integrated MDA for PC NTDs and strengthen training for essential clinical care for malaria treatment and diagnosis at the community level. The results framework includes indicators related to the strengthening of the community health system.

[73] Martin, G. Portfolio review of World Bank lending for communicable disease control. IEG Working Paper 2010/13.

Annex 7: Financial and Economic Analysis

SAHEL MALARIA AND NTD PROJECT

1. Malaria and NTDs together represent an important share of the burden of disease in West Africa, as shown in Table 38.

Table 38: Disease Burden Attributed to Malaria and NTDs in West Africa

	% Total DALYs
Burkina Faso	22.5
Mali	24.8
Niger	15.3
Western SSA	19.7
Global	4.4

Source: IHME GBD 2010 estimates.

The Economic Consequences of Malaria and NTDs

2. In addition to severe health consequences, nations with high malaria incidence also exhibit low levels of economic development. At the macro level, it is estimated that between 0.5 percent and 1.3 percent of GDP growth per annum is lost in countries with endemic malaria.[747576]

3. At the microeconomic level, malaria affects income through the erosion of a country's human capital. Infections during pregnancy and during early childhood lead to reduced neurocognitive functions and to long-term cognitive impairment for children. This translates into lower school enrollment, attendance, and academic attainment, which in turn reduces educational outcomes and labor productivity losses during adulthood.

4. It has also been demonstrated that malaria is a deterrent to foreign investment and a burden on businesses operating in malaria endemic countries. Using 1985-2004 yearly panel data for 70 developing countries, including 28 African countries, a 2009 study shows that net foreign direct investment (FDI) inflows in the median SSA country could have been at least 17 percent higher over the period 2000-2004 in the absence of malaria, with slightly more than half of this deficit accounted for by malaria alone.[77] A report published in 2006 found that nearly three-quarters of companies in SSA reported that malaria was negatively impacting their business through absenteeism and lower worker productivity. Recent results from experimental studies have also

[74] JL. Gallup and JD. Sachs, 2001. The economic burden of malaria. American Journal of Tropical Medicine and Hygiene, 64:85-96.
[75] F. McCarthy, HCD. Wolf, and Y. Wu, 2000. Malaria and growth. World Bank Policy Research Working Paper No. 2303.
[76] Sachs and Malaney, 2002. The economic and social burden of malaria. Nature 415(6872): 680-5.
[77] C. Azemar and R. Desbordes, 2009. Public governance, health and foreign direct investment in Sub-Saharan Africa. Journal of African Economies, 18(4). Pp. 667-709.

documented substantial direct effects of malaria infection on sugar cane workers earnings, labor supply and productivity in Nigeria. Intent-to-treat estimates reveal a difference in labor productivity and earnings between treated and non-treated sites of about 10 percent.[78]

5. NTDs have a negative effect on the economy of households, as captured in Table 39. For example, in Ghana, it has been reported that the cost of care for a patient with Buruli Ulcer in the lowest quintile is about 242 percent of annual earning while that for those in the highest quintile was reported as 94 percent.[79] NTDs also affect worker productivity. For example, LF is estimated to cause almost US$1 billion a year in lost productivity[80] and can lead to a 15 percent annual loss in personal income.[81] Studies have also shown that wage earnings of agricultural workers increased when consistently treated for NTDs[82], and that for every US$1 invested in integrated NTD treatment could translate in economic return of about US$20 per individual. School based deworming in Kenya translated into mean hours worked increase by 12 percent in the treatment group, and higher future earnings of about 20 percent for treated children compared to their untreated counterpart[83]. It has also been shown that when people were treated in the USA during their childhood, an estimated increase in future wages was approximately 40 percent. Finally, following up a cohort of children for the long term impact of deworming, it was observed that future earnings increase to 29 percent higher for children targeted by the deworming campaign, and hours worked also increased by 12 percent while days lost to disease decreased by a third.[84]

[78] A. Dillon, J. Friedman and P. Serneels, 2014. Health information, treatment, and worker productivity: Experimental evidence from malaria testing and treatment among Nigerian sugarcane cutters. CSAE working paper WPS/2014-13.

[79] Xu K, Evans DB, Kawabata K, Zeramdini R, Klavus J, Murray CJL. Household catastrophic health expenditure: a multicountry analysis. *Lancet* 2003; **362:** 111–17.

[80] Ramaiah, K.D. et al. (2000). The Economic burden of lymphatic filariasis in India. Parasitology Today, 16: 151 – 253.

[81] Ramaiah, K.D. et al. (2000). The Economic burden of lymphatic filariasis in India. Parasitology Today, 16: 151 – 253.

[82] Gilgen DD, Mascie-Taylor CG, Rosetta LL. Intestinal helminth infections, anemia and labour productivity of female tea pluckers in Bangladesh. Tropical Medicine & International Health, 2001, (6) 449-57.

[83] Baird S, Hicks JH, Miguel E, and Kremer M. (2012) Worms at work: Long run impacts of child health gains. Harvard working paper (http://scholar.harvard.edu/kremer/publications/worms-work-long-run-impacts-child-health-gains).

[84] *Fiona Samuels and Romina Rodríguez Pose. Why neglected tropical diseases matter in reducing poverty. Development progress, Working Paper 03. July 2013 - http://www.odi.org/publications/7606-neglected-tropical-diseases-matter-reducing-poverty*.

Table 39: Economic Cost of Selected Neglected Tropical Diseases[85]

	Setting	Reported productivity loss*
Chagas disease	Latin America[35]	Estimated 752 000 working days per year lost because of premature deaths. US$1·2 billion per year in lost productivity in seven southernmost American countries. Brazilian absenteeism of workers affected by Chagas disease represented an estimated minimum loss of $5·6 million per year.†
Cysticercosis	India, Honduras, the Eastern Cape Province[36]	The societal monetary cost of Taenia solium cysticercosis was estimated at $15·27million (95% CI $51·6–299·0 million) in India, $28·3 million ($7·1–42·9 million) in Honduras, and $16·6 million ($8·3–22·8 million) in the Eastern Cape Province.
Dengue fever	India[37]	The average total economic burden was estimated at $29·3 million ($27·5–31·1 million). Costs in the private heath sector were estimated to be almost four times the public sector expenditures.
Echinococcosis	Jordan;[34] Province in Tibet, China[38]	Total losses to the Jordanian economy is a median of $4·9 million ($3·3–8·1 million). Furthermore, because of the low purchasing power parity in Jordan, these losses would be the equivalent of $21 million in the USA. Evaluation of human losses associated with treatment costs and loss of income due to morbidity and mortality, in addition to production losses in livestock due to *Echinococcus granulosus* infection. Annual combined human and animal losses were estimated to reach $249 240 ($216 386–282 516) if only liver-related losses in sheep, goats, and yaks are taken into account. This equates to about $3963·47 per person per year. However, total annual losses can be almost $1·4 million, if additional livestock production losses are assumed.
Lymphatic filariasis	Various countries[39]	Annual economic burden of lymphatic filariasis measured in lost productivity reported in 1998 was about $1·7 billion in 2008, taking into account inflation in APOC countries. ERRs are 25% at the end of investment period 2019 and 28% over 30 years. Programme breaks even in tenth year. Economies of scope with onchocerciasis. Lymphatic filariasis causes almost $1·3 billion a year in lost productivity.
Onchocerciasis	Various countries[40]	Economic evaluations of the OCP in west Africa have calculated a net present value (equivalent discounted benefits minus discounted costs) of $919 million for the programme over 39 years, using a conservative 10% rate to discount future health and productivity gains. The net present value for APOC is calculated at $121 million over 21 years, also using a 10% discount rate. However, the economic success of ivermectin distribution is sensitive to the fact that the drug itself has been donated free of charge. The market value of Merck's donations to the APOC for just 1 year considerably outweighs the benefits calculated for both the OCP and the APOC over the duration of these projects.
Soil-transmitted helminthiasis	Kenya[41]	On the basis of the estimated rate of return to education in Kenya, deworming is likely to increase the net present value of wages by over $40 per treated person. Benefit-to-cost ratio of 100. Deworming can increase adult income by 40%.
Schistosomiasis	Philippines[42]	After a series of computations, of which the disability rate was regarded as the most important, a total of 45·4 days lost per infected person per year was obtained.
Trachoma	Various countries[43]	The average cost of untreated trichiasis, or the net present value of life-time lost economic productivity, was $118.

APOC=African Programme for Onchocerciasis Control. ERR=economic rate of return. OCP=Onchocerciasis Control Programme. * All costs and losses are inflated from their original year of calculation and converted to their US dollar 2008 equivalent with constant dollar rate Bureau of Labour Statistics.[10] †Base year of costs not given, so costs remain in original form.

Cost-effective Interventions for NTDs and Malaria Control and Elimination Exist

6. Over the past decade, the cost-effectiveness of key malaria preventive and curative interventions has been well established, as shown in Table 40 and 41. In more recent years, malaria interventions have been subject to continuous improvement, with increased effectiveness at increasingly more affordable costs, further improving the cost-effectiveness ratio even further.

Table 40: Median Financial Cost per Intervention[86]

[85] Conteh L, Engels T, and Molyneux D (2010) Socioeconomic aspects of neglected tropical diseases. Lancet, 375: 239-47.

Interventions	Median financial cost (per person/year in 2009 USD)	Range
Insecticide treated nets (ITN)	$2.20	($0.88-$9.54)
Indoor residual spraying (IRS)	$6.70	($2.22-$12.85)
Intermittent preventive treatment for infants (IPTi)	$0.60	($0.48-$1.08)
Intermittent preventive treatment for children (IPTc)	$4.03	($1.25-$11.80)
Intermittent preventive treatment for pregnant women (IPTp)	$2.06	($0.47-$3.36)
Case diagnostic	$4.32	($0.34-$4.34)
Treatment for uncomplicated malaria case	$5.84	($2.36-$23.65)
Treatment for severe malaria case	$30.26	($15.64-$137.87)

Table 41: Median Incremental Cost-Effectiveness Ratios (ICERs)

Interventions	Median ICERs (per DALY averted)	Range
Insecticide treated nets (ITN)	$27	($8.15-$1.10)
Indoor residual spraying (IRS)	$143	($135-$150)
Intermittent preventive treatment (IPT)	$24	($1.08-$44.24)

7. Moreover, malaria control has been shown to provide a high return on investment. An economic analysis of malaria prevention and control programs conducted in three companies in Zambia produced an estimated rate of return of 28 percent under conservative assumptions. In Nigeria malaria testing and treatment substantially increased the productivity of sugar cane workers accounting for a 26 percent increase in earnings.

8. Because of rainfall seasonality and high malaria endemicity, SMC is a particularly effective and cost-effective strategy in the Sahel region.[87] In the three targeted countries, about 7.8 million children under 5 years old are estimated at risk, with about 8.3 million malaria episodes and 37.6 thousand childhood deaths each year (Table 42)

Table 42: Estimated populations at risk, malaria incidence and malaria deaths in areas suitable for SMC

Country	Total population	Population in SMC zone	Under 5 population in SMC zone	Malaria cases		Malaria deaths		
				Incidence (WMR method)	Incidence (MAP function)	Fixed CFR: WMR burden	Fixed CFR: MAP burden	Population based rate
Burkina Faso	15,708,964	13,854,376	2,710,747	2,977,936	1,609,070	13,401	7,241	27,098
Mali	13,117,059	12,098,009	2,096,706	2,274,587	1,055,338	10,236	4,749	20,001
Niger	14,436,029	14,075,787	3,030,517	3,106,105	1,065,640	13,977	4,795	27,882
TOTAL	***43,262,052***	***40,028,172***	***7,837,970***	***8,358,628***	***3,730,048***	***37,614***	***16,785***	***74,981***

[86] White M., Conteh L., Cibulskis R., and Ghani A. (2011). Cost and cost-effectiveness of malaria control interventions – a systematic review. Malaria Journal 10:337.

[87] Cairns M. et al. (2012) Estimating the potential public health impact of seasonal malaria chemoprevention in African children. Nature Communications 3:881.

9. Investment in the prevention, control, and elimination of PC-NTDs is considered to be "one of the best buys in healthcare interventions" according to the 2013 Lancet Commission on Investing in Health.[88] The greatest returns on investment come from integrated PC-NTDs. The benefits from these relatively inexpensive programs are significant with economic rates of return of about 15-30 percent.[89] Concerning specific diseases, the economic return from treating LF was estimated at US$20 for every US$1 invested at a cost of around $60 per person treated. Some NTD programs delivered at scale like the Onchocerciasis Control Program (OCP) and the follow-on Project, APOC, are broad international public-private partnerships that have succeeded in eliminating or controlling onchocerciasis in West Africa.[90]

10. MDA for the treatment of NTDs is cost-effective and inexpensive when compared to the cost of combating HIV/AIDS, tuberculosis and malaria. The cost of MDA is estimated at US$0.46 per infected person treated.[91] The cost is low due to the fact that the drugs are donated by the pharmaceutical companies, usually distributed by volunteers, programs are large, and there is potential for synergy of drug delivery modes, which further increase efficiency and reduce costs.[92]

11. Though cost-effectiveness studies (i.e. cost per health gain) for NTDs are scarce, the cost per DALY averted associated with many NTDs are among the lowest. For example, treatment of schistosomiasis and STH through schools cost US$ 2 - 11 per DALY averted for the STH alone and US$410 - 844 per DALY averted for schistosomiasis alone, and US$10 - 23 for STH and schistosomiasis combined[93], indicating cost-saving by combining the interventions.[94] Table 43 captures the cost-effectiveness of NTD control.

[88] Jamison, DT, Summers LH, Alleyne, G, et al. (2013) Global health 2035: a world converging within a generation. *Lancet;* 382(9908), 1898-1955.
[89] Molyneux DH, Hotez PJ, Fenwick A. "Rapid-impact interventions": how a policy of integrated control for Africa's neglected tropical diseases could benefit the poor. PLoS Med. 2005 Nov;2 (11):e336.
[90] J. Norris, C. Adelman, Y. Spantchak and K. Marano, 2012. Social and economic impact review on negelected tropical diseases. Hudson Institute's Center for Science in Public Policy in conjunction with the Global Network.
[91] Fenwick A, Molyneux D, Nantulya V. Achieving the Millennium Development Goals. *Lancet* 2005; **365:** 1029–30.
[92] Conteh, L, Engels, M, Molyneux DH 2010. Socioeconomic aspects of neglected tropical diseases. Lancet 2010; 375: 239–47.
[93] Conteh, L, Engels, M, Molyneux DH 2010. Socioeconomic aspects of neglected tropical diseases. Lancet 2010; 375: 239–47.
[94] Brooker S, Kabatereine NB, Fleming F, Devlin N. Cost and cost-effectiveness of nationwide school-based helminth control in Uganda: intra-country variation and effects of scaling-up. *Health Policy Plan* 2008; **23:** 24–35.

Table 43: Cost-Effectiveness of Neglected Tropical Disease Control[95]

	Intervention*	Cost per DALY averted (US$)
Chagas disease	Vector control	317
Lymphatic filariasis	In implementation units (districts) where prevalence is higher than 1%, annual mass drug administration to treat the entire population at risk for 5–7 years: ivermectin and albendazole in Africa and diethylcarbamazine and albendazole in onchocerciasis-free countries:	
	• to interrupt transmission and achieve elimination of public health problem	5–10
	• to initiate morbidity control, surgery, and lymphoedema management	35
	Fortified salt with diethylcarbamazine (China)	1–4
	Vector control	59–370
Schistosomiasis	Mass school-based treatment with praziquantel and albendazole to combine with schistosomiasis treatment	10–23
	Mass school-based treatment with praziquantel alone	410–844
Trachoma	Surgery to repair eyelids, trachoma control based on SAFE strategy: Surgery, Antibiotic treatment, Face washing, and Environmental control	5–100
Onchocerciasis	Community-directed treatment programmes with ivermectin	9
Soil-transmitted helminthiasis (hookworm, roundworm, and whipworm)	Mass school-based treatment with albendazole or mebendazole	2–11
Leprosy	Case detection and treatment with multidrug therapy with donated drugs	46
	Prevention of disability	1–122
Dengue fever	Case management	716–1757
	Environmental control	>2440
Leishmaniasis	Case finding and treatment	11–22
African trypanosomiasis	Case finding and treatment:	
	• with melarsoprol	<12
	• with eflornithine	<24

The table is an adaptation of references 58 and 59 based on the work of reference 60. Adjusted from original US dollars in 2001 to US dollars in 2008 with constant dollar rate Bureau of Labour Statistics.[30] *Donated drugs are ivermectin for onchocerciasis and lymphatic filariasis; albendazole for lymphatic filariasis; mebendazole for soil-transmitted helminthiasis (proportion of need); azithromycin for trachoma; melarsoprol, eflornithine, and suramin multidrug therapy for leprosy; pentamidine for African trypanosomiasis; and praziquantel for schistosomiasis (proportion of need).

[95] Conteh et al. (2010).

Control and Elimination of Malaria and NTDs are Public Goods both at the National and at the Regional Level

12. Malaria and NTD control is a regional public good, which can be characterized by exclusion (non-endemic areas are excluded from the benefits of disease control policies) and non-rivalry (in endemic areas, implementing disease control policy will benefit everyone equally). Successful control and elimination programs in one country may be undermined by cross-border traffic from neighboring countries where there are limited or no malaria and NTD control or elimination programs. Disease distribution does not recognize national borders, and thus because cross-border movement of populations, often on a large scale, is very common, the effect of a successful malaria or NTD control program in one country may be offset by incoming populations from neighboring countries where there are weak disease control programs. Concerted action across the whole of the sub-Saharan region is vitally important to gain the full benefit of the integrated malaria and NTD control programs and prevent erosion of the gains already made.[96] Neighboring countries will need to work together to exchange experience in planning, implementation, training and advocacy via a regional approach to NTD and malaria control and elimination.

13. From a public perspective, regional benefits and positive externalities of malaria, onchocerciasis, LF, and trachoma elimination are substantial, and even more so when cross-border movements are facilitated, as they are in the ECOWAS region. If a country eliminates malaria and implements PC-NTD, its neighbors are directly benefiting from this policy by reducing the number of imported cases of malaria and PC-NTDs. This regional "public good" characteristic of malaria and PC-NTD elimination strongly suggests that collective action is needed to support and coordinate control and elimination efforts at a regional level.

14. For regional public goods like malaria and PC-NTDs, two types of action can be distinguished for a given country: (1) policies implemented at national scale to limit the stock of disease within the country, and (2) policies aiming at controlling cross-border transmissions to limit the flow of disease between countries. These two approaches can have different implications, especially with respect to the distribution of benefits between countries. Since cross-border transmission occurs most often from countries with high incidence to countries with low incidence, the marginal value of limiting cross-border transmission is higher for countries with relatively low incidence of disease. When the incidence of disease is high however, the marginal value of controlling and reducing the stock of disease is higher than the marginal value of controlling cross-border transmission.

15. Given the regional public good dimension of malaria and PC-NTD control and elimination, in an environment of limited donor funding for malaria and PC-NTD elimination, regional funds would present a novel and attractive option to leverage contributions from national governments of PC-NTD and malaria-eliminating countries as well as from other government donors.

[96] Fenwick A, Zhang Y, Stoever K. Control of the Neglected Tropical Diseases in sub-Saharan Africa: the Unmet Needs. *International Health* 2009; 1: 61-70.

16. The economic analysis for this package of interventions is based on a standard cost-benefit analysis (CBA) comparing the net present value of the benefits anticipated from Project implementation with the net present value of the associated costs.

Estimated Benefits

- The approach to calculate the expected benefits was to first estimate the number of work years saved as a result of the key interventions delivered by the project. Estimates are based on the difference between a constant incidence scenario, and a scenario of decreasing incidence consistent with the expected impact of the project's interventions. Factors such as limitations of anti-malaria coverage, treatment success rates, and the recurrence of disease are taken into consideration.
- Work year saved are then valued using output per person of working age in the different countries, taking into account forecasts of future productivity growth from the IMF.
- The monetized gains are then compared in net present value terms to the actual cost of the project over the project 10 years horizon.
- Based on existing studies, it is assumed that the effective scaling up of key malaria control interventions as described in Annex 6 can result in a reduction of malaria incidence of about 75 percent at the end of the project [97][98](Table 44). Moreover, it is assumed that the elimination stage for the PC-NTDs will come at the end of the Project.

Table 44: Expected Impact on Malaria Incidence Rate by Country

Incidence rate	2015	2016	2017	2018	2019
Burkina Faso	42.2%	32.0%	24.2%	18.4%	13.9%
Mali	15.2%	11.5%	8.7%	6.6%	5.0%
Niger	24.6%	18.7%	14.1%	10.7%	8.1%
Total	***27.7%***	***21.0%***	***15.9%***	***12.0%***	***9.1%***

[97] Cibulskis R. WHO Informal Consultation on Global Malaria Control and Elimination: A Technical Review. Geneva: World Health Organization; 2008.

[98] WHO 2013 Seasonal malaria chemoprevention with sulfadoxine–pyrimethamine plus amodiaquine in children: a field guide. World Health Organization, Geneva.

Table 45: Total Projected Malaria Cases

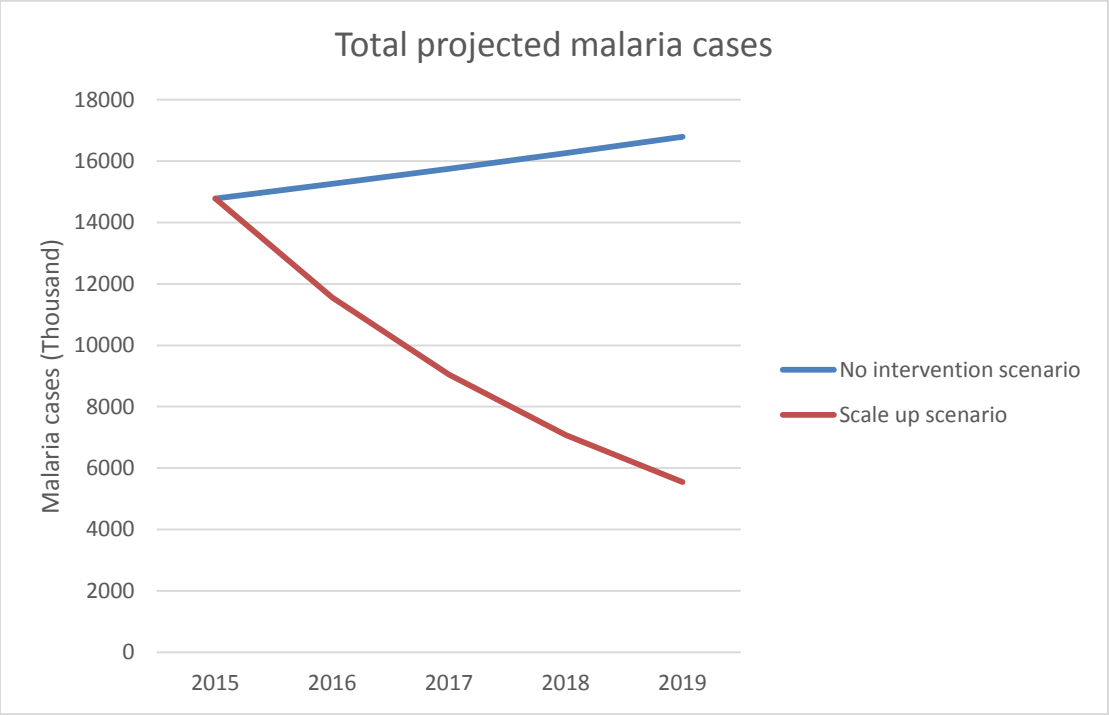
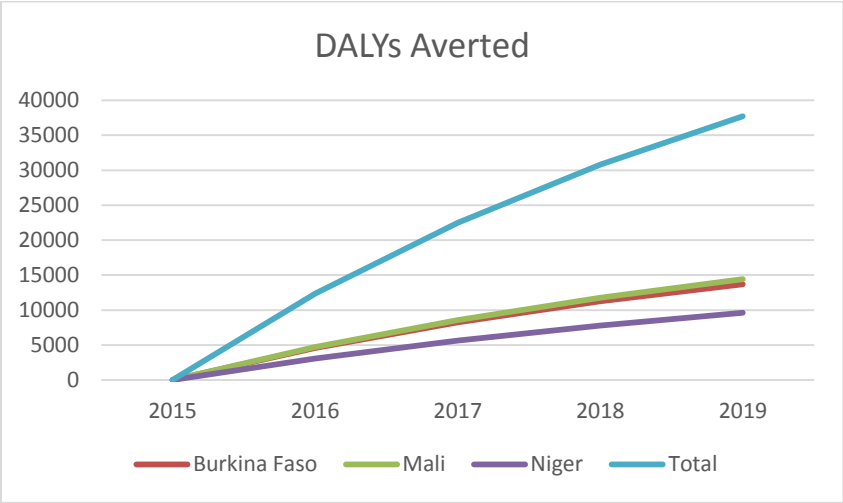


Table 46: Total Projected Malaria Cases Averted (Thousands)

Cases averted (thousand)	2015	2016	2017	2018	2019
Burkina Faso	0	1882	3401	4637	5654
Mali	0	618	1121	1536	1882
Niger	0	1195	2183	3012	3717
Total	***0***	***3684***	***6688***	***9164***	***11230***

17. Using the most recent available data from WHO and from IHME, the averted malaria cases (Table 46) are converted into DALYs (Table 47), which combine the number of years of life lost because of malaria related mortality and healthy years lost because of disability in the case of survival. Moreover, DALYs averted from the elimination of schistosomiasis, STH, onchocerciasis, and trachoma are also added (Table 47).

Table 47: Total Projected DALYs Averted for Malaria and NTDs



DALYs averted (malaria and NTDs)	2015	2016	2017	2018	2019
Burkina Faso	0	4605	8277	11264	13719
Mali	0	4801	8637	11795	14427
Niger	0	3141	5681	7809	9616
Total	***0***	***12546***	***22595***	***30868***	***37762***

18. In order to avoid overestimating the benefits, an individual recurrence rate for malaria episodes of 40 percent is applied. This rate reflects the fact that an individual can be exposed to malaria episodes more than once per year. WHO estimates that an individual can contract no more than 5 times per year. The assumption is of an average 2.5 episodes per year.

19. Next, the World Economic Outlook (IMF) projections of real GDP growth for Burkina Faso, Mali, and Niger is used to value individual years of work saved over a 10 years horizon. The sum of the monetized benefit flows is then discounted at a rate of 3 percent over the 10 years horizon, and the present value (PV) of scaling up the key interventions supported by this project is US$158.2 million.

20. The estimated net present value (NPV) of the proposed project is US$54.7 million. This implies a benefit-to-cost ratio (BCR) of 1.3 and an internal rate of return (IRR) of 10 percent.(Table 48)

Table 48: Summary of Cost-Benefit Analysis

SUMMARY OF COST BENEFIT ANALYSIS	
Total costs (million USD)	121
Total benefits (million USD)	212.6
Discount rate	3%
Present Value of benefits	158.2
Net Present Value (NPV)	54.66
Internal Rate of Return (IRR)	10%
Benefit-to-Cost Ratio	1.3

Annex 8: Glossary and Bibliography

SAHEL MALARIA AND NTD PROJECT

GLOSSARY

Co-implementation	Integrated implementation of two or more activities in a cost-effective manner.
Community Directed Intervention	Process of health intervention where beneficiary community as a unit partners with other stakeholders in planning, decision making, implementation, and review of intervention outcome
Disease Control	Disease control refers to the reduced incidence or prevalence of a disease or its manifestations to a level that it is no longer considered a public health problem. Treatment measures are still required to prevent reoccurring infection.
Disease Elimination	Disease elimination refers to the cessation of transmission of a disease in a single country, continent, or other limited geographic area. Although the disease itself may remain, the transmission of infection has been reduced to the extent that interventions can be safely stopped (incidence below one case per 10,000 people). Post-intervention surveillance remains necessary until global eradication. It is important to note that although elimination may occur in several foci in a given country, a country cannot be declared free of a disease until the certification of WHO Elimination Committee of the entire country.
Endemic Area	Area in which the average resident population or any subunit of population has a positivity rate of filarial antigenaemia or microfilaraemia equal to or greater than 1 percent.
Hydrocele	Collection of excess fluid inside the scrotal sac that causes the scrotum to swell or enlarge, resulting from lymphatic filariasis complications.
Integration	Creation of linkages among existing programs to improve the delivery of health interventions given existing community resources
Logistics	In the public and NGO sectors, it is generally agreed that logistics is a support service to the programs and as such must provide programs with goods, materials and equipment "at the right place, at the right time, in the right quantity and quality, and at the right price". Its key functions are: assessment and planning, procurement, transport and storage management, and reporting (i.e.: supply chain management). Logistics must put in place standardized systems and procedures for control and commodity tracking, in order to provide full accountability.
Mass Drug Administration	Treatment of an entire population in a geographic area (e.g., state, region, province, district, sub-district, village) with a curative drug without first testing for infection and regardless of the presence of symptoms.

Mobile Surgery Units of Hydrocele and Trichiasis	Mobile surgery units reverse clinical manifestations of NTD infections with simple procedures at the community level. Mobile surgery units reduce the backlog of cases requiring surgery for hydrocele and trichiasis, provide care for those who suffer from their infections, improve quality of life, and return people to the productive workforce.
Morbidity Management and Disability Prevention	Management of morbidity and disability requires a broad strategy involving both secondary and tertiary prevention. Morbidity management and disability prevention must be continued in endemic communities after mass drug administration has stopped and after surveillance and verification of interruption of transmission, as chronically affected patients are likely to remain in these communities.
Neglected Tropical Diseases	NTDs are primarily infectious diseases that thrive in impoverished settings, especially in the heat and humidity of tropical climates. They have been largely eliminated elsewhere and thus are often forgotten. WHO focuses on the eradication, elimination, prevention and control of 17 neglected tropical diseases: dengue, rabies, trachoma, Buruli ulcer, endemic treponematoses, leprosy, Chagas disease, human African trypanosomiasis, leishmaniases, cysticercosis, dracunculiasis, echinococcosis, foodborne trematodiases, lymphatic filariasis, onchocerciasis, schistosomiasis and soil-transmitted helminthiases.
Preventive Chemotherapy	The use of anthelminthic drugs, either alone or in combination, as a public health tool against helminth infections. Mass drug administration is one modality of preventive chemotherapy.
Preventive Chemotherapy-Neglected Tropical Diseases	A sub-set of NTDs for which a prevention strategy exists as well as on tools and the availability of safe and effective drugs that make it feasible to implement large-scale preventive chemotherapy through mass drug administration. This sub-set includes: lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminths, and trachoma.
Trichiasis	Visual impairment from trachoma defined as one or more lashes touching the globe or evidence of epilation.

BIBLIOGRAPHY

1. Aagaard-Hansen J, and Chaignat CL. (2010) Neglected tropical diseases: equity and social determinants. World Health Organisation. Equity, Social Determinants and Public Health Programmes (Ch. 8).
2. Aylward B, Hennessey KA, Zagaria N, Olive JM, Cochi S. (2000) When is a Disease Eradicable? 100 Years of Lessons Learned. *Am J Public Health*. 90:1515-1520.
3. Azemar C, Desbordes R. (2009) Public governance, health and foreign direct investment in Sub-Saharan Africa. Journal of African Economies, 18(4). Pp. 667-709.
4. Baird JK. Eliminating malaria-all of them. *Lancet* 2010, Volume 376, Issue 9752. DOI: 10.1016/S)140-6736(10)61499-7.
5. Baird S, Hicks JH, Miguel E, and Kremer M. (2012) Worms at work: Long run impacts of child health gains. *Harvard working paper*. http://scholar.harvard.edu/kremer/publications/worms-work-long-run-impacts-child-health-gains
6. Brooker S, Kabatereine NB, Fleming F, Devlin N. (2008) Cost and cost-effectiveness of nationwide school-based helminth control in Uganda: intra-country variation and effects of scaling-up. *Health Policy Plan*; 23: 24–35.
7. Cairns M, et al. (2012) Estimating the potential public health impact of seasonal malaria chemoprevention in African children. *Nature Communications;* 3:881.
8. Cibulskis R. (2008) WHO Informal Consultation on Global Malaria Control and Elimination: A Technical Review. Geneva: World Health Organization.
9. Conteh L, Engels M, Molyneux DH. (2010) Socioeconomic aspects of neglected tropical diseases. *Lancet*; 375: 239–47.
10. Das P, Horton R. (2010) Malaria elimination: worthy, challenging, and just possible. *Lancet*, Volume 376, Issue 9752. doi: 10.1016/So140-6736(10)61551-6
11. Dembe le M, et al. (2012) Implementing preventive chemotherapy through an integrated national neglected tropical disease control program in Mali. *PLoS Negl Trop Dis*, 6(3): e1754.
12. Diaz T, Aboubakar S, and Young M. (2014) Current scientific evidence for integrated community case management in Africa: Evidence from the iCCM Symposium. *Journal of Global Health*; Vol 4, No 2.
13. Dillon A, Friedman J and Serneels P. (2014) Health information, treatment, and worker productivity: Experimental evidence from malaria testing and treatment among Nigerian sugarcane cutters. CSAE working paper WPS/2014-13.
14. Feachem RGA, Phillips AA, Targett, GA, Snow RW. (2010) Call to action: priorities for malaria elimination. *Lancet;* Vol. 376, Issue 9752. doi: 10.1016/20140-6736(10)61500-0
15. Feachem, RGA, Malaria Elimination Group. (2009) Shrinking the Malaria Map: a guide on malaria for policy makers. San Francisco: UCSF Global Health Group. ISBN-13: 978-0-615-28480-4
16. Feachem RGA, Phillips AA, Hwang J, et al. (2010) Shrining the malaria map: progress and prospects. *Lancet*; Volume 376, Issue 9752.
17. Fenwick A. (2012) The global burden of neglected tropical diseases. *Public Health,* 126, 233-236.
18. Fenwick A, Molyneux D, Nantulya V. (2005) Achieving the Millennium Development Goals. *Lancet*; 365: 1029–30.

19. Fenwick A, Zhang Y, Stoever K. (2009) Control of the neglected tropical diseases in sub-Saharan Africa: the unmet needs. *International Health*, Vol. 1, No. 1, 61-70.
20. Gallup JL, Sachs JD. (2001) The economic burden of malaria. *Am J Trop Med and Hygiene*, 64:85-96.
21. Gilgen DD, Mascie-Taylor CG, Rosetta LL. (2001) Intestinal helminth infections, anemia and labour productivity of female tea pluckers in Bangladesh. *Tropical Medicine & International Health*; (6) 449-57.
22. Global Partnership to Roll Back Malaria. A decade of partnership and results. Geneva: World Health Organization, 2011. ISBN 9789241502245
23. Hotez PJ. (2008) Stigma: The stealth weapon of the NTD. *Plos Neglected Tropical Diseases;* 2(4):e230.
24. Hotez PJ. (2009) Devastating Global Impact of Neglected Tropical Diseases. *American Society for Microbiolgy. Microbes Magazine.*
25. Jamison DT et.al. (2035) Global Health 2035: a world converging within a generation. The *Lancet*, Vol. 382, Issue 9908, pp. 1898-1955.
26. Katabarwa MN, Mutabazi D. (2000) Controlling onchocerciasis by programmes in Uganda: why do some communities succeed and others fail? *Annals of Tropical Medicine and Parasitology;* 94: 343–353.
27. Kelly GC, Tanner M, Vallely A, Clements A. (2012) Malaria elimination: moving forward with spatial decision support systems. *Trends in Parasitology*, Vol. 28, No.7.
28. Kweku M, et al. (2009) Options for the delivery of intermittent preventive treatment for malaria to children; a community randomized trial. *PLoS One*, 4: e7256.
29. Malaria Consortium. (2013) Seasonal Malaria Chemoprevention: Briefing Note.
30. Marsh K. (2010) Research priorities for malaria elimination. *Lancet*, Volume 376, 9752. doi: 10.1016/S0140-6736(10)61499-7
31. Martin, G. (2010/13) Portfolio review of World Bank lending for communicable disease control. *IEG Working Paper*.
32. Massa K, Magnussen P, Sheshe a, Ntakamulenga R, Ndawi B, et al. (2009) Community perceptions on the community-directed treatment and school-based approaches for the control of schistosomiasis and soil-transmitted helminthiasis among school-age children in Lushoto District, Tanzania. *Journal of Biosocial Science;* 41: 89–105. http://www.ncbi.nlm.nih.gov/pubmed/18647439
33. McCarthy F, Wolf HCD, and Wu Y. (2000) Malaria and growth. World Bank Policy Research Working Paper No. 2303.
34. Meremikwu MM, Donegan S, Sinclair D, Esu E, Oringanje C. (2012) Intermittent preventive treatment for malaria in children living in areas with seasonal transmission.
35. Ministry of Health Cape Verde and the World Health Organization and the University of California, San Fransisco. (2012) Eliminating malaria. Moving towards sustainable elimination in Caoe Verde. Geneva: The World Health Organization.
36. Molyneux DH, Hotez PJ, Fenwick A. (2005) "Rapid-impact interventions": how a policy of integrated control for Africa's neglected tropical diseases could benefit the poor. PLoS Med. Nov; 2 (11):e336.
37. Molyneux DH, Weerasooriya M, Guanatileke G. (2007) Neglected patients with a neglected disease? A qualitative study of lymphatic filariasis. *PLos Negl Trop Dis*; 1:e128.
38. Moonen B, Cohen JM, Snow RW, et al. (2010) Operational strategies to achieve and maintain malaria elimination. *Lancet*, Volume 376, Issue 9752. doi: 10.1016/S0140-6736(10)61269-X

39. Moonen B, Vohen JM, Tatem AJ, Cohen J, Hay SI, Sabot O, Smith DL. (2010) A framework for assessing the feasibility of malaria elimination. *Malar J*. 9:322. doi: 10.1186/1475-2875-9-322
40. Norris J, Adelman C, Spantchak Y and Marano K. (2012) Social and economic impact review on neglected tropical diseases. Hudson Institute's Center for Science in Public Policy in conjunction with the Global Network.
41. Ramaiah, K.D. et al. (2000). The Economic burden of lymphatic filariasis in India. *Parasitology Today*; 16: 151 – 253.
42. Sabot O, Cohen JM, Hsiang MS, et al. (2010) Costs and financial feasibility of malaria elimination. *Lancet*, Volume 376, Issue 9752. DOI: 10.1016/S0140-6736(10)61355-4
43. Sachs, Malaney. (2002) The economic and social burden of malaria. Nature 415(6872): 680-5.
44. Samuels F, Rodríguez Pose R. (2013) Why neglected tropical diseases matter in reducing poverty. Development progress, Working Paper 03. http://www.odi.org/publications/7606-neglected-tropical-diseases-matter-reducing-poverty
45. Serigne Tacko Kandji, Louis Verchot and Jens Mackensen. (2006) Climate Change and Variability in the Sahel Region: Impacts and Adaptation Strategies in the Agricultural Sector.
46. Stienstra Y, Wan der Graaf WTA, Asamoa K, Van der Werf TS. (2002) Beliefs and attitudes toward Buruli ulcer in Ghana. *Am J Trop Med Hyg;* 67: 207-213.
47. Tatem AJ, Smith DL, Gething PW, Kabaria CW, Snow RW, Hay SI. (2010) Ranking of elimination feasibility between malaria-endemic countries. *Lancet*, Volume 376, Issue 9752. doi:10.1016/S0140-6736(10)61301-3
48. Torre C et al. (2014) Evaluation of a mobile reporting system for the collection of routine malaria data in Mali. MEASURE Evaluation.
49. Tusting LS, Willey B, Lucas H et al. (2013) Socioeconomic development as an intervention against malaria: a systematic review and meta-analysis. *Lancet*.
50. Vlassoff C, Weiss M, Ovuga EBL, Eneanya C, NWel PT et al. (2000) Gender and the stigma of onchocercal skin disease in Africa. *Social Sci Med;* 50: 1353-1368.
51. Weiss MG, Ramakrishna J. (2006) Stigma interventions and research for international health. *Lancet;* 367: 536-538.
52. White M, Conteh L, Cibulskis R, and Ghani A. (2011) Cost and cost-effectiveness of malaria control interventions – a systematic review. *Malaria Journal ;* 10:337.
53. Whittaker MA, Dean AJ, Chancellor A. (2014) Advocating for malaria elimination – learning from the successes of other infectious disease elimination programmes. Malaria Journal, 13:221. Doi: 10.1186/1475-2875-13-221
54. World Bank. (2005) Framework for Action: Booster Program for Malaria Control in Africa, scaling up for impact (SUFI). *Working paper*.
55. World Bank. (2013) Health or Wealth: Which Comes First? *Africa Health Forum*.
56. World Bank. Phase I of the World Bank Booster Program for Malaria Control in Africa, FT 2006 – 2008: Achievements, Challenges, Lessons for Phase II. Washington DC, World Bank, 2009.
57. World Bank. Rolling Back Malaria: Global Strategy & Booster Program. International Bank for Reconstruction and Development/ World Bank: Washington DC, 2005. ISBN-10:0-8213-6199-6
58. World Bank. The World Bank Booster Program for Malaria Control in Africa, scaling-up for impact (SUFI): a two-year progress report. Washington DC, World Bank, 2009. http://www.worldbank.org/afr/malaria

59. World Bank. The World Bank's Booster Program for Malaria Control in Africa. Washington DC, International Bank for Reconstruction and Development/World Bank, 2009.
60. WHO. (2012) Accelerating work to overcome the global impact of neglected tropical diseases – A roadmap for implementation. http://www.who.int/neglected_diseases/NTD_RoadMap_2012_Fullversion.pdf
61. WHO. Global Malaria Control and Elimination: report of a technical review. Geneva: WHO, 17-18 January 2008. ISBN: 978 92 4 1596756
62. World Health Organization. (2007) Global plan to combat neglected tropical diseases 2008–2015. http://whqlibdoc.who.int/hq/2007/who_cds_ntd_2007.3_eng.pdf
63. WHO. (2002) Global Public Goods for Health: Report of the Commission on the Macroeconomics of Health.
64. WHO. (2010) Guidelines for the treatment of malaria: Second Edition.
65. WHO. Malaria Elimination: A Field Manual for Low and Moderate Endemic Countries. Geneva: World Health Organization, 2007. ISBN-978 92 4 159 608 4 http://globalhealthsciences.ucsf.edu/sites/default/files/content/ghg/mei-effective-responses.pdf
66. WHO. (2008) Preventive Chemotherapy and Transmission Control: Burkina Faso Country Profile. Accessed on January 29 2015 from: http://www.who.int/neglected_diseases/preventive_chemotherapy/databank/CP_2008_Burkina_Faso.pdf?ua=1
67. WHO. (2010) Preventive Chemotherapy and Transmission Control: Mali Country Profile. Accessed on January 29 2015 from: http://www.who.int/neglected_diseases/preventive_chemotherapy/databank/CP_Mali.pdf?ua=1
68. WHO. (2010) Preventive Chemotherapy and Transmission Control: Niger Country Profile. Accessed on January 29 2015 from: http://www.who.int/neglected_diseases/preventive_chemotherapy/databank/CP_Niger.pdf?ua=1
69. WHO. (2013) Regional Strategic Plan for Neglected Tropical Diseases in the African Region 2014–2020. Brazzaville, World Health Organization, Regional Office for Africa.
70. WHO. (2013) Seasonal malaria chemoprevention with sulfadoxine–pyrimethamine plus amodiaquine in children: a field guide.
71. World Health Organization/APOC. (2013) Programme for the Elimination of Neglected Diseases in Africa (PENDA): Strategic Plan of Action and Indicative Budget 2016-2025.
72. WHO/UNICEF. (2012) Integrated Community Case Management (iCCM) an equity-focused strategy to improve access to essential treatment services for children.
73. UCSF Global Health Group & Malaria Atlas Project. (2011) Atlas of malaria-eliminating countries, 2011. San Francisco. ISBN-13: 978-0-9825029-6-9
74. UCSF Global Health Group. (2014) Effective program management: a cornerstone of malaria elimination. *Background paper*.
75. UCSF Global Health Group. (2014) Effective responses to malaria importation. *Background paper.*
76. UCSF Global Health Group. (2013) Financing malaria elimination: current trends and recommendations. *Policy brief.*
77. UCSF Global Health Group. (2014) Program management issues in implementation of elimination strategies. *Background paper.*

http://globalhealthsciences.ucsf.edu/sites/default/files/content/ghg/mei-program-management-issues.pdf
78. UCSF Global Health Group. (2014) Review of mass drug administration and primaquine use. *Background paper.* http://globalhealthsciences.ucsf.edu/sites/default/files/content/ghg/mei-review-of-mda-and-primaquine.pdf
79. UCSF Global Health Group. (2014) The impact of the Global Fund's new funding model on the 34 malaria-eliminating countries. *Brief.*
80. United Nations Economic for Africa and African Climate Policy Center. (2011) Climate change and health across Africa: Issues and options. Working Paper 20. Accessed on January 15, 2015 from http://www.uneca.org/sites/default/files/publications/wp20-climate_change_and_health.pdf
81. UKCANTDs. (2012) *Annual Report 2012 : Report for the All-Party Parliamentary Group on Malaria and Neglected Tropical Diseases (APPMG).* http://www.schoolsandhealth.org/Documents/APPMG%20Annual%20NTD%20Report%202012.pdf.
82. Xu K, Evans DB, Kawabata K, Zeramdini R, Klavus J, Murray CJL. (2013) Household catastrophic health expenditure: a multicountry analysis. *Lancet*; 362: 111–17.
83. Young M, et al. (2014) The way forward for integrated community case management programmes: a summary of lessons learned to date and future priorities. *J Glob Health*, 4(2).