



Ghana

FY2016

Control of Neglected Tropical
Diseases

Annual Work Plan
October 2015 to September 2016

Date: 31st July, 2015

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Acronyms and Abbreviations

AEs	Adverse Events
AE-f-MDA	Adverse Events following MDA
AFRO	WHO Regional Office for Africa
ALB	Albendazole
APOC	African Program for Onchocerciasis Control
BCC	Behaviour Change Communication
CDC	The United States Centers for Disease Prevention and Control
CDD	Community Drug Distributor
CDTI	Community Directed treatment with Ivermectin
CMS	Central Medical Stores
CNTD	Center for Neglected Tropical Diseases
DQA	Data Quality Assessment
DSA	Disease Specific Assessment
FHI360	Family Health International 360
FOG	Fixed Obligation Grants
GAR	Greater Accra Region
GES	Ghana Education Service
GHS	Ghana Health Service
GoG	Government of Ghana
ICCC	Intra Country Coordinating Committee
ICT	Immuno-Chromatographic Test
IEC	Information Education and Communication
IVM	Ivermectin
JSI	John Snow Incorporated
LATH	Liverpool Associate of Tropical Health
LF	Lymphatic Filariasis
M&E	Monitoring and Evaluation
MDA	Mass Drug Administration
MDP	Mectizan Donation Program
MOH	Ministry of Health
NECP	National Eye Care Program
NHIS	National Health Insurance Scheme
NMIMR	Noguchi Memorial Institute for Medical Research
NTD	Neglected Tropical Diseases
NTDP	Neglected Tropical Diseases Program
OCP	The World Health Organization's West African-Based Onchocerciasis Control Program
PCD	Partnership for Childhood Development
PC NTDs	Neglected Tropical Diseases targeted through Preventive Chemotherapy
Pre-TAS	Pre-Transmission Assessment Survey
PZQ	Praziquantel
RMS	Regional Medical Stores
RPRG	Regional Peer Review Group
RTI	Research Triangle Institute
SAC	School-Age Children

SAE
SCH
USAID

WHO

Severe Adverse Events
Schistosomiasis
United States Agency for International
Development
World Health Organization

COUNTRY OVERVIEW

General background information on country structure

Ghana lies on the West Coast of Africa between latitudes 5° and 11° North of the Equator and between longitudes 1° East and 3° West of the zero meridian. The country is bordered by the Atlantic Ocean (Gulf of Guinea) on the South, Togo on the East, Cote d'Ivoire on the West and Burkina Faso on the North. The country has an area of 238,537 square kilometers with 550 kilometers of coastline. Ghana has a typical tropical climate with average temperatures ranging between 21 and 32 degrees Celsius. There are three clear geographic zones: dry northern savannah; the humid middle rain forest zone; and the coastal savannah and mangroves. There are six major rivers with several tributaries, some of which are fast flowing. One of the rivers, River Volta covering about 3% of the country has been dammed for hydroelectric power generation creating the Volta Lake.

Yaws and buruli ulcer are prevalent in the humid forest zone while the rivers and lakes predispose to onchocerciasis along the fast flowing tributaries and schistosomiasis (SCH) is prevalent in the areas with more stagnant waters. The coastal and dry northern zones are found to be more prevalent with lymphatic filariasis (LF).

Ghana is divided into 10 administrative regions and 216 administrative districts¹. Each region is headed by a political administrator (Regional Minister) while the districts are headed by District Chief Executives. All districts have been subdivided into sub-districts with each covering a defined geographic area of 20,000-30,000 people. The implementation unit of health programs is the district level.

Almost 80% of control activities for neglected tropical diseases (NTD) managed through preventive chemotherapy (PC) in Ghana are supported by the United States Agency for International Development (USAID). The Neglected Tropical Disease Program (NTDP) receives some support from other partners: the Liverpool Centre for Neglected Tropical Diseases (CNTD) supports some NTD activities including mass drug administration (MDA) and disease specific assessments (DSAs) in the Greater Accra Region (GAR) while Sightsavers-Ghana and the World Health Organization (WHO) African Program for Onchocerciasis Control (APOC) supports the second round MDA and DSA activities for onchocerciasis. However with APOC mandate coming to an end in December 2015 the NTDP will have further funding gap that must be covered by other partners. The Volta River Authority (VRA), a government owned company that runs the Akosombo Hydroelectric Plant, supports activities for SCH control along the Volta Lake as part of its corporate social responsibilities as SCH is highly prevalent in this area due to the creation of the power plant. Partnership for Child Development (PCD) supports MDA for soil transmitted helminthiasis (STH) control usually in districts where USAID is not supporting STH treatment through MDA for LF (LF treatment includes albendazole which is effective against STH) or MDA for SCH (the NTDP usually conducts an integrated SCH and STH MDA in primary schools). However, PCD indicated at the Annual NTDP Work Planning Session to develop the FY2016 work plan that they are not in the position to support the NTDP financially in the 2016 program cycle. The WHO Country Office in Ghana generally serves as consignee for NTDP logistics including drugs, DSA

¹ There were 170 districts but a re-demarcation was done in 2012 as some of the previous 170 districts were considered too large in terms of population and were divided resulting in a total of 216 districts presently in the 10 regions.

equipment and supplies, provides technical support and funds some NTD activities. Presently WHO has provided funds for the NTDP to complete the identification of communities with at risk adults that need treatment for SCH. The United States Centers for Diseases Prevention and Control (CDC) has been providing in the past 12 months technical and financial support for passive surveillance of LF in Ghana. The Ministry of Health (MoH) provides storage space for NTDP drugs and other logistics in the central medical stores (CMS) at the national level and the regional medical stores (RMS) located across the 10 regions of the country.

FY2016 Activities Summary

USAID funded activities:

- To conduct integrated LF, onchocerciasis and STH MDA in 105 districts targeting an at-risk population of 5,799,252.
- To conduct school-based MDA for SCH in 216 districts and STH in 194 districts.
- To conduct community-based SCH treatment for adults in selected high-risk communities of 47 districts.
- To conduct pre-transmission assessment survey (Pre-TAS) in 7 districts.
- To conduct transmission assessment survey (TAS) in 73 districts involving 30 EUs (TAS1 for stopping MDA in 9 districts; and TAS2 or 1st post-MDA TAS in 64 districts).
- To conduct cascaded refresher training for health workers, school health education program staff, teachers and community drug distributors (CDDs) at all levels from national to the sub-district level for all MDAs.
- To train 30 laboratory and program officers from the regional level to support onchocerciasis DSA activities.
- To conduct monitoring and supervision of NTDP activities (MDAs, DSAs) at the regional and districts levels.
- To organize meeting of NTDP partners, researchers and MoH to disseminate findings of trachoma pre-validation survey.
- To put together a dossier on trachoma elimination in Ghana for submission to WHO.
- To revise and update the advocacy and resource mobilization document of the NTDP
- To update the TIPAC tool with 2016 data.
- To improve knowledge and awareness of the 5 PC NTDs and their control/elimination strategies within at-risk communities and enhance NTDP visibility through interaction with existing and potential partners, publications, and use of flip charts, and information, education and communication (IEC) materials.

Other activities:

- To hold planning, technical and portfolio review meetings for the NTDP to improve quality of intervention delivery.
- To conduct quarterly intra-country coordination committee meeting (ICCC).
-

Funded by other sources:

- To conduct a second round onchocerciasis MDA in 44 districts targeting an at-risk population of 2,582,983.
- To conduct epidemiological and entomological surveys for onchocerciasis in 60 and 16 sentinel sites respectively.

Table 1: NTD partners working in country, donor support and summarized activities

Partner	Location (Regions/ States)	Activities	Is USAID providing direct financial support to this partner? <i>(Do not include FOG recipients)</i>	Other donors supporting these partners/ activities?
Volta River Authority	Accra and Akosombo	Funding for SCH MDA in Volta and Eastern regions	No	NO
Partnership for Child Development	Accra	Funding for STH treatment	No	Yes (Bill & Melinda Gates Foundation)
CNTD	Liverpool	Technical and financial support for LF elimination activities in Greater Accra Region	No	Yes (DFID)
WHO	Accra/ AFRO	Technical and financial support for NTD control; serves as consignee for NTD drugs, DSA equipment and supplies from donors and partners; funded identification and selection of high risk SCH communities	No	Yes

Sightsavers	Accra	Technical support and funding for second round onchocerciasis MDA and onchocerciasis DSAs	No	Yes
CDC	Atlanta	technical and financial support for passive surveillance of LF in Ghana	Yes	Yes

National NTD Program Overview

The NTDP presently targets LF, trachoma and onchocerciasis for elimination. All disease elimination activities are implemented strictly according to WHO guidelines. The NTDP also strictly follows the guidelines of WHO in the management of SCH and STH but these 2 diseases are targeted for control because of the high reinfection rates noted and the predisposition of many communities to the two diseases due to poor environmental sanitation and sewage disposal which are known risk factors for re-infection. Control/elimination activities for the 5 PC NTDs are integrated as much as possible to maximise the limited resources and improve efficiency to achieve the greatest possible impact for any set of resources made available to the NTDP. Treatment of LF employs albendazole (ALB) and ivermectin (IVM) tablets. Albendazole is also effective against STH and is one of the drugs used for STH control while IVM is also used for treating onchocerciasis. Therefore MDA for LF and onchocerciasis are integrated with added benefit for STH where it is co-endemic with LF. Schistosomiasis MDA is usually integrated with MDA for STH in the same districts.

Lymphatic filariasis

Mass Drug Administration for LF started in 2001 with 5 districts and treatment was gradually scaled up to reach 100% geographic coverage around 2004. Presently, there are 98 out of 216 districts endemic for LF in 8 regions of Ghana with the exception of Volta and Ashanti regions where LF is non-endemic. Treatment strategies include annual MDA with IVM and ALB, DSAs conducted according to WHO guidelines, advocacy and behaviour change communication (BCC) for better acceptance and compliance to treatment within affected communities. Significant progress has been made so far with LF treatment: among the 98 endemic districts a total of 76 would have stopped MDA by the end of FY2015 leaving 22 districts expected to conduct MDA in FY2016. Five districts stopped MDA in 2010, 64 stopped MDA in 2015 and a further 7, where first TAS (TAS 1) was conducted in 2015, are expected to stop treatment in 2016 after the RPRG has reviewed the TAS² results. The 5 districts that stopped MDA in 2010 conducted and passed the last TAS (TAS 3) in 2015 subject to review and approval by the NTD Regional Peer Review Group (RPRG) set up by WHO. Among the 22 remaining endemic districts, Pre-TAS will be conducted in 7 districts in FY2016. The remaining 15 will conduct first TAS (TAS 1) for

² We consider the first TAS conducted to determine if MDA can be stopped as TAS1, the next TAS conducted 2-3 years after passing TAS1 is TAS2. TAS3 is the third TAS conducted 2-3 years after passing TAS2. TAS2 and TAS3 are also considered as the first and second post-treatment TAS which is part of the post-treatment surveillance.

making a decision to stop MDA in FY2016 if they pass the pre-TAS conducted in FY2015. Examination of the pre-TAS samples from the 15 districts is ongoing and results are expected before end of August 2015. Additionally, the 64 districts which conducted and passed TAS 1 in 2014 will conduct second TAS (TAS 2) in FY2016 as part of the active post treatment surveillance in those districts. In summary LF activities in FY2016 will include MDA in 22 districts, pre-TAS in 7 districts, TAS in 79 districts (15 TAS 1 and 64 TAS 2). The NTDP intends to review experience of ongoing passive post treatment surveillance (PTS) to put together a protocol to guide the conduct of PTS in the 5 districts that have passed TAS 3.

Morbidity management and disability prevention (MMDP) aspect of LF control has lagged behind in Ghana. The NTDP plans to start active work in this area. In 2015 the program tried to mobilize resources from the private sector to conduct MMDP in one region but this has not yielded results yet. In 2015 the NTDP plans to conduct MMDP intervention in one region of Ghana – the Western region known to have a lot of cases of elephantiasis and hydrocele. With a lot of the sufferers being farmers this conditions impacts negatively on their income generation ability. The program plans to train 28 nurses and medical assistants, and 250 CDDs to support clients to conduct self-care of elephantoid limbs. Ten Doctors will also be trained to conduct hydrocele surgeries for the clients under the National Health Insurance Scheme (NHIS). The NTDP intends to source funding to carry out this activity since MMDP is not a priority area under the current END in Africa Project financed by the NTDP's main donor USAID.

Onchocerciasis

Onchocerciasis control efforts started in 1974. However, between 1974 and 1997, treatment was limited to mainly vector control through aerial larviciding³. Community directed treatment with ivermectin (CDTI) strategy was introduced by APOC in 1998 and conducted in Ghana in districts that correspond today to 85 districts. Available baseline data (obtained during the World Health Organization's West African-Based Onchocerciasis Control Program (OCP)) were updated in 2009 through another survey conducted using the rapid epidemiological mapping for onchocerciasis (REMO) methodology. REMO results of 2009 indicated that 29 districts were hyperendemic (nodule prevalence $\geq 60\%$), 15 districts were mesoendemic (nodule prevalence 40%-59.9%), 91 districts were hypoendemic (nodule prevalence $< 40\%$) and the remaining 81 districts were non-endemic (nodule prevalence 0%). WHO guidelines implemented under APOC then recommended treatment for mesoendemic and hyperendemic districts only while treatment was not recommended in hypoendemic communities. However, the MOH NTDP decided to continue MDA for onchocerciasis in 41 of the 91 districts that were determined to be hypoendemic (nodule prevalence $< 40\%$) by the 2009 REMO but were treated prior to the REMO based on previous OCP onchocerciasis data. Since the REMO in 2009 the Ghana NTDP conducts biannual MDA in the 44 hyperendemic and mesoendemic districts (the second treatment occurs 6 months after the first MDA) and annual treatment in the 41 districts identified as hypoendemic by the REMO but were receiving treatment under the APOC CDTI campaign before the REMO was conducted. This treatment is expected to continue until steps are taken to systematically update the situation of onchocerciasis in these districts. In summary during FY2016 a total of 85 districts will receive treatment for onchocerciasis in Ghana. Biannual treatment will be conducted in 44 districts (29 hyperendemic and 15 mesoendemic) while 41 hypoendemic

³ The use of chemicals delivered by helicopters to kill larval stages of the vector (*Simulium damnosum* or black fly) that transmits onchocerciasis and are found in fast flowing rivers known as black fly breeding sites.

districts (treated prior to the REMO survey) will receive treatment once a year. As the NTDP considers a transition from onchocerciasis control to onchocerciasis elimination, clear guidelines are needed on the 41 hypoendemic districts receiving treatment as well as the other 50 hypoendemic districts that have never received treatment. It is expected that the program will be guided by a new WHO guidelines expected soon.

The NTDP conducts epidemiological and entomological surveys in sentinel sites selected to assess impact of MDAs on onchocerciasis endemic districts. There are 191 sentinel sites for epidemiological survey conducted by examining skin snips from a sample of the population. It is conducted once every three years. Due to funding and human resource constraints epidemiological survey has been conducted in batches. Thirty-eight and 58 sentinel sites were surveyed in 2013 and 2014 respectively while 66 districts are scheduled to conduct epidemiological survey in FY2015. The NTDP intends to conduct epidemiological surveys in 60 sentinel sites and blackfly infectivity studies in 16 sentinel sites in FY2016 according to the Multi-year Onchocerciasis Surveillance document.

Trachoma

Baseline studies for trachoma conducted in 1999-2000 indicated that trachoma is endemic in 37 out of 216 districts in 2 regions of Ghana (Northern and Upper West regions). Because of the specific nature of the disease which requires significant input from ophthalmologists and ophthalmic nurses, the NTDP has had to collaborate with the National Eye Care Program (NECP) in the treatment for trachoma using the SAFE (Surgery, Antibiotic therapy, Facial cleanliness, and Environmental management) strategy. Treatment was gradually scaled up in these 37 districts and in 2008 a study conducted in the 37 districts showed that prevalence of follicular trachomatous inflammation (TF) among children age 1-9 years was down to <5% in all the endemic districts and treatment was stopped at district level. The WHO guidelines for post-district-MDA surveillance was for 2 communities to be selected in each of the 37 endemic districts each year and a thorough investigation conducted to determine the level of TF among children 1-9 years old, and trachomatous trichiasis (TT) among older members of the communities studied (those ≥ 15 years old). Study for TF was conducted in schools and for TT within the general community and the communities were rotated each year based on information received from the district health authorities. District health authorities used information from the health facilities to select communities that were more likely to have cases of trachoma infection and recommended them to the NTDP for surveillance. After 3-4 years of such surveillance, 8 communities with TF prevalence between 5% and 9.9% were identified and treated for 3 years. The last of these 8 communities received the last treatment in FY2014 and no MDA for trachoma was conducted in FY2015. The NTDP has submitted a trachoma elimination validation survey protocol to the ethical review committee of the GHS which seeks to collect evidence to demonstrate elimination of trachoma in the 37 endemic districts and hence Ghana. The survey will provide the most current data on TF among children 1-9 years old, TT among persons ≥ 15 years old, and information on the facial cleanliness and environmental management components of the SAFE strategy. The results of the survey will be submitted to the NTD RPRG for review and certification. Planning for the survey is ongoing - training of ophthalmic nurses is scheduled for July-August 2015 with actual data collection in September 2015 when the rains have ceased in the Upper West and Northern regions. The survey is funded by USAID and Sightsavers.

Four key activities are expected to follow directly after the trachoma pre-validation survey. These activities listed below will constitute the main NTDP activities on trachoma for FY2016.

1. Pre-validation Survey Results Dissemination Meeting: The NTDP intends to hold a key meeting involving the MoH of Ghana, key NTD partners, other partners that have supported trachoma elimination efforts over the years and the academia in Ghana to review the survey results and make their inputs.
2. Validation Dossier Development Workshop: the NTDP will put together a workshop of key technical and MoH personnel to guide the drafting of the Ghana Trachoma Elimination dossier to be submitted to the WHO NTD RPRG.
3. Post Validation Surveillance Strategy Development Meeting: The NTDP will organize a technical meeting to draft a post-trachoma elimination strategy for Ghana.
4. Treatment of communities identified by survey to have TF prevalence requiring treatment (possible trachoma MDA). The NTDP is making an assumption that about 4 communities may be identified with TF prevalence in children 1-9 years > 5%. The communities adjacent to these 4 communities will have to be assessed to determine their TF prevalence among children 1-9 years and they also will have to be treated for 3 consecutive years starting in FY16.

Schistosomiasis

Mapping for SCH was conducted with USAID support in 2007-2008. All 216 districts in Ghana were found to be endemic for SCH. There are 47 category A (high-risk) districts, 38 category B (moderate-risk) districts and 133 category C (low-risk districts). Four annual treatment rounds of MDA has been conducted for SCH with districts classified as category A (with prevalence $\geq 50\%$) treated once every year; districts classified as category B (with prevalence $\geq 10\%$ -49.9%) are treated once every 2 years and category C districts (with prevalence 1%-9.9%) treated once every 3 years. School age children (SAC) are treated in category A, B and C districts in addition to adults in selected communities in category A and B districts that are considered to be at high-risk of SCH. The NTDP in Ghana has conducted 4 rounds of SCH treatment hence a mid-term assessment is required according to the WHO guideline on helminth control. An integrated SCH/STH survey is scheduled to be conducted across the country involving representative samples for the 216 districts in September 2015. The results of the survey will be reviewed by an expert panel to inform revised treatment strategy for SCH from FY2016. The treatment cycle will be restarted after the survey hence in FY16 all categories will be treated as the base year. Therefore all 216 districts will be treated.

Soil Transmitted Helminthiasis

Mapping for STH was conducted 2007-2008 and results indicated that only 16 districts had moderate prevalence ($\geq 20\%$ -49.9%). This means that only these 16 should be treated for STH once a year. However, it is the policy of the MOH in Ghana to treat all SAC at least once a year. This has so far been achieved through multiple channels. The first is the LF MDA funded by USAID which uses ALB in the LF endemic districts. Secondly, STH treatment is conducted through the school-based SCH/STH deworming in collaboration with School Health Education Program (SHEP) of the Ghana Education Service (GES) and funded by PCD. The NTDP receives donation of ALB for STH treatment through WHO and the Mectizan Donation Program (MDP). The NTDP will conduct an integrated SCH/STH survey as

a mid-term assessment in FY2015. The results of the survey will show the impact of deworming activities over the past 5 years but is unlikely to change the treatment protocol for STH since the annual treatment of SAC will continue as a policy strategy of the MoH to improve the health of SAC. In FY2016 the NTDP will continue collaboration with partners to treat for STH in all 216 districts. USAID will fund STH in all 216 districts in FY16 since PCD has indicated that it is not in a position to support STH MDA in FY16. Twenty-two districts co-endemic for LF will be treated for STH as part of the integrated LF and onchocerciasis community MDA in February-March 2016 while the remaining 194 districts will be treated in the SCH MDA through school-based strategy.

USAID history of support

Separate programs existed for LF, onchocerciasis and trachoma and mapping for the 3 diseases had already been completed in Ghana before USAID support for NTD control/elimination started in 2006. With promise of funding from USAID for the 5 PC NTDs, the MOH and the Ghana Health Service (GHS) decided to integrate management of all 5 PC NTDs under the national NTDP in 2006. USAID support started with funding for mapping of SCH and STH in 2007, work planning for the following year (2007) and development of a 5-year NTD strategic plan (2007-2011) for the country. In 2007, the NTDP received initial support from USAID for implementation of MDA in 5 out of the 10 regions. Funding was later extended to cover all 10 regions and other NTD activities relating to MDAs, DSAs, data management, advocacy and BCC.

Table 2: Snapshot of the expected status of the NTD program in Ghana as of September 30, 2015

		Columns C+D+E=B for each disease*			Columns F+G+H=C for each disease*				
		MAPPING GAP DETERMINATION			MDA GAP DETERMINATION		MDA ACHIEVEMENT	DSA NEEDS	
A	B	C	D	E	F	G	H	I	
Disease	Total No. of Districts in COUNTRY	No. of districts classified as endemic**	No. of districts classified as non-endemic**	No. of districts in need of initial mapping	No. of districts receiving MDA as of 09/30/15	No. of districts expected to be in need of MDA at any level: MDA not yet started, or has prematurely stopped as of 09/30/15	Expected No. of districts where criteria for stopping district-level MDA have been met as of 09/30/15	No. of districts requiring DSA as of 09/30/15	
Lymphatic filariasis	216	98	118	0	29*	0	0	69	Pre-TAS: 7 TAS: 15
Onchocerciasis		135	81	0	85	0	50	0	Ento: 16 Epid: 60
Schistosomiasis		216	0	0	216	0	0	0	0
Soil-transmitted helminths		216	0	0	216	0	0	0	0
Trachoma		37	179	0	0	0	0	37	0

**29 districts are being treated for LF in FY2015. Among the 29 districts, 7 have passed the TAS and MDA will be stopped in these 7 as soon as the TAS results are validated by the WHO NTD RPRG.*

PLANNED ACTIVITIES

School enrollment for boys and girls are almost equal (with variations in the different regions) and treatment figures are evenly spread among males and females. However, the proportion of female CDDs is relatively low (<21%). The END in Africa project will continue to support the NTDP to report treatment figures that are disaggregated by gender. Communities will be encouraged to give opportunity for females to work as CDDs when there is the need to replace old CDDs or select new once.

Strategic Planning

The End Neglected Tropical Diseases in Africa (END in Africa) project is managed by a consortium led by Family Health International (FHI360) that includes Deloitte Consulting LLP (responsible for financial management), Liverpool Associate for Tropical Health (LATH) (responsible for M&E) and John Snow Incorporated (JSI) that is responsible for supply chain management. FHI360 directly implements the project in Ghana through its country office in Accra and the regional hub of the project that is based in the FHI360 office in Accra. The regional hub of the project has FHI360 personnel (an NTD Technical Advisor, an M&E Advisor, a Finance Officer, and an Executive Assistant); and a Deloitte Technical Advisor on financial management and capacity building. To fill the critical human resource capacity gaps identified by and within the NTDP, FHI360 employed since November 2013 the following staff that are based in the NTDP office and work directly with the NTDP: a Technical Advisor who provides technical support to the NTDP Manager and his team on a day-to-day basis; a Communication Specialist providing support for advocacy and social mobilization for the NTDP; an M&E officer who manages data generated within the NTDP and acts as liaison on all M&E issues within the NTDP and between the NTDP and other NTD stakeholders; and 2 Finance Officers, who are responsible for all financial management issues and liaise between the NTDP, FHI360 Ghana Country Office and the GHS Finance Department. Two staff, the Communication specialist and one finance officer resigned in the last quarter of FY2015. Subsequently the need for these technical staff has been reviewed in consultation with the NTDP in line with NTDP needs. The Communication Specialist position has been annulled and replaced with technical assistance that will be provided through procuring consultancy for up to three months. One finance officer position has been replaced with Admin/Finance officer at the same grade. The FHI360 support team are based in the NTDP office and so provides direct support for all activities implemented by the NTDP including planning, implementation of MDAs and DSAs, and supervision of all activities relating to MDAs.

Currently the END in Africa project has no vehicle within the FHI360 office. With the current increase in activities and staff of other projects that had originally purchased the existing vehicles, it is becoming increasingly necessary for the END in Africa to be renting vehicles even for movements within Accra. Two Vehicles will be procured to support the END in Africa team working with GHS at a rate of \$50,000 each.

Update TIPAC for FY2016

The NTDP was supported by the END in Africa project (under the supervision of the Deloitte Technical Advisor for financial management and capacity building) to update the Tool for Integrated Planning

and Costing (TIPAC) in April 2015. This meeting included not only the 5 PC NTDs but also programme representatives for the intensive diseases management (IDM) NTDs such as buruli ulcer, yaws and leprosy that are also captured in the Ghana NTD Master Plan. The tool provided funding and resource gaps that will be used during advocacy and resource mobilization efforts of the various NTD programmes. In FY16 USAID through the END in Africa project will support the NTDP in a five day workshop to update the TIPAC with current programme data. The workshop will be under the supervision of the Deloitte Technical Advisor on financial management and capacity building.

Support to review and update the Ghana five-year Master plan (budget tab Advocacy and IEC Materials)

The NTDP in Ghana is implementing annual operational plans that are based on the 2013-2017 NTD Master Plan. The NTD Program Unit of the WHO Regional Office for Africa (AFRO) organized a meeting in Lusaka, Zambia, in July/August 2014 for the National NTDPs to review progress and achievements made with the Master Plans and also to update or develop another master plan for 2015-2020. USAID provided funding for review of the Ghana NTDP Master Plan. This review is currently ongoing. In FY16 USAID will provide funding for the NTDP to print 100 copies of the updated Ghana NTDP Master Plan 2015-2020.

Planning and Technical Meetings (budget tab Meetings and Trainings, FOG 1)

1. **Annual NTDP Activity Implementation Planning Meeting:** The NTDP in Ghana conducts several activities including MDAs, various DSAs, capacity building, advocacy and engagement with partners. Almost all NTDP activities are implemented with decentralized regional and district health administrations who have to implement multiple public health interventions including immunization campaigns, malaria, TB, HIV/AIDS, infant and child nutrition, maternal and reproductive health interventions among a host of others. Therefore getting the full attention of districts and regional health administrations over a specific period to implement NTD interventions requires a lot of meticulous planning to synchronize activities. There is therefore the need to plan NTDP activities and coordinate it with the many competing public health interventions at the regional and district levels. The absence of a well-structured plan synchronized with other GHS activities has often adversely affected effective implementation of NTDP activities. To address this challenge it is proposed that the NTDP undertakes a 2 day NTDP Activity Implementation Planning Meeting in the last quarter of the year (first quarter of FY2016) to produce an annual activity schedule. This will be shared with the regional and district health administrations to assist them plan ahead for NTDP interventions. Additionally this tool can be used to request the Policy, Planning and Monitoring and Evaluation (PPME) Division of the GHS Headquarter (HQ) to block specific periods for NTDP to carry out major nationwide activities such as MDAs. Participants in this meeting include NTDP staff, PPME, regional and districts health administration staff and partners.
2. **Quarterly NTDP Technical Review Meeting:** The NTDP conducts several activities over a one year programme cycle. Often times the programme is unable to conduct a technical review of its activities or take a critical look at challenges that come with the year to address them effectively within a programme cycle. This means that some challenges are carried through the year and only reviewed for the next annual activity cycle. There are a lot of activities in NTD control that are still being refined by the global public health community. The NTDP

needs to review and strategize on how to implement new guidelines and findings into the program. The Ghana NTDP is advanced in several NTD intervention areas compared to several endemic countries. However, the programme has often not been able to share its experiences in peer reviewed journals to contribute to knowledge. The quarterly 2-day technical meeting is proposed as a platform to help address technical implementation challenges that come up in the course of the year, plan adaptation and adoption of new guidelines, analyse NTDP activity results, complete reports, and serve as a platform to develop peer reviewed papers. It is expected that in FY16 the NTDP through this forum will develop and submit 2 articles for publication in peer reviewed journals.

3. **Annual NTDP Portfolio Review Meeting:** every year the NTDP must put together a work plan with corresponding budget to share with the multiple partners for their input and financial support. This is a key activity that will determine which activities the program conducts in the ensuing year. The work plan must take into consideration all guidelines for specific disease interventions and DSAs. The NTDP proposes to conduct a 5 day portfolio review and budgeting meeting to review activities and propose needed activities for the ensuing year with corresponding budgets. This activity document and budget will serve as the base document for the work planning meeting with partners.

Intra-Country Coordinating Committee Meetings (budget tab Meetings and Trainings, FOG 1)

The END in Africa project will support the NTD Secretariat to conduct quarterly Intra-Country Coordinating Committee (ICCC) meetings. The ICCC body was set up by the Minister of Health to advise and coordinate activities for NTD control in Ghana. It has membership from the GHS, academia, program managers of all NTD Programs, representatives of NTDP partners including the GES and WHO. It advises both the NTD Programs and the Minister of Health on how to achieve NTD control targets in Ghana. The three subcommittees ICCC will also be supported to conduct two meetings each in a quarter. There are three sub-committees of the ICCC – the Technical Subcommittee, the Advocacy Subcommittee and Resource Mobilization Subcommittee. Each subcommittee meets twice in a quarter. The subcommittees may co-opt experts outside the ICCC to support their activities.

NTD Secretariat (Office Expenses & Planning Budget)

The END in Africa project will support the NTDP secretariat with Office Sundry Expenses (Courier, photocopying, and Printing), Equipment maintenance and repairs (A/C repairs, Printers), Communications expenses (telephone, internet, electronic transmittal services) Generator Running expenses (Fuel + maintenance) Office Stationery and IT maintenance services by outsourced service providers. Other support captured under the ODC line item includes vehicle maintenance.

National Annual Review Meeting (budget tab Meetings and Training, FOG 1)

The END in Africa project will support the NTD Secretariat to conduct one annual review meeting. The meeting will be attended by all representatives of all 10 regions to review NTDP activities for the calendar year across the country and address challenges at the regional and districts levels. The review will look at both community based and school based MDAs conducted over the year, and DSA activities and their results for the year.

Advocacy (budget tab Advocacy and IEC Materials)

Improving Social Mobilization

- The NTDP has identified poor social mobilization as one of the key challenges for MDA. It has also identified absence of tools for CDD education and for use by CDDs and teachers to educate community members and pupils. The NTDP proposes to develop simplified laminated pictorial flip charts to be used by GHS and GES to conduct CDD and teacher trainings respectively and social mobilization. Flip charts will be developed for all 216 districts, 10 regions and the national level for educating CDDs on MDAs, Adverse Events following MDA (AE-f-MDA), community enumeration, use of register, etc. Community education flip charts will be developed and produced for CDDs to use in community education. A similar flip chart will be developed for use in schools by teachers to educate pupils on school-based MDAs. Due to the large number of schools in Ghana the NTDP intends to produce copies for half of the basic schools (about 18,000 schools) in the country in FY16 and the other half in FY17.
- CDD apathy has been identified as a challenge to the success of NTD-related MDAs in Ghana. To address this the NTDP intends to equip CDDs with basic tools to improve their identification/recognition, facilitate their work, provide safety for drugs as well as motivate them. This will include branded Polo-shirt for easy identification of CDDs. The Regional Health Administrations will be supported with funds to produce new measuring poles for CDDs. The above package is expected to motivate CDDs to give off their best.
- AE-f—MDA Cue Cards – These cue cards that guides teachers on how to manage mild AE-f-MDA and referral processes will be produced for all basic schools (about 36,000) in the country.
- Other IEC materials that are routinely used for MDA such as in-school posters (25,000 copies), community posters (25,000) and parent notification forms (2,000,000) will be produced. Twenty thousand each of the posters were produced in FY15, so the 25,000 of each poster will complement the amounts produced in FY15 while the number of notification forms reflects the estimated number of SAC.

Improving Advocacy (budget tab Advocacy and IEC Materials)

- The NTDP will conduct a national launch of the integrated LF, onchocerciasis and STH MDA. This launch is conducted by the Minister of health or Director General of the GHS with dignitaries from the MoH, GES, partners, community leaders and the media to officially announce the MDA cycle. It provides the media attention needed to start the MDA.
- The NTDP has identified that NTDs and the current PC strategy for their control is not known and understood by most health personnel including public health leaders and medical practitioners who are leaders in the health sector. The NTDP will mount an exhibition at the 3-day Annual Health Summit, where all leaders and partners in the health sector in the country meet to deliberate on key health strategies and progress made, to improve visibility of NTDs and NTDP interventions among leaders in the health sector.

- The NTDP is working in consultation with Deloitte Consulting LLP to review the advocacy and resource mobilization document of the NTDP in FY15. In FY16, 100 copies of the revised strategy document will be produced and shared with partners, and the GHS in all regions and districts.
- The NTDP plans to produce and print 400 copies of the 2015 annual report for distribution to all 10 divisions/directorates of the GHS HQ, the 10 RHDs, 216 DHMTs, NTDP Partners, and Public Health Programs of the GHS, GES and SHEP. This will enhance visibility of the NTDP, its activities, partners' support and successes at all levels of the health system.
- **Active engagement of NTD Ambassador:** The NTD Ambassador will be engaged actively to support advocacy activities within the MOH towards encouraging the MoH to increase funds allocated by the GoG to the NTDP; and also to improve awareness of the NTDP among private companies so they can support NTDP as part of their corporate social responsibility. The Ambassador will visit project beneficiaries, make statements at major NTD events and on selected television and radios stations, support networking and collaboration with potential donors, private companies and government agencies for more support to the NTDP.
- **Media Engagement:** Media plays an important role in advocacy and generating discourse on public health issues. A 1-day media briefing will be organized to educate and orient media personnel on NTD reporting. Field visit in areas where NTD activities are ongoing will be facilitated for media personnel (print, radio and television) to collate information and news stories for broadcast through the various media outlets.

Capacity Building/Training (budget tab Meetings and Trainings, FOG 2, 3, 4)

The NTDP has identified the need to continue refresher training of all category of staff that are involved in MDAs each year to maintain quality of the service they provide and also to motivate them to carry on providing this service. Trainings will be held at all levels in a cascaded manner to ensure that all persons involved in the MDA have received some training relevant to the MDA for the year. The trainings will focus on three cadres of staff. These are health (GHS) and education (GES) staffs at the regional, district and sub-district/circuit levels; teachers at the district level; and community volunteers at the community level.

Training will focus on the following specific areas: endemicity status of the 5 PC NTDs, social mobilization for MDA, MDA implementation, MDA supervision and monitoring, SCM and SOPs for MDA drug management, management of AE-f-MDA, and record keeping and reporting after MDA.

The NTDP started capacity building to replace the laboratory staff that are retiring in FY2014. New laboratory technicians were trained on TAS in February 2014. Twenty laboratory staff that will be trained for LF, SCH and STH surveys are considered adequate to manage DSAs for these diseases. However, for onchocerciasis the plan is to train 60 laboratory staff over a period of 3 years starting FY2015. Therefore a further 20 laboratory staff will be trained in FY2016 to support epidemiological and entomological survey for onchocerciasis. Table 3 below shows the numbers and types of

trainings/refresher trainings that will be conducted in FY2016. The VRA which supports school deworming for SCH will support training in selected districts where they provide funding support.

Table 3: Training targets

Training Groups	Training Topics	Number to be Trained			Number Training Days	Location of training(s)	Name other funding partner (if applicable, e.g., MOH, SCI)
		New	Refresher	Total trainees			
Central Level	Onchocerciasis Entomological survey techniques, Epidemiological survey techniques	30	0	30	14	Centre for Scientific and Industrial Research lab (CSIR)	None
Central Level	National NTD database	15	0	15	3	National level	
GHS/GES at Central Level	- MDA supervision and monitoring - MDA implementation - SCM and SOP for MDA drug management - Social mobilization for MDA - Record keeping and reporting after MDA	0	98	98	4	National level	PCD, VRA
Supervisors	-MDA supervision and monitoring - SCM and SOP for MDA drug management - Social mobilization for MDA - Record keeping and reporting after MDA	0	3,600	3,600	1	Regional /District Health Directorate	
Drug distributors	- SCM and SOP for MDA drug management - Record keeping and reporting after MDA	0	13,000	13,000	1	Sub district Health Center	

Mapping

The Ghana NTDP has no baseline mapping gaps. However as the NTDP transitions from onchocerciasis control to elimination there is the need in 2016 to remap/reassess 50 districts identified as hypoendemic during the 2009 REMO to guide intervention in these districts. These districts have not received treatment since 2009 in accordance with APOC guidelines at the time of the REMO. The way forward on these districts will be guided by WHO guidelines that are expected soon.

MDA

Integrated LF, Onchocerciasis and STH MDA (budget tab MDA 1, FOG 5)

One integrated round of MDA for LF, Onchocerciasis and STH in 105 districts will be conducted in February/March 2016. This is made up of 20 districts endemic for LF only, 83 districts endemic for onchocerciasis only and 2 districts which are co-endemic for LF and onchocerciasis. The integrated MDA will be community-based using the door-to-door delivery method. IVM and ALB will be administered in 22 districts that are either endemic for LF only or co-endemic for LF and onchocerciasis. A further 83 districts endemic for LF only will receive IVM only. The use of ALB in the 22 districts endemic for LF ensures treatment of STH in these districts leaving 191 districts to be targeted for STH treatment under the school-based MDA. The integrated LF, onchocerciasis and STH MDA will be funded by USAID. A second round of MDA for 44 onchocerciasis endemic districts (29 hyperendemic and 15 mesoendemic) funded by Sightsavers International will be conducted in September 2016 using IVM only. Details of populations covered is shown in table 4 below.

MDA for SCH/STH (budget tab MDA 2, FOG 6)

All 216 districts in Ghana are endemic for SCH. There are 47 category A (high-risk) districts, 38 category B (moderate-risk) districts and 133 category C (low-risk districts). All SAC in the 216 districts are expected to be treated for STH at least once a year according to the MoH policy based on the high risk of re-infection rate among SAC in the country. Ghana will be conducting a country-wide SCH/STH survey in September 2015 after 4 rounds of treatment. Results of the survey will serve as the baseline for SCH and STH treatment from FY16. This means that all SAC children will receive treatment for SCH and STH in FY16. Due to high school enrolment rate in Ghana school-based strategy will be used for the SCH/STH MDA. High risk adults in selected high risk communities in the categories A and B districts will also be treated according to WHO guidelines⁴. USAID will provide funding for SCH/STH MDA in FY16 with some support from VRA that provides some financial support for SCH treatment in a few districts.

Trachoma (budget tab Trachoma, FOG 1)

Trachoma MDA ended in 2014 with the last treatment of communities that were detected to have TF prevalence of 5.00%-9.99% among children 1-9 years old. The NTDP with technical and financial support from partners will be conducting a trachoma pre-validation survey in September 2015. For planning purposes, it is assumed that about 4 communities may be identified by the pre-validation survey to have TF prevalence among children 1-9 years between 5% and 9.99% and will therefore require treatment for 3 years starting FY16.

Table 4: USAID-supported districts and estimated target populations for MDA in FY16

NTD	Age groups targeted (per disease workbook instructions)	Number of rounds of distribution annually (add additional rows for different	Distribution platform(s)	Number of districts to be treated in FY16	Total # of eligible people targeted in FY16
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⁴ WHO 2013. Schistosomiasis: progress report 2001 - 2011, strategic plan 2012 – 2020

		treatment frequencies)			
Lymphatic filariasis	Entire population ≥ 5 years	1	Community MDA	22	1,461,756
Onchocerciasis	Entire population ≥ 5 years	2	Community MDA	44	2,207,212
		1	Community MDA	41	1,918,522
Schistosomiasis	SAC and High risk adults	1	School-Based MDA	216	8,103,723
Soil-transmitted helminths	SAC	1	School-Based MDA	216	7,903,723
Trachoma	-	-	-	-	-

MDA Challenges

The NTDP was unable to conduct MDA for SCH in FY2013 because of several breaches detected in the handling of imported drugs and medical logistics by other health programs, which lead the national Food and Drugs Authority (FDA) to start insisting on availability of bioequivalent data for generic drugs being imported into the country. The PZQ used for SCH MDA in Ghana is a generic drug formulation bought by USAID hence was identified by the FDA as a product for which bioequivalence study data was needed before certification for importation into the country. The NTDP has since collaborated with the USAID/FHI360 and other partners involved in the procurement of PZQ to make the data needed available to FDA to facilitate approval for importation of the generic PZQ. The NTDP has also submitted a formal request to the AFRO to supply the required branded PZQ donated by Merck to conduct SCH MDA in FY2016 while efforts to get the FDA to approve generic PZQ continue.

A small number of districts could not reach the effective epidemiological and program coverage in FY2014 (FY2015 MDA results are either not available or incomplete) due to the challenges mentioned below. The number of districts that did not meet epidemiological and program coverage, and the reasons for poor performance and recommended solutions are noted in Table 4 below.

The NTDP had identified the challenges listed below during the implementation of MDAs for the control/elimination of the 5 PC NTDs:

- Difficulty in conducting the community-based MDA between January and March each year.
- Late reporting of MDA results.
- Poor quality of data submitted including late reporting, high coverage (above 100%) and low coverage (below 65% epid and 80% programme).
- Hot spots for LF (i.e. districts that failed pre-TAS at least twice) and onchocerciasis hot spots.

- Difficulty in estimating target populations for MDA for SCH and onchocerciasis that target specific communities.
- Inability to import generic PZQ due to challenges with meeting FDA requirements for PZQ importation.

Table 5: Explanation of low USAID-supported program and epidemiological coverage

NTD	Epi coverage targets	Number of districts with complete coverage information*	Number of districts that did not meet coverage targets*	Reason(s) for poor district performance	Proposed remediation actions (bulleted list, with detailed narrative below table)
Lymphatic filariasis	>=65% epi coverage	93	Epi: 30 Program: 27	<ul style="list-style-type: none"> - Used GHS projected population based on 2010 census denominator for Epi Coverage - CDDs could not reach everybody in defined geographic areas - Wrong timing of MDA 	<ul style="list-style-type: none"> - Ensure that CDDs cover their entire geographic areas through supervision - Ensure increased Social Mobilization activities in all Districts targeted - Ensure that MDAs are conducted in Jan-March
Onchocerciasis	>=65% epi coverage	85	Epi: 1 Program: 1	Same as in LF case	Same as in LF case
Schistosomiasis	>=75% epi coverage of SAC	105	Epi: 44 Program: 24	Inadequate PZQ to Districts for the MDA at the time and hence some Schools could not be treated	Request PZQ from MDP through WHO

Soil-transmitted helminths	>=75% epi coverage of SAC	105	Epi: 44	Inadequate PZQ to Districts for the MDA at the time and hence some Schools could not be treated.	Request PZQ from MDP through WHO
			Program: 24		
Trachoma	>=80% epi coverage	-	Epi: -	N/A	
			Program: -	N/A	

- Difficulty in conducting the community-based MDA between January and March each year. This is the period identified as the best time to conduct community-based MDAs to obtain optimal results, avoid competition with other public health programs that conduct community-based activities and is outside the rainy season, which makes it difficult for CDDs to reach a section of the population. The NTDP has not been able in the past 3 years to conduct MDA between January-March because of failure to plan activity schedules in a way that avoids interference with other public health activities conducted by the regions and districts. As DSAs for LF and onchocerciasis have to be conducted before the MDAs, DSAs are conducted early in the year and MDAs end up being conducted after April or later in the year. Another key reason is that the NTDP do not have a coordinated well outlined plan to implement their activities. The NTDP proposes to conduct an NTDP activity implementation planning meeting (see details above) to improve coordination of NTDP activities with GHS, GES, regional and district health administration activities.
- Late reporting of MDA results. The FHI360 M&E officer in the team working directly with the NTDP has developed an excel-based integrated data reporting tool to facilitate collation and reporting of MDA results. Health information officers at the regional and district health administration have been brought on board and trained on the tool to work closely with programme officers for data quality improvement and early reporting.
- Poor quality of data submitted including late reporting, high coverage (above 100%) and low coverage (below 65% epid and 80% programme).
- Hot spots for LF (districts that failed pre-TAS at least twice) and onchocerciasis hot spots. The NTDP will be working with other projects working to address hot spots challenges such as the NTD Countdown Project and TDR project investigating CDD apathy to address these challenges. Social mobilization will be improved in these districts as well (see details in the Advocacy section above).
- Difficulty in estimating target populations for MDA for SCH and onchocerciasis that target specific communities rather than entire district populations. The END in Africa Project will provide funds for the NTDP to acquire community level data from the Ghana Statistical Service (GSS) 2010 population census projections results to help with community level population estimation.

- The NTDP will continue discussions with FDA and PZQ manufacturers with the view of finding channels to meet FDA requirement for PZQ generic importation. In the interim the NTDP will request patented PZQ from the MDP through WHO.

Drug and Commodity Supply Management and Procurement (budget MDA 1, FOG 1 &5)

Drug quantification was done in early 2015 for all medicines to be used in FY2016 and a joint request for selected medicines has already been sent to WHO for approval. The estimation for PZQ was also done by the program. More accurate estimates of PZQ requirement for FY2016 will be obtained after the SCH/STH survey planned for FY2015. However, to avoid undue delays requests were based on the projected treatment targets in the absence of the SCH/STH survey. Drugs will be received at the CMS from the ports when they arrive in the country and distributed to RMS by using the GHS distribution system. Districts will pick up their allocations from their respective RMS and distribute to sub districts. Volunteers will be allocated drugs from the sub districts as required for the communities they treat. In order to ensure that donated NTD medicines are managed according to GHS established standards, the NTDP has started shifting responsibility for managing NTD medicines from the district level focal points to district pharmacists based at the district level. Unused drugs after treatment will be retrieved to the RMS for storage or redistribution during the next MDA. Expiration of drugs for treating NTDs is not anticipated because of the strict practice of the 'first-in first-out' principle in the medical stores but if this occurs then expired drugs will be destroyed (incinerated) according to GHS policies and regulations.

During the planned cascade trainings, GHS and GES personal will be trained to identify and refer all AE-f-MDA to the nearest health facility. At the facility level, the health workers will fill out a pharmacovigilance form and report all AE-f-MDA to the district health authorities and the FDA representative in the district. Cases of severe adverse events (SAEs) will be referred as appropriate to district or regional hospitals depending on the seriousness of the condition. This treatment is usually covered under the National Health Insurance scheme (NHIS) operated by the GoG. Reports of all SAEs are sent to the district health authorities who then forward the reports to the NTD Program Manager. The NTD Program Manager then informs partners of any SAE including the FHI360 NTD project Director, USAID, the drug manufacturing companies and WHO.

Supervision (budget tab MDA 1, MDA 2, SCH MDA; FOG 1, 2, 4)

Supervision of MDA will be done along the GHS structure of national, regional, district and sub district health systems. FHI360 has 5 permanent staff working directly with the national NTD office and will be part of the national level supervisory team. Supervision of MDA will be expanded to include the Director General and Director of Public Health of the GHS. The presence of these 2 senior technical representatives of the GHS HQ will act as good motivation for the regional directors of health services and regional deputy directors of public health to improve the overall quality of NTDP activities especially MDAs. Funding will be provided for the NTDP to conduct supervision at all levels as part of the MDA budget. Supervision will be done using GHS developed monitoring checklists at all levels to ensure that supervision is standardized. In addition to the refresher trainings that will be conducted before the MDAs start, national supervisors will be oriented prior to visiting regions for supervision and monitoring of MDAs. They will be required to send reports on issues that need urgent attention

to the Program Manager during the course of the MDAs. Regional and district supervisors will be trained prior to each MDA as outlined above in table 3.

Short-Term Technical Assistance

- Technical assistance in training of laboratory staff on onchocerciasis epidemiological and entomological survey including black fly dissection.
- Technical assistance in pre-TAS slide reading to identify and quantify microfilaria
- Technical assistance for development of communication and IEC materials – i.e. flip charts for CDDs, teachers, regions and DHDs

Table 6: Technical Assistance request from PROJECT

Task-TA needed (Relevant Activity category)	Why needed	Technical skill required; (source of TA (CDC, RTI/HQ, etc.))	Number of Days required and anticipated quarter
To train 20 laboratory staff on onchocerciasis epidemiological and entomological survey	The NTDP staff conducting these surveys have retired and currently engaged on contract basis	Expertise on onchocerciasis epidemiological and entomological survey including black fly dissection – CSIR	14 days in the second quarter
To provide quality assurance for pre-TAS slide reading	An expert external to the NTPD is required to examine 10% of negative slides and all positive slides as quality assurance measure	Noguchi Memorial Institute for Medical Research (NMIMR)/CSIR/School of Public Health (SPH)	Based on quantity of slides. In the second quarter
To develop flip charts for CDDs, teachers, region and DHDs	The permanent communication specialist position has been replaced with 3 months technical assistance	Expertise in developing and pre-testing IEC materials and advising on translating communication strategy	Up to three months

The NTDP conducts epidemiological surveys and entomological surveys annually to assess impact of MDA in onchocerciasis endemic communities. The program has lost its laboratory staff for these activities through retirement. There is an ongoing 3 year strategy starting in 2015 to train 60 laboratory staff across the country to conduct these onchocerciasis survey. Twenty will be trained each year. The NTDP will conduct Pre-TAS in 7 districts in 2016. An expert outside of the NTDP will be needed to provide quality control for examination of the slides prepared from samples collected. This expert will re-examine all positive slides and 10% of negative slides randomly selected for purposes of quality assurance to assess the level of accuracy of the laboratory staff examining the samples.

M&E (budget tab Pre-TAS, TAS, FOG 1)

Plans for Reporting Project Data

In FY16, MDA data will be reported through the Diseases and Program Workbooks semi-annually. The program intends to monitor the improvement in data quality and reporting time following the introduction of the integrated reporting tools developed by the FHI360 M&E Officer working directly with the Ghana NTDP. The NTDP will also conduct field visits to districts that have stopped MDA for LF to start putting together historical records and data needed for the preparation of the dossier that will be submitted to WHO in the near future for verification of LF elimination in Ghana.

Table 7: Planned Disease-specific Assessments for FY16 by Disease

Disease	No. of endemic districts	No. of districts planned for DSA	Type of assessment	Diagnostic method (Indicator: Mf, ICT, hematuria, etc.)
Lymphatic filariasis	98	7	Pre-TAS	NBS
	98	73*	TAS	FTS/ICT cards
LF + onchocerciasis	111	23	Coverage survey	Proportion of persons receiving treatment
Onchocerciasis	85	36 (60** sites)	Epidemiological survey	Mf prevalence
	85	10 (16** sites)	Entomological survey	Proportion of infected flies

**TAS 2 will be conducted in 64 of the 73 districts while additional 9 districts which conducted and passed Pre-TAS in 2015.*

***From NTDP Multi-year Onchocerciasis Surveillance Plan 2011-2015.*

Details of DSA activities

Lymphatic Filariasis: Pre-TAS will be conducted in 7 districts which failed pre-TAS in 2013 and have subsequently received 2 rounds of MDA. TAS 2 will be conducted in 64 districts that passed TAS 1 in 2014. Slide examination is ongoing for 15 districts that conducted pre-TAS in FY15. Districts which pass will conduct TAS in FY16. This means that the number of TAS conducted may increase above 64 after all results of the FY15 pre-TAS is available. The NTDP plans to develop a protocol to guide ongoing PTS. It is expected that the protocol will be implemented in at least 5 districts in FY16.

Onchocerciasis: The NTDP has a 5-year strategic onchocerciasis surveillance plan which was implemented from 2011-2015. There is a need to review the plan to align with current state of endemicity of onchocerciasis. This review will be done in the first quarterly technical review meetings to decide on the way forward for DSA of onchocerciasis. It is also expected that WHO will publish new guidelines for onchocerciasis DSA in July 2015 which can be used to guide the DSA review process. However, re-starting the surveillance plan will mean that epidemiological survey will be conducted in 60 sites and entomological survey (black fly dissection) conducted in 16 sites. These surveys will be supported by Sightsavers.

Coverage survey: Coverage survey will be conducted in all 22 onchocerciasis and LF endemic districts in FY16. Though 30 LF districts reported epidemiological coverage outside the expected in FY2014 as shown in table 5 above only 22 remain to conduct MDA in FY16 and only one district reported less than the expected epidemiological coverage for onchocerciasis MDA from table 5 above.

SCH/STH: Coverage survey will be conducted in 44 districts out of the 216 districts that did not achieve the expected treatment coverage as indicated in table 5.

Planned FOGs to local organizations and/or governments

- Table 8 below shows the anticipated number of FOGs, by type of recipient, and proposed activities supported under FOGs.

Table 8: Planned FOG recipients

FOG recipient (split by type of organization)	Number of FOGs	Activities
GHS(NTDP)	6	<p>FOG 1</p> <ul style="list-style-type: none"> ○ ICCM Meeting ○ Annual NTDP Review Meeting ○ PTS Review and Protocol Development Meeting ○ PTS Protocol Review - Stakeholders Meeting ○ Training of Trainers- Community Based MDAs for Schisto ○ Supervision and Monitoring ○ Meeting to develop Post Validation Surveillance strategy ○ Workshop to documentation of validation (validation dossier) ○ Plan for possible post survey treatment for Hotspot ○ Treatment for 4 communities ○ Pre TAS ○ Carry out TAS in 30 EUs (79 districts) ○ Production of Measuring poles <p>FOG 2</p> <ul style="list-style-type: none"> ○ Training of Trainers- LF, Oncho, STH MDAs ○ Community Based MDA FOR SCHISTO <p>FOG 3</p> <ul style="list-style-type: none"> ○ Training of Trainers- School-Based MDAs <p>FOG 4</p> <ul style="list-style-type: none"> ○ Training of Trainers- School-Based MDAs <p>FOG 5</p> <ul style="list-style-type: none"> ○ Conduct one integrated round of community-based MDA for LF, Oncho and STH in 105 districts <p>FOG 6</p> <ul style="list-style-type: none"> ○ Conduct one round of school based MDA for SCH in 216 districts

Looking Ahead

The NTDP has identified the following priority areas and is looking for partners besides the USAID NTD program to fund these activities:

Onchocerciasis: REMO conducted in 2009 indicated that 29 districts were hyperendemic, 15 districts were mesoendemic, 91 districts were hypoendemic and the remaining 81 districts were non-endemic. Since the 2009 REMO the Ghana NTDP conducts biannual MDA in the 44 hyperendemic and mesoendemic districts (the second treatment occurs 6 months after the first MDA) and one annual treatment in 41 of the 91 districts identified as hypoendemic. As the NTDP considers a transition from onchocerciasis control to onchocerciasis elimination, clear guidelines are needed on the 41 hypoendemic districts receiving treatment as well as the 50 hypoendemic districts that have not received treatment since 2009. It is expected that the WHO guidelines in 2015 will help the NTDP to clarify the way forward in these districts. Meanwhile, the NTDP is requesting \$ 100,000 to remap the 50 hypoendemic districts not currently being treated through epidemiological surveys that will be based on new WHO guidelines on onchocerciasis.

MMDP for LF: Elimination of LF is quite advanced in Ghana with about 78% of the 98 endemic districts stopping treatment. As the program reduces prevalence of LF there is the need to pay increased attention to morbidity management which has not received sustained support hence has significant gaps. The NTDP is requesting \$ 42,103.5 for MMDP related activities in 1 region that will include training of GHS personnel and the affected on lymphoedema management.

Post-treatment surveillance for LF: 5 districts have completed TAS 3 in 2015. As the number of districts successfully completing TAS3 continue to increase, there is a need to develop a protocol to guide the program on how to conduct surveillance for LF in districts that have successfully completed their TAS3, which may involve routine collection of blood samples for PCR and also xenomonitoring of mosquitoes. The NTDP is currently working with partners to develop guidelines for such surveillance and is requesting \$ 40,000 per annum to conduct surveillance for LF over the next 5 years (2016-2020).

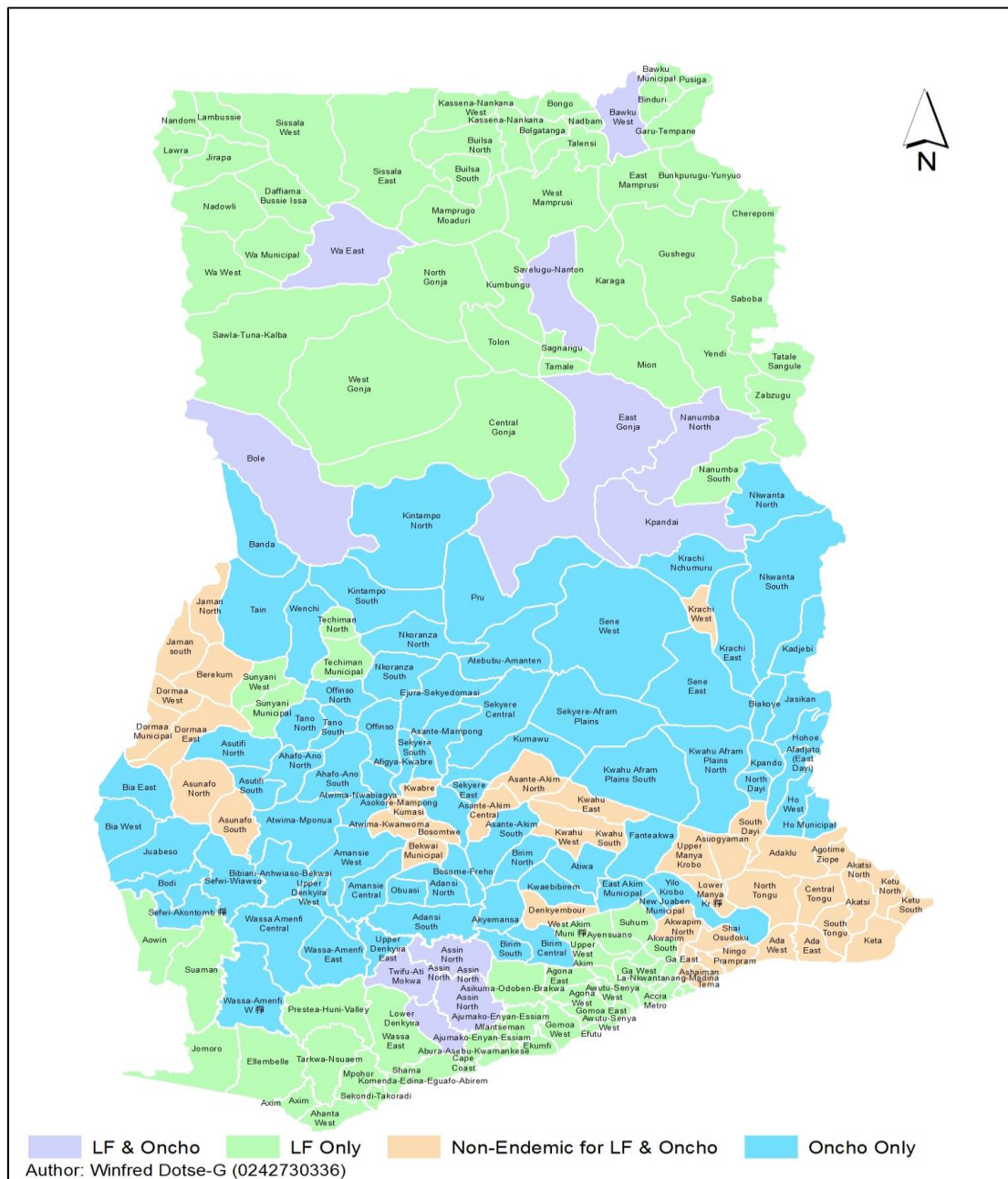
PostTo develop a post validation trachoma strategy for Ghana.

Table 9: Remaining gaps to be addressed

Identified gap or activity	Would external support be needed – funding or technical (outside of existing partners)?	Estimated time needed to address activity	Estimated cost to carry out activity
Validation of onchocerciasis prevalence status in 50 hypoendemic districts	Funding and technical assistance	FY2016	\$100,000
LF morbidity management and disability prevention in 2016	Funding support needed	One region endemic for LF 2016	\$ 42,103.5
Post Treatment Surveillance for LF in 7 regions not supported by CDC/CNTD	Funding and technical assistance	FY2016-2020	\$200,000.
To develop a post validation trachoma strategy for Ghana.	No	FY2016	13,220.53

Maps

Each of the 10 regions of Ghana and all 216 districts are endemic for at least one PC NTD. All regions in Ghana receive USAID support for MDAs, DSAs and other activities for at least 1 of the 5 PC NTDs targeted for control or elimination. The map below shows the 216 districts of Ghana and their status for LF and onchocerciasis. All 216 districts are also treated for SCH and STH as indicated in table 2.



APPENDICES

Appendices are in separate attachments.

1. Country staffing/partner org chart (replicated from overall work plan) (PDF)
2. Work plan timeline (MS Word)
3. Table of USAID-supported provinces/states and districts—refer to this in the narrative instead of listing out all districts/sub-districts (MS Word or MS Excel)
4. Program Workbook (MS Excel)
5. Disease Workbook (MS Excel)
6. Country budget (MS Excel)
7. Travel Plans (MS Word or MS Excel)