

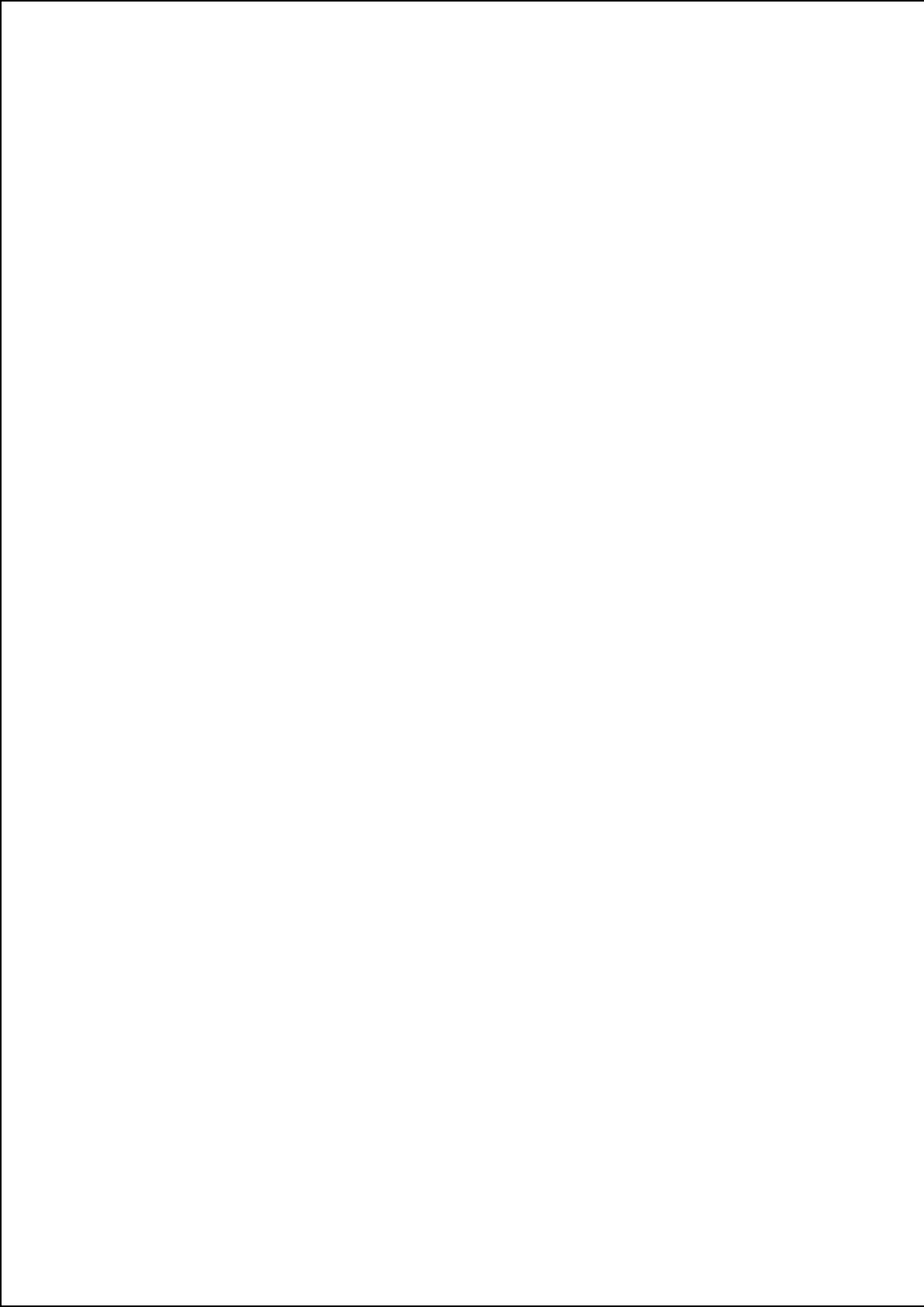


Federal Democratic Republic of Ethiopia
Ministry of Health

**NATIONAL MASTER PLAN
FOR NEGLECTED TROPICAL
DISEASES (NTDS)**

(2013-2015)

**JUNE 2013
ADDIS ABABA, ETHIOPIA**



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ACRONYMS

AAU	<i>Addis Ababa University</i>
ACD	<i>Active Case Detection</i>
AHRI	<i>Armauer Hansen Research Institute</i>
AIDS	<i>Acquired Immunodeficiency Syndrome</i>
ALB	<i>Albendazole</i>
ALIPB	<i>Aklilu Lemma Institute of Pathobiology</i>
APOC	<i>African Program for Onchocerciasis Control</i>
AWD	<i>Acute Watery Diarrhea</i>
BCC	<i>Behavior Change Communication</i>
BPR	<i>Business Processes Reengineering</i>
CB	<i>Community Based</i>
CBM	<i>Christian Blind Mission</i>
CDP	<i>Community Development Program</i>
CDTI	<i>Community-Directed Treatment with Ivermectin</i>
CL	<i>Cutaneous Leishmaniasis</i>
CM	<i>Case Management</i>
CMFL	<i>Community Microfilarial Load</i>
Com-DT	<i>Community-Directed Treatment</i>
DDT	<i>Dichloro Diphenyl Trichloroethane</i>
DHS	<i>Demographic and Health Survey</i>
DNDi	<i>Drug for Neglected Diseases Initiative</i>
DOTs	<i>Directly Observed Treatments</i>
EC	<i>Ethiopian Calendar</i>
EFMHACA	<i>Ethiopian Food, Medicine and Health Care Administration Authority</i>
EHNRI	<i>Ethiopian Health and Nutrition Research Institute</i>
EPI	<i>Expanded Program on Immunization</i>
FTI	<i>Fast Track Initiative</i>
GDP	<i>Gross Domestic Product</i>
GHI	<i>Global Health Initiative</i>
GTP	<i>Growth and Transformation Plan</i>
GWEP	<i>Guinea Worm Eradication Program</i>
HC	<i>Health Centre</i>

HCSS	<i>Health Commodities Supply System</i>
HDA	<i>Health Development Army</i>
HEW	<i>Health Extension Worker</i>
HMIS	<i>Health Management Information System</i>
HSDP	<i>Health Sector Development Program</i>
HEP	<i>Health Extension Program</i>
ICT	<i>Rapid Immunochromatographic Card Test</i>
IDSR	<i>Integrated Disease Surveillance and Response</i>
IEC	<i>Information, Education, Communication</i>
IMR	<i>Infant Mortality Rate</i>
IRS	<i>Indoor Residual Spraying</i>
ITN	<i>Insecticide-Treated bed Nets</i>
IU	<i>Implementation Unit</i>
IVM	<i>Integrated Vector Management</i>
LF	<i>Lymphatic Filariasis</i>
LFW	<i>Light For the World</i>
LLITN	<i>Long Lasting Insecticide Treated Nets</i>
LQAS	<i>Lot Quality Assurance Sampling</i>
M&E	<i>Monitoring and Evaluation</i>
MBZ	<i>Mebendazole</i>
MCL	<i>Mucocutaneous Leishmaniasis</i>
MDA	<i>Mass Drug Administration</i>
MDG	<i>Millennium Development Goal</i>
MDLT	<i>Modified Decongestive Lymphatic Treatment</i>
MFTPA	<i>Mossy Foot Treatment and Prevention Association</i>
MMR	<i>Maternal Mortality Ratio</i>
MoE	<i>Ministry of Education</i>
MoFED	<i>Ministry of Finance and Economic Development</i>
MoARD	<i>Ministry of Agriculture and Rural Development</i>
MoWE	<i>Ministry of Water and Energy</i>
MP	<i>Master Plan</i>
MSF	<i>Médecins Sans Frontières</i>
NA	<i>Not Applicable</i>
NGDO	<i>Non-Governmental Development Organization</i>
NTD	<i>Neglected Tropical Diseases</i>

PCT	<i>Preventive Chemotherapy Treatment</i>
PFSA	<i>Pharmaceutical Fund and Supply Agency</i>
PHCU	<i>Primary Health Care Unit</i>
PZQ	<i>Praziquantel</i>
RBM	<i>Roll Back Malaria</i>
REMO	<i>Rapid Epidemiological Mapping of Onchocerciasis</i>
RHB	<i>Regional Health Bureaus</i>
RNI	<i>Rate of National increase</i>
SAC	<i>School Age Children</i>
SAEs	<i>Serious Adverse Events</i>
SAFE	<i>Surgery, Antibiotics, Face Cleanliness and Environmental Sanitation</i>
SCHi	<i>Schistosomiasis</i>
SDPRP	<i>Sustainable Development and Poverty Reduction Program</i>
SNNPR	<i>Southern Nations and Nationalities Peoples Republic</i>
STH	<i>Soil Transmitted Helminthiasis</i>
TB	<i>Tuberculosis</i>
TEO	<i>Tetracycline Eye Ointment</i>
TF	<i>Trachomatous Inflammation – Follicular</i>
TI	<i>Trachomatous Inflammation – Intense</i>
TS	<i>Trachomatous Conjunctival Scarring</i>
TT	<i>Trachomatous Trichiasis</i>
UNICEF	<i>United Nations Children’s Fund</i>
USAID	<i>United States Agency for International Development</i>
USD	<i>United States Dollar</i>
VL	<i>Visceral Leishmaniasis</i>
WASH	<i>Water, Sanitation and Hygiene</i>
WAWLC	<i>World Alliance of Wound and Lymphedema Care</i>
WHA	<i>World Health Assembly</i>
WHA/RC	<i>World Health Assembly / Resolution Committee</i>
WHO	<i>World Health Organization</i>
WHO/AFRO	<i>World Health Organization / Africa Regional Office</i>
WoHO	<i>Woreda (District) Health Office</i>
WVE	<i>World Vision Ethiopia</i>
ZHD	<i>Zonal Health Department</i>

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African Program for Onchocerciasis Control/APOC/

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All the regional health bureaus

International Orthodox Christian Charities (IOCC)

International Training and Education Center for Health (I-TECH)

International Trachoma Initiative (ITI)

Light For the World (LFW)

Malaria Consortium (MC)

Mossy Foot International (MFI)

MSF

Management Sciences for Health/ Strengthening Pharmaceutical Systems (MSH/SPS)

NALA Foundation. Centre for Emerging Tropical Diseases and AIDS (CEMTA).

National Podoconiosis Action Network (NaPAN)

ORBIS International-Ethiopia

OSSA(Organization for social service for AIDS)

The Lions Clubs International Foundation

Ethiopia Health and Nutrition Research Institute /EHNRI/

Save the Children

The Carter Center (TCC)

United States Agency for International Development (USAID)

World Health Organization (WHO) -Ethiopia

World Health Organization/African Regional Office (WHO/AFRO)

World Vision-Ethiopia (WVE)

FOREWORD

Though the major health problems of Ethiopia remain largely preventable communicable diseases and nutritional disorders, Neglected Tropical Diseases (NTDs) were not given due attention. Thus continued to debilitate, deform, blind and kill sizeable proportions of the population. Data on the burden of NTDs and their distribution is incomplete; access to preventive and curative services is inadequate and not well integrated. Recently, NTDs have received more attention and were included in the 5-year Health Sector Development Program (HSDP-IV).

In order to make determined efforts for the prevention, control, elimination and eradication of NTDs and their hidden effects on the population, there is a need to develop a multi-year National Master Plan for NTDs. Eight diseases have been identified as priority NTDs in Ethiopia. These include: onchocerciasis, lymphatic filariasis, schistosomiasis, soil-transmitted helminthes, trachoma, dracunculiasis, podoconiosis and leishmaniasis – they are broadly classified as Preventive Chemotherapy (PCT) or Innovative and Intensified Disease Management (IDM) diseases.

The Master Plan is highly enriched by contributions from experts in the field. It is comprehensive in its scope and content and can serve as a road map for NTDs prevention, control, elimination and eradication in Ethiopia. The Strategic Plan is designed for the period 2013–2015 and to be aligned with the national Health Sector Development Program (HSDP-IV).

The NTD Master Plan demonstrates the essential value of practical field knowledge for interventions regarding neglected tropical diseases and addresses the huge goal to reverse the history and epidemiology of NTDs. Cognizant of the value of this Master Plan to alleviate the health burden, it will be made available to all health professionals and program managers working on NTDs in Ethiopia.

The existence and creation of social determinants of health for analyzing the environmental, social, and political factors affecting the distribution of the diseases and for examining the level of the interventions made are very essential in addressing NTDs. NTD prevention and control is largely community-based intervention. Thus, to be successful in this endeavor requires broad community involvement and a high level of coordination.

The FMoH appreciates the contribution of various partners involved in the development of this Master Plan, which for sure will be an inspiration for the scaling-up of integrated interventions on NTDs in the country.

We believe that concerted partnerships and effective coordination of initiatives and actions by all stakeholders are



Kebede Worku (MD, MPH)

the key issues for improving the efficiency and effectiveness of the control and elimination of NTDs in Ethiopia.

State Minister of Health, Ethiopia

INTRODUCTION

Ethiopia is the second largest country in sub-Saharan Africa with an estimated population of around 82 million people of which more than 69 million (84%) live in rural areas (Source: 2010/11 Health and Health Related Indicators).

The health service delivery system in Ethiopia is organized in a manner that encourages decentralization. To that end, the sector introduced an innovative strategy in 2003/4 – the health extension program (HEP). The building blocks of the HEP are health extension workers (HEW), two of whom manage health services in a typical Kebele (smallest administrative unit) estimated to be inhabited by 5000 people.

The major health problems of the country remain largely preventable communicable diseases and nutritional disorders.

Neglected Tropical Diseases were not given the required attention at various levels. Data on their burden and distribution is incomplete and not updated periodically; access to preventive and curative services is inadequate and not well integrated. Thus, NTDs continued to debilitate, deform, blind and kill sizeable proportions of the population either as mono-infections or as co-infections with major killers such as HIV/AIDS. Recently, NTDs have received more attention and were included in the 5-year Health Sector Development Program (HSDP-IV).

This National Master Plan (MP) for Ethiopia on Neglected Tropical Diseases (NTDs) covers planned NTD interventions to be implemented in the period 2013–2015 in all regions of Ethiopia. The list of NTDs prioritized for intervention in Ethiopia includes onchocerciasis, trachoma, dracunculiasis, lymphatic filariasis, soil transmitted helminthiasis, schistosomiasis, leishmaniasis and podoconiosis.

Key strengths for implementation of the NTDs Master Plan include high commitment of stakeholders, availability of safe and effective drugs, high coverage of the Health Extension Program (HEP) and community ownership. Shortage of adequately trained program management and service delivery staff, inadequacy of human resource motivation and retention, inadequate monitoring and evaluation (M&E) capacity, a weak surveillance system for NTDs and weak NTDs partnerships are major challenges for the implementation of the plan.

This plan was developed with the overall goal of realizing, by 2015, a sustainable integrated national

NTDs control program that is capable of achieving the goals of individual programs that would enable the country to meaningfully address NTDs as public health problem in the future.

In order to fulfill this overall goal the following four strategic priorities have been identified:

- (1) Strengthening government ownership, advocacy, coordination and partnerships,
- (2) Enhancing planning for results and development of policy guidelines,
- (3) Community empowerment, scaling up access to NTD interventions, treatment and service delivery capacities, and
- (4) Enhancing NTD monitoring and evaluation, surveillance and operational research.

The NTDs programs will be implemented through an integrated health service delivery platform of our health system. The goal of integrating NTDs programs is to prevent, control, eliminate, eradicate or reduce the disease burden due to NTDs using a cost-effective and synergistic approach leading to the achievement of the targets of the various programs concerned.

The strategies to be used as appropriate include mass drug administration (MDA), case detection and management and transmission control.

The budget for the MP is organized under the four strategic priorities. The total budget for the three years 2013–2015 is 104,755,622 USD.

PART ONE: SITUATION ANALYSIS

1.1 COUNTRY PROFILE

1.1.1 Geography

Ethiopia has great geographical diversity; its topographic features range from the highest peak at Ras Dashen, 4,550m above sea level, down to the Afar Depression, 110m below sea level (CSA, 2009). The climate varies with the topography, from as high as 47°C in the Afar Depression to as low as 10°C in the highlands. Ethiopia's total surface area is about 1.1 million square kilometers. Djibouti, Eritrea, the Republic of the Sudan, the Republic of the Southern Sudan, Kenya, and Somalia border the country. There are three principal climates in Ethiopia: tropical-rainy, dry, and warm-temperate. Maximum and minimum average temperatures vary across regions of the country and seasons of the year. Generally, the mean maximum temperature is highest from March to May and the mean minimum temperature is lowest from November to December. Ethiopia's mean annual distribution of rainfall is influenced by both the westerly and the southeasterly winds. The general distribution of annual rainfall is seasonal and also varies in amount, area, and time as it moves from the southwest to the northeast (Mol, 2004).

1.1.2 Economy

Ethiopia is an agrarian country and agriculture accounts for 43 percent of the gross domestic product (GDP) (CSA, 2009). Coffee has long been one of the main export items of the country; however, other agricultural products are currently being introduced on the international market. Between 1974 and 1991 the country operated a central command economy but has since moved toward a market-oriented economy. The economy has grown in real GDP at a rate of 11 percent per annum in the past five years. With an average population growth rate of 2.6%, the GDP growth rate translates to an 8.4% growth in average annual per capita income. This rapid growth is the result of diversification and commercialization of small-scale agriculture, expansion of non-agricultural production in services and industry, capacity-building and good governance, off-farm employment especially through small enterprises, and investment in infrastructure (MOFED, 2010).

The Growth and Transformation Plan (GTP) has been developed for the next five years, designed to

maintain rapid and broad-based economic growth and eventually to end poverty (MoFED, 2010). The primary objectives of the GTP are:

- Maintain the average real GDP growth rate of 11% and meet the MDGs;
- Expand and ensure education and health services, thereby achieving the MDGs in the social sectors;
- Establish favorable conditions for sustainable state-building through the creation of a stable democratic and developmental state;
- Ensure sustainability of growth by realizing the above objectives within a stable macroeconomic framework.

1.1.3 Administrative structure, and community structure

Since the 1994 constitution, Ethiopia is a Federal Democratic Republic. It has three branches of governance and administration. The executive branch includes the Prime Minister, the Council of Ministers and the Council of State. The legislative branch has a bicameral parliament consisting of the House of Federation or Upper Chamber and the House of People's Representatives or Lower Chamber – the latter being elected by popular vote from single-member districts to serve five-year terms. The judicial branch comprises federal and regional courts.

The Federal Democratic Republic of Ethiopia is composed of nine regional states: Tigray, Afar, Amhara, Oromia, Somali, Southern Nation Nationalities and Peoples Region (SNNPR), Benishangul-Gumuz, Gambella, and Harari; and two city administration councils of Dire Dawa and Addis Ababa. The regional states and city administrations are subdivided into 817 administrative Woredas (districts). A Woreda/District is the basic decentralized administrative unit and has an administrative council composed of elected members. The 817 Woredas are further divided into approximately 16,253 Kebeles, the smallest administrative unit in the governance, which comprises 5,000 people on average. The Kebeles are structured based on their geographic location with the objective to help each other to address social, economic and political issues. Community leaders are elected by the local community to manage all social, political and economic aspects of the community. The Kebele is managed by cabinet members called Kebele Administration. "Edir", "ekub", peasant associations and co-operatives or unions are examples of community organizations, which are important for community mobilization and serve as potential resource for community based interventions. "Edir" serves as community insurance.

1.2 HEALTH SYSTEM SITUATION ANALYSIS

1.2.1 Health system organization

The health system priorities are focusing on health service delivery at household, community and facility level mainly to improve, maternal, neonatal, child, adolescent and youth health, nutrition, hygiene and envi-

ronmental health (WASH), and to reduce/combat HIV/AIDS, TB and Malaria and other communicable and non-communicable diseases (HSDP IV).

The recently implemented BPR of the health sector has introduced a three-tier health care delivery system which is characterized by a first level of a Woreda/District health system comprising a primary hospital (with population coverage of 60,000–100,000 people), health centers (1/15,000–25,000 population) and their satellite health posts (1/3,000–5,000 population) that are connected to each other by a referral system. A health center and five satellite health posts form a Primary Health Care Unit (PHCU) with each health center having five satellite health posts. The second level in the tier is a General Hospital with a population coverage of 1–1.5 million people; the third level is a Specialized Hospital that covers a population of 3.5–5 million. The Ethiopian Health Care System is augmented by the rapid expansion of the private for profit and NGO sector playing a significant role in boosting the health service coverage and utilization. Thus, the public/private/NGO partnership enhances the delivery of health care services in the country. Offices at different levels of the health sector from the Federal Ministry of Health to Regional Health Bureaus and Woreda Health Offices share decision-making processes, decision powers, duties and responsibilities. The FMoH and the RHBs focus more on policy matters and technical support while Woreda Health Offices have basic roles of managing and coordinating the operation of a district health system under their jurisdiction.

Regions and districts have Regional Health Bureaus (RHB) and district health offices for the management of public health services at their respective levels. The devolution of power to regional governments resulted in shifting of decision making for public service deliveries from the center to the authority of the regions and down to the district level.

1.2.2 Health information, medical products and pharmacovigilance

The Ministry of Health has put in place HMIS to gather data from all health facilities in the country. The system is in its scale-up phase and can be of use for integrated NTDs control. Health professionals working in the facilities gather information on health and health-related issues and pass it through the regional health bureau to the Federal Ministry of Health where it can be used for decision-making by the higher managers. After an analysis of the information by the Federal Ministry of Health, feedback will be sent to the regional health bureaus and the health facilities.

The procurement and distribution of drugs and supplies including those for NTDs is undertaken by the Pharmaceuticals Fund and Supplies Agency (PFSA) based on the demand of the regional states.

The Ethiopian Food, Medicine and Health Care Administration and Control Authority (FMHACA) is responsible for protecting the health of consumers by ensuring food safety and quality; safety, efficacy, quality and proper use of medicines; competence and ethics of health professionals, medical practitioners and pharmacy professionals; the standard of health institutions; and the hygiene and environmental health protection suitability for individual and community health.

1.2.3 Health sector financing

As clearly indicated in the 4th National Health Accounts (2010), health services in Ethiopia are primarily financed from four sources: (a) the federal and regional governments; (b) grants and loans from bilateral and multilateral donors; (c) nongovernmental organizations; and (d) private contributions. A health care financing strategy was adopted by the MoH, mainly focusing on improving the efficiency of allocation and utilization of public sector health resources. It also dealt with mobilizing additional resources from international donors and health development partners, retention and utilization of user fee revenues at health facility level, introducing private wings in the public hospitals and, perhaps most importantly, the initiation and development of risk sharing mechanisms such as social and community-based health insurance schemes.

The objectives of the health care financing component of HSDP are aimed at achieving a sustainable health care financing system. More specifically, the objectives call for mobilization of increased resources to the health sector; promoting efficient allocation, effective expenditure management for equity, and better utilization of available health resources. The proportion of the total government budget allocated to the health sector was 10% in 2009, though it varies among regional states (FMoH 2008/09).

Although regional states have a substantial degree of autonomy, the Federal Government takes the lead in setting financial management standards. The regional states are also required to report their expenditure in the formats and timeframes specified by the Ministry of Finance and Economic Development (MoFED). MoFED has overall responsibility for the management of public funds, including federal subsidies to the regional states. However, in accordance with the desire to move increasingly towards pooled funding and budgetary support, harmonized procedures such as the MDG Performance Fund have been put in place in order to minimize additional transaction costs for the Ethiopian Government.

1.2.4 Leadership and governance

There is no standalone national policy on NTDs in Ethiopia. However, the health policy of the country emphasizes the prevention and control of communicable diseases. NTDs are included in the five-year Health Sector Development Program (HSDP-IV 2010/11–2014/5).

To better manage NTDs, a coordinating body has already been established. Several NTDs technical working groups exist under the leadership of the FMoH. Members include various government, non-government institutions, as well as research, academic and private institutions. The National NTD Program is also utilizing the existing health system structure including the Health Extension Program (HEP) at household and community levels.

1.2.5 Cross border issues

Southwestern, western and northwestern parts of Ethiopia are well known for co-endemicity of neglected tropical diseases. Bordering countries are also in a situation that needs collaboration to fight together diseases that go beyond national boundaries. Guinea worm, Onchocerciasis and Lymphatic Filariasis are important prevalent public health diseases along the border between the Sudan, South Sudan and Ethiopia.

In elimination of neglected tropical diseases cooperation of the countries in exchanging information about international travelers into or out of endemic areas are crucial to prevent re-occurrence of disease.

1.3 NEGLECTED TROPICAL DISEASES' SITUATIONAL ANALYSIS

1.3.1 NTDs epidemiology and disease burden

The targeted diseases include dracunculiasis, leishmaniasis, lymphatic filariasis, onchocerciasis, podocniosis, schistosomiasis, soil transmitted helminthiasis and trachoma. The mapping status and prevalence studies of the different NTDs in Ethiopia vary among the various NTDs. Table 1 summarizes the results of different surveys carried out at various localities. Most of the NTDs often overlap in epidemiology affecting the same group of population. Understanding the co-endemicity of NTDs will help to plan for the implementation of integrated MDA strategies.

Table 1: Prevalence/distribution of NTDs according to conducted studies

NTD	District/Region	Location/Site	Prevalence (n ^o /rates/proportions)/other	Method Used	Year of Survey and Reference
LF	Regions (Amhara, SNNP, Gambella, BG, Oromia)	13 zones, of 112 districts	3.7% (ranging from 0% to more than 50%)	Survey using ICT cards	Shiferaw et al., 2012
Podoconiosis	SNNPR, Oromia, Amhara, Tigray	56 towns in four regions	From a sample of 247,908 a total of 6,770 cases (2.7%). Prevalence varied from 0.4% - 8.8%.	Market counts	Price, 1974
	SNNPR	Wolayita zone	1890 cases (5.5%)	Population-based household survey	Desta et al., 2003
	Amhara region Northern Ethiopia	Debre Elias and Dembecha	Among 50,620 individuals 3.3% prevalence	Population-based household survey	Molla et al., 2012
Oncho	Amhara, Oromia, SNNP, Gambella and Ben.Gumuz	78 Districts in five Regions	Hyper, Meso, hypo endemic	Survey/REMO	Annually
Guinea Worm	Gambella	Gog District	3 cases in 2012	Case report	Monthly

SCH and STH	Locality	Prevalence (%) by Helminth					Year Documented (Source)
		Ascaris	Trichuris	Hook Worm	All Types	Schistosoma	
Country wide survey of School children (7572 children in 142 schools)		20,7%	6,2%	7,7%	29.8%	10-20% children S. mansoni in 5 schools	Save the Children USA September 2007
Zeway (4 Woreda) (395 children in 12 Schools)		10.9%	8.9%	1.0%	18%	5.9%	NALA Foundation October 2008
Addis Ababa 350 children & PLWHA & relatives		5.2%	9.8%	0.4%	14%	3.0%	NALA Foundation October 2008
Mekele (620 children in 17 schools)		5.6%	1.3%	1.2%	7.2%	44.7%	NALA Foundation October 2009

1.3.1.1 Preventive chemotherapy (PCT) diseases

1.3.1.1.1 Trachoma

Epidemiology, past and current intervention

Trachoma (blindness) is one of the major health problems in Ethiopia. According to the 2010 WHO World Health Report, roughly half of the global burden of active trachoma is concentrated in five countries (i.e. Ethiopia, Guinea, India, Nigeria and Sudan) and that of Trachomatous Trichiasis (TT) in four countries (i.e. China, Ethiopia, Nigeria and Sudan).

The national survey conducted in 2006 has shown that the prevalence of blindness and low vision in the country is among the highest in sub-Saharan Africa (1.6% and 3.7%, respectively). The average prevalence of active trachoma throughout Ethiopia was 40.1%. When disaggregated by regional states, Amhara had the highest prevalence of 62.6% followed by Oromia at 41.3% and SNNPR, Tigray, Somali and Gambella with rates of 33.2%, 26.5%, 22.6% and 19.1%, respectively. Though occurring at a lower level, the disease is also prevalent in all other regional states.

The number of children (1–9 years of age) with active trachoma is estimated to be more than 9 million. There are about 1.3 million cases of Trachomatous Trichiasis, advanced stage of trachoma, which need eyelid surgery to save their sight/vision.

The National Five-Year Strategic Plan (2006–2010) for trachoma control, the National Guideline for Mass Antibiotics Distribution, the National Guideline for Primary Eye Care and Trachomatous Trichiasis Surgery were developed as part of the National Comprehensive Five-Year Plan for Eye Care in Ethiopia. In order to better coordinate the activities nationally, a national task force for trachoma control was established and also the partnership for eye care was strengthened including the trachoma national committee

for the prevention of blindness (NCPB).

Government commitment for trachoma control has been expressed in different ways. Most of all, FMOH has been facilitating the duty-free import and clearance of large amounts of Azithromycin (Zithromax®) consignment for the entire national program since 2004. Scaled-up Woreda (district) based MDA with Zithromax® is done in 237 Woredas in Ethiopia. Intensified national trachoma mapping as part of the Global Trachoma Mapping Project (GTMP) is underway to cover all regional states (excluding cities and towns).

Previous achievements and gaps

In the past 10 years considerable progress has been made in the Amhara Region and in selected zones and districts of SNNPR, Tigray, and Oromia to map trachoma and implement the SAFE strategy-activities related to trichiasis surgery (S), antibiotic distribution (A), face washing (F) and personal hygiene and environmental improvement (E). 228 Woredas have been mapped and SAFE interventions have been implemented in all of these Woredas being supported by different partners. Annual TT surgery is steadily increasing – from 15,000 in 2001 to 63,972 in 2010. In 2011 and 2012, over 90,000 surgeries per year have been performed. A significant scale up of MDA with Zithromax has been achieved since 2009 reaching over 21 million treatments in 2012 in 215 Woredas. To date a total of 106,234,745 treatments have been given in first and repeated rounds.

Though there are achievements, there are also gaps. The main ones are lack of funding for the SAFE strategy implementation and scale-up, inadequate supplies and instruments for TT surgery, inadequate number of integrated eye care workers (IECWs) and a high attrition rate. A huge number of districts is still to be mapped.

1.3.1.1.2 Onchocerciasis

Epidemiology, past and current intervention

The western part of Ethiopia, where many rivers with vegetation provide a suitable habitat for the vector, is found to be endemic for onchocerciasis on the basis of rapid epidemiological mapping of onchocerciasis (REMO). In these areas, the prevalence of onchocerciasis is higher in places that are close to rivers, with a prevalence dropping gradually as one moves farther away from rivers (FMOH/WHO, Onchocerciasis Report 2010). The central highlands and arid lowlands of Ethiopia are generally thought to be free of onchocerciasis probably due to the highland's low temperature and the lowland's slow flowing rivers, dry weather and lack of suitable vegetation, which are unsuitable environments for both the vector and the parasite. However, mapping of onchocerciasis in Ethiopia is still not complete. Large parts of the country in the east and south are not mapped at all, or only partially.

Parts of five regional states (i.e. Amhara, Oromia, Benishangul-Gumuz, Southern Nations Nationalities and Peoples, and Gambella) are known to be endemic for onchocerciasis. The total population at risk is

estimated to be 10 million and about 8 million people live in hyper- and meso-endemic areas. The country is speeding up the move from control program to elimination.

MDA is being undertaken through CDTI, which is the major strategy for the control of onchocerciasis in the endemic project zones. Health education mainly focusing on advocacy, social mobilization and sensitization for the community is the other main strategy of the program.

Previous achievements and gaps

The onchocerciasis control program has been running without interruption for more than 10 years. Currently, there are ten project zones conducting CDTI and health education activities in the country. The geographic coverage of the program was 99.78%, while the therapeutic coverage was about 80.42% in 2012.

Recent epidemiological surveys conducted in sampled CDTI Woredas of Kaffa, Sheka, Bench Maji and North Gondar have shown that this intervention has resulted in unprecedented success in reducing the microfilaria prevalence in most of the areas. The Rapid Epidemiological Mapping of Onchocerciasis (REMO) survey was conducted in 397 villages of 124 Woredas in five potentially endemic regional states (Amhara, Oromia, Benishangul-Gumuz, SNNPR and Gambella). Out of the total villages surveyed, 297 villages (73.8%) in the five regional states demonstrated onchocerciasis nodules. LF/Oncho co-implementation in five Woredas of Gambella is has been implemented. Over 200,000 community-directed distributors and 8,858 health staff members have been trained or retrained from 2004 to 2008. In 2010, 2011 and 2012, a total of 4.8, 4.7 and 6.4 million people, respectively, have received Ivermectin treatment.

Table 2: Onchocerciasis Project sites and MDA implementation status, Ethiopia, 2012

CDTI Project	Year	CDTI Districts	Comm Tot	Comm Trt	CovGeo	PopTot	PopTrt	Cov Therapy
Bench Maji	2012	10	1354	1341	99	725509	553741	76
East Wollega	2012	10	4299	4299	100	878,629	719,123	82
Gambella	2012	5	369	369	100	106839	76322	71.4
Illubabor	2012	20	6334	6009	99.6	1,710,977	975,753	81
Jimma	2012	1	11,296	11,253	99.6	2,155,784	1,741,406	81
Kafa	2012	11	2651	2650	100	1031105	822589	80
Shekka	2012	5	642	642	100	218821	178983	82
Metekel	2012	4	431	431	100	166828	130201	78
North Gondar	2012	7	1290	1282	100	502924	403787	80.3
West Wollega	2012	12	4120	4120	100	1032280	844647	81.82
Ethiopia	2012	98	32786	32694	99.78	8016560	6446552	80.42

Note: Modified figures based on the carter center 2012 ATR; East Wollega and West Wollega are not carter center sites

Abbreviations: Comm = Community; Tot = Total; Trt = Treatment; Cov = Coverage; Geo = Geography.

The shortcomings of the program are mainly lack of financial resources, lack of coordination and co-implementation.

1.3.1.1.3 Schistosomiasis

Epidemiology, past and current intervention

In Ethiopia, both intestinal (due to *S.mansoni*) and urinary (due to *S.hematobium*) schistosomiasis are endemic. *S.mansoni* is widely distributed in the country whereas *S.hematobium* is mainly restricted to the Rift Valley region. Due to intense population movements and ecological changes that have created suitable habitats for the snails and schistosomes, endemic foci increased from 8 to 55 according to surveys done between 1960–1980 and 1996–2011. Though there have been no national surveys on schistosomiasis, estimated 4 million people are infected and 30 million people are at risk of infection.

The schistosomiasis control strategy aims at reducing the disease and the parasite in heavily infected individuals. Although effective and safe single dose anti-schistosomal drugs are increasingly used, it is also recognized that benefits may be obtained from the more conventional methods of applying molluscicides, sanitation, water supply and health education.

Morbidities resulting from schistosomiasis infections are poorly appreciated. The snail hosts for *S. mansoni* in Ethiopia are *Biomphalaria pfeifferi* and *Biomphalaria sudanica* and the snail hosts for *S. haematobium* are *Bulinus abssynicus* and *Bulinus africanus*. In Ethiopia, control efforts have been directed primarily towards reducing the snail intermediate hosts through the application of endod (*Phytolacca dodecandra*) and synthetic molluscicides with limited case treatment, health education and environmental sanitation.

Given the unavoidable threat of the emergence of schistosomiasis transmitting snails in the irrigation schemes of the planned sugar cane estates and sugar industrial complexes (as per the Growth and Transformation Plan), efforts in the control of the spread would be timely and appropriate. Endod (*phytolacca dodecandra*) is a natural product that is environmental friendly and could be used to control the schistosomiasis-transmitting vector.

Previous achievements and gaps

Ethiopia has procured 3.5 million tablets of praziquantel for the schistosomiasis control program and is working with regions to further expand the services. Deworming in Mekele, Addis Ababa and Zway decreased SCH prevalence from 44.7% to 12.3%. But, according to data showing the prevalence of the disease, there still remains a gap.

1.3.1.1.4 Soil-transmitted helminthiasis

Epidemiology, past and previous interventions

Soil-transmitted helminthiasis (STH) are endemic in most parts of sub-Saharan Africa, and are known to

be detrimental to health and educational performance of school-aged children. Soil transmitted helminthes (STHs), i.e. *Ascaris lumbricoides*, *Trichuris trichiura* and hookworms, are widespread in Ethiopia but with prevalence rates varying considerably between geographical areas. Prevalence is lowest in the lowland and dry areas of the country but higher in the more humid highlands.

A national school health and nutrition survey done in 2005-2006 revealed that 23.2% of school children were infected with *A. lumbricoides*, 7.4% by *T. trichiura* and 9.1% by hookworms. The overall national prevalence of any helminth infection was 29.8% with variable degree of prevalence among regions, whereby SNNP (51%) and Gambella (51%) have the highest prevalence.

A survey in 13 Food for Education Program-supported schools in the SNNP Region indicated prevalence of STH infections at 44.4%. The proportion of school children infected with any parasite species was 55.4%. *A. lumbricoides* was the most prevalent species (32.1%), followed by hookworm (21.7%) (WFP/WHO). There were 269 STH surveys conducted between 1981 and 2009 that indicated a high burden in the country. In the humid central highlands, STH infection is widely distributed with prevalence ranging from 20 to 100% in many areas. The distribution appears to be limited in the drier parts of the country with 1 to 19% prevalence in Western Ethiopia and reaching 0% prevalence in the very dry eastern and southeastern parts of the country. STH is endemic in 329 districts with about 6,545 Kebeles and 11,410 schools.

These surveys as well as geographic and climactic information have been used to produce a Map for Control Planning for STH. The majority of the country has a clear need for school-based MDA with the exception of some particularly arid areas including most of Afar, parts of the Somali Region and possibly parts of Tigray. These surveys and their findings are summarized in maps created by the Global Atlas of Helminth Infections.

The main gaps for both schistosomiasis and STH are lack of supplies (drugs), coordination and collaboration between partners, lack of a nationwide disease distribution and prevalence map and lack of public awareness and advocacy.

1.3.1.1.5 Lymphatic filariasis

Epidemiology, past and current interventions

Lymphatic filariasis (LF) is a parasitic disease caused by thread-like filarial worms. Filariasis is caused by three types of parasitic worms: *Wuchereria bancrofti*, *Brugia malayi*, and *Brugia timori*. The causative agent for LF in Ethiopia is *W. bancrofti*. About 30 million people are at risk of lymphatic filariasis infection.

The FMOH in collaboration with Partners initiated the mapping of LF in 112 Woredas during 2008–2010 in the following five regions: Benishangul-Gumuz, Gambella, SNNPR (i.e. Kaffa, Sheka, and Bench-Maji zones), Oromia (i.e. West Wollega zone), and Amhara (i.e. North Gondar zone). The result of these surveys indicates that LF is endemic in 34 districts of 5 the regions; however, there are few pocket areas that still

need to be surveyed.

MDA was co-implemented in 5 districts of the Gambella region with the onchocerciasis control program in 2009. The MDA co-implementation was also started in 8 districts of the Benchmaji zone, two districts in Metekel zone, 3 districts in North Gondar, and 3 districts in West Wollega by the year 2012.

Previous achievements and gaps

Mapping has been done in 112 Woredas. So far, intervention against LF is in progress in five Woredas of Gambella (i.e. Gambella Zuria, Godere, Abobo, Dima and Mengeshi), which is co-implemented with onchocerciasis intervention. Intervention also started in 8 districts of the Benchmaji zone, (Bero, Gura Ferda, Maji, Meneat Godia, Meant Shasha, North Bench, Sheko, and South Bench), in Metekel zone (Dangure, and Guba) and North Gondar (Metema, Quara and Genda Wuha).

Three additional sentinel sites were selected for intervention in the Benishangul-Gumuz region, Sirba Abay/Sedal, Maho Komo and Sherkole. Three hundred samples were collected from each site and confirmed to be endemic for lymphatic filariasis; intervention is planned for those areas.

The main gaps in the lymphatic filariasis program include incomplete mapping, delays of the treatment tool (Albendazol) in areas where intervention has already started, absence of a morbidity management guideline for lymphatic filariasis, and weak collaboration with other disease control programs, like that for malaria.

1.3.1.2 Case management (CM) diseases

1.3.1.2.1 Dracunculiasis

Epidemiology, past and current interventions

The national active case search that was carried out during 1993–94, identified 99 endemic localities of 7 Woredas (6 Woredas from Gambella and one Woreda from South Omo) for dracunculiasis. After establishing the endemicity of dracunculiasis, interventions were quickly put in place.

Following the implementation of a comprehensive intervention package, the number of reported dracunculiasis cases has steadily declined. A total of 3,481 cases were reported from the inception of the program to the end of September 2010. Indigenous transmission has been interrupted in South Omo since 2001, but transmission still occurs in Gambella.

In 2010, a total of 20 dracunculiasis cases were reported from eight villages in Gog district of Gambella. From these 20 cases, two cases were uncontained (89.5% case containment rate). Case containment centers are part of the global strategy of GWEP and provide treatment and support to patients with emerging Guinea worms to keep them from contaminating water sources (2010 Report).

Program interventions are categorized into two types: (i) interventions in areas with ongoing transmis-

sions, active surveillance, case containment and a set of preventive interventions in the community, and (ii) interventions in areas with the ongoing transmission Integrated Disease Surveillance Response (IDSR) system. The challenges for the program include low health and health related behavior of the community, and frequent movement of the community across the border.

1.3.1.2.2 Leishmaniasis

Epidemiology, past and current intervention

Ethiopia is one of the high disease burden countries for leishmaniasis. Visceral leishmaniasis (VL), the fatal form of the disease, is endemic in 5 administrative regional states of Ethiopia. It is highly endemic in the arid lowlands of Amhara and Tigray regions (FMOH/WHO report, 2010). In addition, Somali, SNNP and Oromia regions are also affected. The annual incidence of VL in Ethiopia is estimated to be about 2,500 to 4,000 cases – all caused by *Leishmania donovani*.

The commonly identified vectors are different species of the *phlebotomine sandflies* in varying geographical settings. Cutaneous leishmaniasis is widely distributed in the highlands of Ethiopia, but the true burden of the disease and its distribution is not well known. Most of CL cases are caused by *L. aethiopica*.

Previous achievements and gaps

The national leishmaniasis control program in Ethiopia was established in 2005 following the 2005 VL outbreak in Libo district, Amhara region. The FMOH prepared the first national guideline on the diagnosis and treatment of VL that is now under revision by the national technical working group with an inclusion of CL. Capacity building and awareness-raising efforts have been made. Following a national training of trainers (ToT), various cascade trainings were given in the highly VL endemic regions of the country. Outreach teams have been deployed in high VL endemic regions to strengthen early case detection, outbreak identification and response, community awareness and surveillance. Three mobile outreach teams are currently functional in Tigray and Amhara working closely with the respective RHBs.

The leishmaniasis services have been decentralized to lower health facility levels especially for VL, where many health centers and hospitals are currently providing diagnostic and treatment services. Mapping of the prevalence and distribution of leishmaniasis is also ongoing.

Lack of affordable, effective and safe drugs for leishmaniasis, lack of a strong surveillance system for leishmaniasis, management of HIV/VL co-infection, inadequate budget for the program, high turnover of trained staff, and lack of evidence on CL treatment recommendation are among the challenges of the program.

1.3.1.2.3 Podoconiosis

Epidemiology, past and current interventions

Podoconiosis (i.e. endemic non-filarial elephantiasis) is a non-infectious geochemical disease caused by exposure of bare feet to red clay soil derived from volcanic rocks.

It is estimated that up to 1 million cases of podoconiosis (i.e. 25% of the global total case load) exist in Ethiopia. The disease occurs in highland red clay soil areas, mainly among poor, bare footed rural communities, whose members do not wear protective shoes and/or wash the dust off their feet using soap and water. The 'at-risk' population for podoconiosis is made up of all the people who live and farm on irritant soil. The soil is estimated to cover 18% of the surface area of Ethiopia, on which estimated 22–25% of Ethiopia's population (19.3 million) lives. In endemic areas of Ethiopia, the prevalence of podoconiosis is high – 9.1% in Illubabor Zone, Oromia Region; 6% in the Pawe resettlement area, northwest Ethiopia; 5.5% in Wolayta zone, SNNPR; 2.8% in Gulliso Woreda, West Wollega zone, Oromia region, 7.4% in Midakegni, West Shewa Oromia region, 3.3% in Debreelias and Dembecha, East and West Gojjam, Amhara region.

Despite the high prevalence, high morbidity and enormous socio-economic impact, little information about the disease burden is available from the highlands of Ethiopia. Consequently, little effort has been made at federal, regional or zonal level to control podoconiosis. Currently, nationwide podoconiosis mapping is underway. In addition, a study to assess the effectiveness of lymphedema management and behavioral studies to increase shoe-wearing practices are also underway.

There are a few podoconiosis control program efforts being undertaken in health centers and health posts. Currently, there are 15 outreach clinics that have access to over 30,000 patients per year. Preventive activities include health education at schools, Kebeles, churches and mosques and at various social events; provision of locally produced shoes at subsidized prices or for free; and organization of 'Network Groups' involving community members. Treatment activities include the use of a package of items (foot hygiene, soap, antiseptic, ointment, pressure bandages, socks and shoes).

Previous achievements and gaps

There are several small-scale interventions in podoconiosis endemic areas that have proven to be very successful. However, these interventions are currently only available to less than 5% of the total number of podoconiosis patients in Ethiopia.

The major challenges in the program include low awareness and inadequate attention about podoconiosis, lack of access to prevention and treatment services, lack of prevention, diagnosis, referral and treatment services, lack of updated data on the geographic distribution and epidemiology of the disease, and shortage of funding.

1.3.2 Disease mapping situation analysis

Table 3: NTDs (PCT and case management) mapping/disease assessment/situation analysis

Endemic NTD	No. of districts suspected to be endemic	No. of districts mapped or with known endemicity status	No. of districts remaining to be mapped or with unknown endemicity status
Trachoma	593	237	356
Onchocerciasis	148	148	705
Schistosomiasis	509	22	487
Soil transmitted helminthiasis	565	329	236
Lymphatic Filariasis	204	34	705
Leishmaniasis	VL 40 CL 170	20 80	20 90
Podoconiosis	706	112	818
Dracunculiasis	1	1	0

1.3.3 SWOT analysis

The above sections have already discussed the epidemiology, previous achievements and gaps of each NTD in detail. It is, therefore, more appropriate to do a SWOT analysis of NTDs as PCT and CM groups instead of a specific analysis of the respective diseases.

Table 4: SWOT analysis of the NTDs program

Strengths	Weakness
<ol style="list-style-type: none"> 1. Political will 1. Inclusion of NTDs initiatives in HSDP IV 2. Reliable availability of drugs (IVM,ALB, MEB, TEO,Azithromycin) 3. Established health delivery structures (child days, CDTI, school health) 4. Acceptability of the program by the communities 5. Available information on distribution of most of the target diseases 6. Universal primary and secondary education 7. Involvement of PFSA in procurement and distribution of medicines 8. High commitment of stakeholders for NTDs (strong partnership with NGOs) 9. NTD integration with Child Days 10. Capacity building effort ongoing 11. Existence of agency for pharmacovigilance (EFMHACA) 	<ol style="list-style-type: none"> 1. Inadequate coordination 2. Attrition rate of HWs 3. Failure to harmonize data collection tools and capturing some NTDs under HMIS 4. Poor data collection, handling, management and reporting on NTDs 5. Inadequate focus to advocacy and social mobilization. 6. Inadequate technical supervision (lack of consensus on tools/checklist, team composition and frequency of supervision and feedback meetings) 7. Lack of a national NTD strategy 8. Inadequate coordination within the health system 9. Weakness in reporting serious adverse reaction
Opportunities	Threats

<ol style="list-style-type: none"> 1. Various WHA/RC resolutions 2. Commitment by WHO and various pharmaceuticals to continue the free donation of drugs for some NTDs 3. Availability of technical support from certain agencies, particularly the WHO 4. Inclusion of some of CM NTDs in HSDP-IV 5. Ongoing research agenda on developing new drug products and diagnostics 6. Inclusion of some NTDs medicines into the essential drug list 	<ol style="list-style-type: none"> 1. Conflicts around borders 2. Reduced compliance due to lengthy treatment regimen 3. Socio-cultural beliefs and practices in some communities 4. Lack of interest for scientists and manufactures to research on new medicines 5. Uncontrolled movement of human population 6. Inadequate control measure in neighboring countries 7. Climate change affecting vector population and disease trends 8. Inadequate coordination with other ministries 9. Co-morbidity with HIV/AIDS, malaria and TB 10. Migrant workers vulnerability
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PART TWO: STRATEGIC AGENDA OF NTDs

2.1 OVERALL NTD PROGRAM GOAL

The overall goal of the NTDs program is to accelerate integrated control of NTDs in Ethiopia so that NTDs will not be public health problems by 2020 .

2.2 STRATEGIC PRIORITIES AND OBJECTIVES

In order to achieve the above-mentioned goal, Ethiopia will focus on four strategic priorities and the following strategic objectives shown in Table 5.

2.3 NTD PROGRAM FOCUS

The NTDs program is an integrated package of a number of disease specific programs. It is therefore important to maintain disease specific focus goals, objectives and strategies in the integrated package.

The goal of integrating implementation of the NTDs program is to prevent, control, eliminate or reduce the disease burden due to NTDs using a cost-effective and synergistic approach leading to the achievement of the targets of the various programs concerned. Case detection and management of leishmaniasis, lymphatic filariasis disabilities (hydrocele and elephantiasis), trachoma surgery and podoconiosis are part

of the main packages of the program.

Table 5: Strategic framework, priorities and strategic objectives

STRATEGIC PRIORITIES	STRATEGIC OBJECTIVES
Strategic Priority 1: Strengthening governance, advocacy, coordination and partnerships	Strengthen management and coordination mechanism for the NTD control program at national, regional and Woreda levels in Ethiopia
Strategic Priority 2: Enhance planning for results and development of policy guidelines	Develop and update national NTD policies, guidelines and tools to support active policy and program participation
Strategic priority 3: Community empowerment, scaling up access to NTD intervention treatment and service delivery capacities	Community empowerment by strengthening awareness raising and demand creation on NTDs
	Preventive chemotherapy, case detection and management, and transmission control
	Mapping for 5 PCT NTDs
	Drug and other logistics procurement and distribution
Strategic Priority 4: Enhance NTD monitoring and evaluation, surveillance and operational research	Strengthen monitoring of the national NTDs program performance and outcome
	Strengthen the surveillance of NTDs and re-enforce the response to epidemic-prone NTDs, in particular leishmaniasis
	Support operational research and documentation of evidence to guide innovative approaches to NTDs program interventions
	Establish integrated data management systems and support impact analysis for NTDs
	Strengthen pharmacovigilance in NTDs control activities
	Enhance integration of NTD control within PHCU for sustainability

2.3.1 Strategic Priority 1:

Strengthening governance, advocacy, coordination and partnerships

Strategic Objective 1: Strengthen management and coordination mechanism for the NTD control program at national, regional and Woreda levels in Ethiopia.

Main activities

To establish/strengthening program management and coordination structures:

- Set up the national and regional task force/technical working groups on NTDs
- Regular national NTDs technical working group meetings

- Launching of NTDs master plan to stakeholders, development partners and NGOs for input and commitment

Strengthening capacity at national, regional, and local levels for NTD program management and implementation

- Training for NTDs focal points, program implementers and team members at FMoH, RHBs, ZHOs, and DHOs
- Develop TA plans and recruit NTDs TAs as needed

Develop and sustain partnership and collaboration for integrated NTDs

- Strengthen integration of the NTD program with HEP and other service delivery platforms
- Strengthen collaboration with other community based health programs like EPI, school feeding program, etc.

Conduct sensitization/advocacy of NTDs at all levels

- Orientation meetings with policy makers, line ministries, and other stakeholders on intersectional collaboration at the federal, regional, district and community levels
- Sensitization meetings with MoE at federal, regional and district levels on integrated NTDs control and for the role of schools in the NTDs program (e.g. de-worming of school-aged children)
- Produce advocacy tools for NTDs and conduct media advocacy and sensitization
- Orient opinion leaders on NTDs

Take inventory of NTD partners and map their activities

- Conduct mapping of NTD partners and update the inventory regularly

2.3.2 Strategic Priority 2:

Enhance planning for results and development of policy guidelines

Strategic Objective 2: Develop and update national NTD policies, guidelines and tools to support active policy and program participation

Main activities

1. Develop disease specific NTD policy guidelines, manuals and SOPs
2. Develop, print and disseminate the national guidelines and work plan on NTDs

3. Strengthen strategic and annual NTD planning processes integrated with One Plan Principle
4. Linking/integrating the NTDs program and financing to the whole health sector

2.3.3 Strategic Priority 3:

Community empowerment, scaling up access to NTD interventions treatment and service delivery capacities

Strategic Objective 3: Community empowerment by strengthening awareness raising and demand creation on NTDs

Community empowerment and mobilization are central to NTDs prevention and control. It is even more important in the next phase of Ethiopia's NTDs control effort as the country moves from control to zero transmission and elimination policy. Success in achieving the health related MDGs requires active and meaningful participation and ownership by communities and strong partnerships between households and health workers. Communication is a key component of community empowerment and mobilization.

The Health Extension Program educates, mobilizes and involves the community in all aspects and stages of NTDs control and leads to increased ownership of the program. It is recognized that it is only at community level that the elimination will be achieved. This will be affected through the health extension program, through the health development army – a new initiative that creates a network to expand the best practices in health at scale. With the help of health extension workers, the health development army members will conduct regular meetings, identify bottlenecks in the prevention and control activities and fill gaps as per the discussion. The health development army under their network and development teams mobilizes communities on the uptake and utilization of NTDs control services, environmental management, utilization of LLINs (in terms of lymphatic filariasis), and early treatment seeking. By doing these activities in a sustainable manner, it is possible to create a resilient and empowered community.

This will be complemented with integrated social behavior change communication (SBCC). SBCC materials will be customized and prepared based on previously identified gaps at the community level. IEC/BCC provides information and skills to populations at risk of the diseases so that they can make informed decisions and participate in prevention, treatment, and control.

In particular, IEC/BCC raises community awareness about the signs and symptoms of the diseases, encourages early treatment-seeking behavior and treatment compliance, and creates demand for and increases the utilization of services. The overall goal of the IEC/BCC program is to increase community understanding, mobilize resources and guarantee the sustainable results. This is done through a variety of media and channels including mass media (especially radio), interpersonal communication (especially from health extension workers), participatory communication (including community dialogue) and social mobilization (particularly during distribution campaigns).

Strategic Objective 4: Preventive chemotherapy, case detection and management, and transmission control

2.3.3.1 Preventive chemotherapy through mass drug administration (MDA) in all endemic communities for onchocerciasis, lymphatic filariasis, schistosomiasis, soil-transmitted helminthes, and trachoma using WHO guidelines

Coordinated implementation of mass drug administration is recommended for the five NTDs targeted in the integrated NTDs control use MDA as the main intervention strategy. The six drugs available for use in preventive chemotherapy include IVM/DEC, Albendazole/Mebendazole, Praziquantel and Azithromycin. The integrated drugs delivery approach aims at best possible reduction in cost of delivering the drugs in all situations dictated by the co-endemicity overlap. Co-administration is done without compromising efficacy of the drugs and safety of the beneficiaries. Based on current knowledge (summarized in the WHO manual on preventive chemotherapy), the combinations that are recommended are: IVM/DEC and Albendazole, and Praziquantel and Albendazole or Mebendazole. The triple therapy combining IVM, Albendazole and Praziquantel has been carried out under special conditions in a number of places but is not yet a recommended option for use. No suitable combination has been worked out for Azithromycin.

There is a base program to provide a platform for integrated MDA in Ethiopia. It is apparent that a substantial amount of work is ongoing in the onchocerciasis and trachoma control programs in Ethiopia. National mapping is not yet completed for onchocerciasis. There is significant co-morbidity between onchocerciasis and lymphatic filariasis in the western part of the country. The onchocerciasis control program has an already established structure that runs from FMoH down to the community level. This structure can be used to facilitate MDA of Albendazole for elimination of lymphatic filariasis. The rolling-out of the LF elimination program, on the other hand, will enhance the platform for integrating MDA for schistosomiasis, STH and trachoma. Step by step co-implementation can ensure Ethiopia a functional integrated NTDs program within 3 years.

Table 6: Populations at risk targeted by preventive chemotherapy interventions

Name of NTD	Total number districts above threshold for intervention	Total number of implementation units in the districts above threshold for intervention*	Estimated total population at risk	Population at risk broken down by age (for NTD programmes where this is applicable)		
				No. of adults (≥ 15 years)	No. of school age children (5–14 years)	No. in special targeted age-category
Trachoma	593	593	65 M	42.9M	11.7M	11.4
Onchocerciasis	112	112	8 M	5.3 M	1.44 M	
Schistosomiasis**	509	509	30M	19.1 M	8.1 M	2.8
STH**	565	565	40 M	10 M	21 M	9 M
LF	34	34	1.5 M	0.65 M	0.43 M	0.17

* Note: These can be districts/sub-districts/communities or villages according to disease program.

** Figure extracted from a meeting with regional health bureaus representatives of 6 regions. Figures for the remaining regions were extracted from maps from Simon Croft by a technical work group for schistosomiasis and STH.

2.3.3.1.1 Case detection and management of leishmaniasis, LF disabilities (hydrocele and elephantiasis), trachoma surgery and podoconiosis

In the same way that treatments for more than one disease will be given in MDA, common interventions in the management of cases of leishmaniasis, trachoma, LF and podoconiosis will also be coordinated. When they occur in the same communities, integrated delivery of interventions will be carried out appropriately. Other interventions targeting non-NTDs will also be taken when of advantage, e.g. Directly Observed Treatment (DOTs) for tuberculosis (TB) and social support groups for HIV/AIDS.

Although most of the targeted NTDs in Ethiopia are not direct cause for mortality (excluding visceral leishmaniasis), they are known to be leading cause of morbidity in the endemic communities. Morbidity is manifested either as severe clinical presentations or chronic disabling signs. In Ethiopia, morbidity due to trachoma has been clearly assessed and the numbers in need of specific management estimated. However, this has not been done for LF, onchocerciasis, STH, schistosomiasis and podoconiosis. It is important that chronic manifestation due to LF and onchocerciasis are assessed and an integrated management strategy is worked out for morbidity control in all the targeted NTDs.

It is apparent that morbidity control in NTDs will be based on two main strategies: surgery, mainly in management of patients with hydrocele secondary to LF and with limited cases of large foot nodules in patients with podoconiosis, and lid surgery for management of trachomatous trichiasis. The second common strategy is home/community-based care involving hygienic management of lymphedema cases in LF and podoconiosis, community-based support for face washing and support of the blind in trachoma. Cost-effectiveness in the management of cases of NTDs can be achieved if common intervention strategies cut across several disease conditions or programs wherever possible. This implies that the resources to provide the desired services will be pooled and shared to cover a wider target population in need.

Table 7: Populations at risk targeted by CM/IDM interventions

Name of NTD	Total number of districts targeted for intervention	Total number of endemic communities in the districts selected for intervention*	Estimated number of total population at risk
Dracunculiasis	1	1	20566
Leishmaniasis	VL 40 CL 41	800 820	3 million 14 million, estimation
Podoconiosis	30	600	11-15 million
Trachoma	593	5850	1.3 million
LF	34	1080	114400

2.3.3.1.2 Transmission Control: This includes vector and reservoir control as well as improvements in sanitation and water quality and supply

Most of the targeted NTDs are vector-borne; strategies against one vector (mosquito control) will also have impact on another (sand flies). The mosquito vector of LF also transmits malaria.

Water and sanitation activities are very important as cross cutting NTDs prevention and control intervention. The Ministry of Water and Energy in Ethiopia is expected to ensure delivery of water to the communities, but major parts of the hygiene and sanitation components remain under the health sector program. In this MP, water and sanitation activities are considered to be crucial especially for the control of SCH, STH, trachoma, podoconiosis, LF and GW. Some of the components of the WASH activities are development of water scheme/facilities (water pumps), latrine construction (which most schools are expected to have) and hand washing facilities.

Most of the implementing partners for NTDs in Ethiopia are actively working on the WASH component of their programs. In short the following activities are used for transmission control:

- Effective and comprehensive vector control based on IVM and integration linked to vector control strategy in the national malaria control program
- Improve safe water supply and sanitation to endemic communities in collaboration with relevant agencies
- Health education and promotion.

Strategic Objective 5: Mapping for five PCT NTDs

Main activities

- Co-mapping of lymphatic filariasis and podoconiosis
- Mapping of the rest foci for onchocerciasis as the strategy has changed from control to elimination
- Co-mapping of schistosomiasis and STH
- Trachoma mapping

Strategic Objective 6: Drug and other logistics procurement and distribution

Main activities

Drug procurement and distribution

- Estimation of drug requirement at the district, region and federal levels by disease programs

- Identify reliable sources of NTDs control drugs, apply for donated drugs or purchase the drugs not under the donation programs
- Timely submission of drug requests

2.3.4 Strategic Priority 4: Enhance NTD monitoring and evaluation, surveillance and operational research

Progress towards or achievement of goals and targets of the individual NTD programs as defined are measured by disease specific indicators whereby each program has specific methods to do so. In the integrated approach, the supervision, M&E of common and key indicators of success for all programs are planned for joint implementation. For programs that involve MDA, it is recognized that consistent high drug coverage of the target populations will translate to designed impact as measured by disease specific indicators.

In Ethiopia, the monitoring and evaluation unit is functioning under the Policy and Planning Directorate of the FMoH. The structure is well tailored at the different levels of the health system up to the peripheral health facility. Data are collected through the HMIS and also by using the Integrated Disease Surveillance Response (IDSR) that will be done for a list of identified diseases. The data flow system is as follows: the data from the peripheral health facilities will be delivered to the Woreda Health Office and then to the Regional Health Bureau (Zonal Health Department) and finally to the Policy and Planning Directorate of the Federal Ministry of Health.

Strategic Objective 7: Enhance monitoring of the national NTD program performance and outcome

- Conduct situation analysis and develop annual work plan
- Conduct disease burden assessment and integrated mapping of NTDs
- Planning meeting at regional and national levels to develop annual work plans
- Enhance integration of NTDs control within PHCU for sustainability
- Integrate NTD monitoring with HMIS
- Conduct integrated regular supervision and monitoring
- Conduct annual review of the NTD program performance

Strategic Objective 8: Support operational research, documentation and evidence to guide innovative approaches to NTD program interventions

- Strengthen the surveillance and response of NTDs for control of epidemic-prone NTDs, in particular for leishmaniasis

- Strengthen operational research on NTDs
- Document best practices

Strategic Objective 9: Establish integrated data management systems and support im- analysis for NTD as part of the national NTD data management

- Establish integrated data management systems and support impact analysis for NTDs in Ethiopia management system and global NTDs plan

Strategic objective 10: Strengthen pharmacovigilance in NTD control activities

- Strengthen pharmacovigilance in NTDs control activities

Key performance indicators, program goals, targets and strategies with the summary activities are presented in Table 8 below.

Table 8: Program goals, targets and strategies

NTD program	National goal	Objectives	Strategy	Key indicators	Baseline	Yearly targets	2013	2014	2015 (target)	Activities
Trachoma Control	To eliminate blinding trachoma by 2020	To scale up SAFE interventions to reach all endemic (TF > 10% and TT > 1%) districts	*SAFE strategy	* % TT patients operated *# of Woredas covered by MDA *% of children (1-9 yrs) with clean faces * % of households with latrines & using	3.1%	2.0%	2.6%	70%	1.5%	Complete baseline data Provide TT surgery services Conduct MDA in identified Woredas
					38.4% (228/53)	70%	45%	50%	100%	
					40%	70%	45%	70%	60%	
					63.3% (DHS)	70%	67%	70%	82%	

					99.8%	100%	100%	100%	100%	1. Social mobilization 2. health education and community awareness 3. Treat all communities in all endemic districts with mectizan
					79.29%	80%	80%	80%	80%	1. Social mobilization 2. health education and community awareness 3. Treat all communities in all endemic districts with mectizan
					90%	100%	100%	100%	100%	1. Treat all eligible people in the target Woredas with mectizan 2. Training of health workers 3. Strengthen health development armies 4. Health education and social mobilization 4. Establishment of molecular laboratory for onchocerciasis in EHNRI

Lymphatic Filariasis Elimination	Global Goal: to eliminate LF as a public health problem by 2020	To eliminate <i>Lymphatic filariasis</i> by 2020	Reduce morbidity & disability due to LF by 80% by 2015.	Morbidity control	Percent of cases received disability management	78.6%	85%	85%	85%	1. Develop morbidity management guide line 2. HE, promotion and advocacy 3. Surgery 4. Personal hygiene
			Mapping of <i>Lymphatic filariasis</i> to achieve 100% geographical coverage	Mapping all the districts that were not include in the previous mapping	Proportion of districts mapped	13.7%	100%			1. Develop a working group for mapping 2. Identify suspected villages for <i>Lymphatic filariasis</i> endemicity 3. Conduct survey 4. Develop endemicity map
			Implement MDA in 100% of endemic districts by 2015	Scale up Annual MDA in endemic districts	Proportion of districts with antigenemia less than 1%	NA (mapping on going)	50%	80%	100%	1. Procurement of the drug 2. Distribute the drugs at the community level 3. Strengthen health development armies 3. Health education, promotion, and advocacy

Onchocerciasis elimination
Global Goal: to control/ eliminate oncho-cerciasis by 2020

					14.7%	50 %	100%	100%	100%	1. Identify the endemic districts 2. Train HEW 3. Launch the MDA 4. Establish sentinel site for monitoring
					83.9%	84%	84%	84%	84%	1. Social mobilization 2. Health education and community awareness 3. Train HEW 4. Launch the MDA
Podoconiosis	To eliminate Podoconiosis (all endemic districts with <1% prevalence)	To prevent new podoconiosis cases in endemic areas	Conduct epidemiology mapping of podoconiosis in Ethiopia	Proportion of district mapped	20%	100%	NA (to be completed in 2013)	NA (to be completed in 2013)	NA (to be completed in 2013)	Establish podoconiosis mapping technical group Conduct survey in all districts of Ethiopia to determine podoconiosis prevalence Produce endemicity map of podoconiosis
			Ensure access to prevention packages of podoconiosis at all level	Proportion of individuals with shoe wearing practices in endemic districts	50%	70%	90%	100%	100%	Conduct intensive community mobilization to increase awareness about shoe wearing and foot hygiene. Distribute subsidized locally made shoes for population at risk who can't afford to buy shoe Link prevention with WASH activities

					30%	60%	80%	100%		Establish treatment centers in selected health centers and health posts Provide treatment supplies in each treatment centers Produce and distribute podoconiosis kits Produce treatment service package guideline at various levels Establish referral linkages between community health posts and health centers
				Proportion of individuals with proper foot hygiene practice in endemic districts	2%	40%	80%	100%		
				Proportion of endemic districts with functional treatment center	80%	85%	90%	95%		
				Scale up podoconiosis treatment in the context of integrated primary health care	0	50%	80%	100%		Prepare training guideline and curriculum for in-service training Conduct training podoconiosis management for universities and colleges Provide in-service training for all health providers in endemic districts
				To scale up podoconiosis treatment and management						
				Proportion of identified cases received treatment with positive outcome						
				Proportion of HIDA and HEWs trained on podoconiosis prevention and treatment						
				Improve human resource capacity for podoconiosis treatment						

				5%	50%	80%	100%	Establish patient-led treatment groups in each kebele Build the capacity of each patient-led treatment group Train patient-led treatment groups members to be expert patient on podoconiosis treatment
				5	10	15	20	Identify twenty partners that will potentially work on podoconiosis in endemic areas Provide orientation for these twenty partners on podoconiosis prevention and treatment Identify potential private sectors to be service outlets
	Strengthen the capacity of communities and development actors on podoconiosis prevention and treatment		Establish patient led treatment group	Proportion of districts with at least one patient led group				
		Integrate podoconiosis prevention and treatment services with other NTD and the general health system	Integrated management of podoconiosis and LF lymphedema	Integrated lymphedema management guideline developed				Identify experts on lymphedema management Produce integrated lymphedema management guideline
			Enhance partnership with partners and private sectors to scale up podoconiosis interventions	# of partners and private sectors engaged in podoconiosis treatment				

					0	50	80	100	<p>Organize different forums to create awareness for policy makers on the prevalence of podoconiosis</p> <p>Advocate for the inclusion budget for podoconiosis intervention at district level</p> <p>Ensure that podoconiosis prevention and treatment is integrated with other health care at district level</p>
				Strengthen ownership of podoconiosis prevention and treatment by district health offices	Proportion of podoconiosis endemic districts with plan and earmarked budget for podoconiosis				



Schistosomiasis control	To scale up intervention to all schistosomiasis endemic districts by 2015 so that to eliminate morbidity due to schistosomiasis by 2020.	To achieve 100% MDA in all endemic communities To achieve 75% therapeutic coverage To eliminate high intensity of schistosomiasis in SAC To eliminate high intensity of schistosomiasis in communities at risk. To complete map of distribution of schistosomiasis by 2013 Source reduction	MDA with school-age children based on school de-worming programme and in high prevalence communities Health education and promotion of behavioural change Environmental sanitation and hygiene Preventive measure-En-dod-Mol-lusc-icidal	Schistosomiasis prevalence rate Proportion of communities conducted MDA Proportion preschool and SAC treated with MDA	NA NA NA	25% 50% 65%	15% 80% 75%	<10% 100% 85%	MDA Surveys Vector control (Endod) Sanitation and hygiene Health education
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Guinea worm	Eradication of Guinea worm from Ethiopia and certification of interruption of transmission by 2012 and complete elimination by 2015	Interruption of indigenous GW transmission by 2012	Enhance surveillance and case containment: Training health workers Supply of safe water Vector control: distribution of cloth filters and pipe (straw) filters Pond treatment with Abate® chemical Intensifying health education and social mobilization Supportive supervision		Proportion of cases reported annually	100%	100%	100%	Health education Case containment Surveillance
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Leishma-ni-asis	To scale up the control of leishma-niasis in all the endem-ic commu-nities by 2015.	To reduce morbidity and mortality due to leishmaniasis To reduce transmission of leishmaniasis	Early diag-nosis and treatment of cases through active case detection Strengthening dis-ease sur-veillance. IVM Reinforce operational research Facilitate combi-nation therapies Health Education and pro-motion Capacity building through train-ings and improved technical assistance	VL case fatality rate	10%	10%	10%	7%	5%	Health education Service decentralization Surveillance	
											Prop. of endemic Re-gions imple-ment control intervention

2.4 CROSS-CUTTING ISSUES

2.4.1 IVM implementation

Integrated vector management approaches are addressed by three existing vector control activities in Ethiopia: indoor residual spraying with Deltamethrin, distribution and use of long-lasting insecticidal nets, and environmental management to remove potential vector breeding sites. The decision of which interventions to target to specific areas is made by the Ministry of Health and RHBs.

2.4.2 Morbidity control and management

Morbidity control for people affected by chronic lymphatic filariasis and podoconiosis takes place primarily through the health extension program – with support from other health professionals through supportive supervision. Interventions include education on hygiene and management of lymphedema: washing with soap, use of Vaseline and protecting feet using socks and shoes.

2.4.3 Monitoring and evaluation

Monitoring and evaluation tool(s) for NTDs need to be developed and fit in the existing system of the FMoH and should be strengthened. Pharmacovigilance for reporting serious adverse effect of drugs should be made available with standard reporting format and trained staff to identify and report serious side effects.

2.4.4 Training and capacity building

Health professionals at all levels of the health system (from HEWs to hospital, and Woreda health office

up to the regional and federal level) received training on various NTDs including leishmaniasis, trachoma and onchocerciasis. Partner organizations have also been conducting small-scale trainings in their implementation areas.

2.4.5 Operational research

Operational research on NTDs is needed to guarantee that integrated programs provide optimal benefit to affected populations. Research activities at present are actively supported by development partners as well as by a number of academic and research institutions. Coordination of these ongoing research activities will be important to maximize the gain that will be achieved regarding NTD operational research. Operational research will support the evidence base for NTD control with an emphasis on monitoring and evaluation, progress monitoring tools and informing elimination strategies among others.

Table 9: Cross-cutting interventions in the NTD program

Activity	Schisto	STH	Oncho	Trach	LF	Leish	Dracu	Podo
Mapping	x	x	x	x	x	x		x
Active case detection				x		x	x	x
Health facility based case management	x	x	x	x	x	x	x	x
Drug distribution	Health extension workers	x	x	x	x			
	School based	x	x					
	Community based	x	x	x	x			
	Mother and Child Health week	x	x					
Health Promotion	Behaviour change communication (hygiene & treatment seeking behaviour)	x	x	x	x	x	x	x
	Hand & face washing		x		x			
	Building of latrines	x	x		x			
	Proper use of latrines	x	x		x			
Vector Control	Long lasting insecticide treated nets (LLINs)				x	x		
	Indoor Residual Spray				x	x		
	Larviciding				x	x	x	
	Treatment of breeding sites				x	x		
	Use of tsetse/sand fly traps				x	x		
Disability prevention and management					x	x	x	x
Rehabilitation					x			x
Surgery				x	x			x

Partnership for safe water supply and sanitation improvement	x	x		x			x	
Monitoring and evaluation	x	x	x	x	x	x	x	x
Surveillance			x				x	
Animal reservoir control	x							

2.4.6 Program resources

While effective systems are in place for logistics and drug procurement, storage and distribution, currently there are limited financial resources available for implementation. Partner organizations were able to mobilize resources for focal implementation of NTD programs. However, there remain financial gaps to be filled for scale-up to take place. Some human resources were directed to support NTD programs within the FMoH; however there are shortages of personnel through the health system cascade.

PART THREE: BUDGET JUSTIFICATION AND ESTIMATES

Table 10: Total budget required by strategic priorities and year

	Strategic Priorities	2013	2014	2015	Total
1	Strengthening government ownership, advocacy, coordination and partnerships	6,481,415	6,157,665	735,065	13,374,145
2	Enhance planning for results and development of policy guidelines	246,840	128,320	242,660	617,820
3	Community empowerment, scaling-up access to NTD intervention treatment and service delivery capacities	39,889,556	21,431,563	26,803,813	88,124,932
4	Enhance NTD monitoring and evaluation, surveillance and operational research	860,375	871,175	907,175	2,638,725
	Total	47,478,186	28,588,723	28,688,713	104,755,622

Table 11: Contributions by different donors and partners in 2013-2015 (in USD)

Strategic Priorities	MoH	WHO/APOC	USAID	SCI	DFID	WT and Toms

1	Coordination, Partnership & Advocacy	15,806,321					
2	Planning and Resource Mobilization						
	Scale-up Interventions PCT		796,352		5457,670	36,940,000	
	Scale-up Interventions for CM		756,000				46,590,000
3	Scale-up Interventions (Transmission control)	230,000,000					
4	M&E, Research						

¹ Time invested to prevent NTDs by community – estimated and calculated in terms of money

² Time invested on prevention and control of NTDs by federal, regional, zonal coordinators and health extension workers estimated and calculated in terms of money from their salary

³ For trachoma (567,000 through ITI), LF (1,270,000 through EHNRI)

⁴ 6,590,000 includes (6,300,000 from TOMS through NaPAN) and 290,000 from Welcome Trust for podoconiosis mapping in Ethiopia

⁵ 457,670 from SCI through EHNRI.

PART FOUR: IMPLEMENTATION FRAMEWORK

4.1 INTERSECTORAL COLLABORATION

Various sectors such as the Ministries of Health, Education, and Agriculture, Water and Energy and the Office of Communication for Government Affairs are actively involved in the control of NTDs. The roles and the responsibilities different sectors are as follows:

Roles and responsibilities of Ministry of Health

The FMoH plays the leading role in planning, resource mobilization, coordinating and executing the NTDs program. It shall be responsible for the following aspects of the National NTDS Strategy and NTDs programs:

- Chairing the national NTDs coordination committee
- Designing, producing and disseminating NTDs materials
- Conducting on-going health quality control and all treatment aspects of NTDs services
- Providing logistic management (i.e. selection, quantification, procurement, storage, distribution, and quality control of medications, vaccines, micronutrients, and other medical materials)

- Provision of technical advice and enforcement of required health and nutrition standards including infrastructure and facilities
- Providing advice and training on existing and new health and nutrition policies
- Providing technical support in the training and in-servicing of school personnel
- Provision of technical support for the implementation of core health and nutrition activities
- Ensuring that all relevant health acts, rules and regulations are enforced
- Ensuring constant availability of essential drugs in the existing health facilities
- Provision of rehabilitative health services
- Complementing the NTDs with the health extension program

Roles and responsibilities of the Ministry of Education

The Ministry of Education (MoE) plays a key role in the phase of implementation by availing schools as service delivery sites and advocating and mobilizing students during the deworming/MDA campaigns. The Ministry of Education shall be responsible for the following aspects of the national NTDs strategy and programs:

- De-worming serves a preventive and treatment measure which will result in immediate improvement in child health and development, and in preventing irreversible consequences in adulthood. Schools and health posts administer mass de-worming campaigns based on the prevalence and intensity of worms and should include all school-aged and out-of-school children.
- Schools shall be made to participate in national programs aimed at addressing neglected tropical diseases, and diseases targeted for elimination such as guinea worms. Schools are the nearest institution to the community that can create awareness to the community through the students, PTA and by the school community at large. Children and their families shall be taught the benefits of wearing shoes for preventing soil-transmitted helminthes (STH), hookworms and other parasites that penetrate the skin.
- The drug will be distributed from federal level (FMoH) to the regional states. The regional states distribute to Zones and Woredas. Woredas are responsible to distribute drugs to Kebele health posts in collaboration with the schools.
- Drug delivery follows the existing drug delivery system in the country. The request for the drugs is made through the FMoH. The PFSA will be the main system to deliver the drugs directly to the districts. The districts will then distribute it to their respective Kebeles or schools in case of school de-worming.
- The schools chair the de-worming campaign with the technical support of health extension

workers. Students that are out of schools will be reached through schools with the support of school administration and Parent Teacher Associations (PTA).

- Children and their families shall be taught the benefits of wearing shoes for preventing soil-transmitted helminthes (STHs), hookworms and other parasites that penetrate the skin.
- It facilitates incorporation of NTDs of relevance to the regions' respective school curricula and disseminates key messages through school plasma screen.

Roles and responsibilities of the Ministry of Agriculture

The Ministry of Agriculture shall be responsible for the following aspects of the national NTDs strategy and programs:

- Agricultural extension workers (DAS) at Kebele level will create awareness and share the responsibilities with health extension workers for the prevention and control of NTDs
- The Ministry of Agriculture ensures that all farmers and pastoralists grow crops and herd cattle in an environment and with a technology which do not facilitate transmission of NTDs

Roles and responsibilities of the Ministry of Water and Energy

The Ministry of Water and Energy shall be responsible for the following aspects of the national NTDs strategy and programs:

- Water and Energy experts at Woreda level will create awareness and share the responsibilities with health extension workers for the prevention and control of NTDs
- Provide clean and safe water, technical support and water facilities to prevent water born and related diseases
- In places where there are dams and irrigation projects, the administrations of the projects will work closely with the existing health facilities and workers. The health facilities around the projects will provide the necessary drugs and equipments (e.g. praziquantel) to the prevention and control of possible diseases.

Furthermore, the Office of Communication for Government Affairs through its branches at regional, zonal and Woreda levels reaches the public at large with key messages on NTDs.

Roles and responsibilities other stakeholders

Responsibilities of the community

The communities around the schools shall be responsible for the following aspects of the national NTDs strategy and programs:

- Active participation in the management of schools
- Resource mobilization and contribution to implement the strategy
- Maintenance of appropriate safe and healthy environments around the intervention area

Responsibilities of all stakeholders

To ensure successful implementation of the NTDs programs, all stakeholders are expected to carry out the following activities jointly as well as individually:

- Advocacy, communication and awareness creation
- Capacity building and strengthening of NTDs systems
- Complementing government efforts in mobilizing resources and program implementation
- Dissemination of information on NTDs matters

In general, through intra-sectoral collaboration, various authorities, institutes, agencies and directorates within the Ministry of Health are working together in planning, implementing, monitoring and evaluating towards controlling and eliminating NTDs. Through inter-sectoral collaboration, NTDs control will benefit from timely supply of drugs, conduct of basic and operational research, strengthened surveillance and monitoring as well as integration with programs of wider coverage and proven acceptance by the community.

4.2 COORDINATION MECHANISM

NTD National Task Force

NTDs national task force (NTF) will be composed by all the stakeholders working on NTDs in the country and will meet biannually. The task force will have an executive committee composed of representatives of the different working groups. Technical working groups (TWG) will be established/strengthened for NTDs. In this regard, some of the NTDs will share the same working group (e.g. schistosomiasis and STH, onchocerciasis and LF, etc.).

The NTF is chaired by the FMoH, which also serves as Secretariat, and constituted by natural and elected members. The natural members are the NTDs National Program Coordinator, the NTDs representatives of the RHBs and the WHO serving as Secretary.

The composition of the NTF can be modified by the FMoH according to the needs or after recommendations by the NTF.

NTD National Task Force mandate:

- Gives support for coordination of all partners, initiatives and major interventions in the fight against the NTDs and in prioritizing operation research areas

- Establishes ad hoc technical working groups (subcommittees) as required in the different areas of expertise and disease specific programs
- Monitors adequacy of progress towards the achievement of the goals of the “National MP on NTDs 2013–2015”
- Supports endeavors and development of a budgeted integrated plan
- Advises on proposal development for resource mobilization, distribution and utilization of available resources in a rational and coordinated manner
- Supports the program on annual national review meetings and other program monitoring, reviewing and evaluating mechanisms
- Revises major general policies, goals and targets related to NTDs and advises accordingly
- Advises on Inter-sectoral activities and initiatives related to the control of NTDs and strategies and linkages with other health interventions
- Assists in refereeing possible problems arising from competences among stakeholders
- Supports the establishment of mechanisms to facilitate information sharing about research projects and identifies research priorities for NTD control
- Ensures the sustainability of the “National MP on Neglected Tropical Diseases (NTDs) 2013–2015”, mobilizes resources or establishes appropriate mechanisms
- Supports the development of national plans, training manuals, revising national guidelines, when appropriate

Major members of the NTF include the following:

1. FMoH
2. Addis Ababa University College of Health Sciences (School of Medicine, Aklilu Lema Institute of Pathobiology (ALIPB))
3. Ethiopia Health and Nutrition Institute (EHNRI)
4. Armauer Hansen Research Institute (AHRI)
5. UN agencies: WHO, UNICEF, World Food Program (WFP)
6. NGOs and national and international institutions: The Carter Center, Malaria Consortium, World Vision, LFW, MSF, ITECH, DNDi, CNHD, IOCC, ITI-Ethiopia, AMREF, CBM, GTM, IOCC, MFA, MSH/SPS, NALA/CEMTA, ORBIS International, Save the Children

7. RHBs
8. Ministry of Water, MoE
9. Donors: USAIDS, DEFID, etc.
10. Civic organizations (Lions Club, Rotary, etc.)

ANNEX I: GLOSSARY

Definitions provided below apply to the terms as used in this document and may have different meanings in other contexts.

Adverse Reaction (to a drug): Noxious and unintended reaction occurring at doses normally used in humans for the prophylaxis, diagnosis or treatment of disease, or for the modification of physiological function.

Eligible population: Group of individuals qualified or entitled to receive in preventive chemotherapy interventions. Eligible populations may vary from high-risk groups in targeted treatment interventions to the entire population living in endemic areas in mass drug administration (MDA) interventions.

Helminthiasis: A general term for any form of disease that accompanies a helminth infection. In most cases the onset and severity of detectable morbidity in a person are related to the number of worms present.

Hydrocele: Collection of fluid in the scrotal sac around the testicles. Usually painless, it is a common chronic manifestation of lymphatic filariasis.

Ineligible Population: Group of individuals not qualified or entitled to receive preventive chemotherapy interventions. Ineligibility is usually determined by exclusion criteria based on drug safety.

Infant Mortality Rate (IMR): The ratio of the number of deaths of children under one year of age occurring in a given year to the number of births in the same year.

Implementation Unit (IU): The smallest (lowest-level) administrative unit that will be responsible for implementing MDA (village, county, district, town, city block), within which the entire eligible population will be treated.

Lymphedema: Swelling of a body part (usually limbs, breast or genitals) caused by blockage of, or damage to, the drainage of the lymphatic system. It is a chronic manifestation of lymphatic filariasis.

Maternal Mortality Rate: The number of maternal deaths related to childbearing divided by the number of live births (or by the number of live births + fetal deaths) in that year.

Mass Drug Administration (MDA): Distribution of drugs to the entire population of a given administrative setting (zone, Woreda, Kebele, village); usually there are inclusion and exclusion criteria.

Modified Decongestive Lymphatic Treatment: Complete decongestive lymphatic physiotherapy that has been adapted for patients with podoconiosis and which is simplified so that non-professionals can learn and implement the treatment effectively. It includes meticulous skin care and hygiene, patient and caregiver education, therapeutic exercises and self-manual drainage techniques to clear proximal lymphatic, focused manual lymphatic drainage of affected areas, multi-layered compression bandaging using short stretch bandages with integrated, custom cut foam to soften fibrotic areas, and long term self-management.

Morbidity: Detectable and measurable consequences of a disease. Evidence of morbidity due to NTDs may be overt (such as the presence of blood in the urine, anemia, chronic pain or fatigue) or subtle (such as stunted growth, impeded school or work performance or increased susceptibility to other diseases).

Preschool Children: All children between the age of 1 and 5 years who are not yet attending (primary) school.

Preventive Chemotherapy: Use of one or more drugs, either alone or in combination, as a public health tool against NTDs.

SAFE: A strategy that consists of lid surgery (S), antibiotics to treat the community pool of infection (A), facial cleanliness (F), and environmental changes (E).

School-Aged Children: Usually all children between the ages of 6 and 15 years, regardless of whether they attend school. In some countries, a primary school's enrolment may include individuals older than 15 years.

Serious Adverse Event (SAE): An event that is fatal, life-threatening, disabling, or incapacitating or that results in hospitalization after drug intake. Any experience that the investigator regards as serious or that would suggest any significant hazard, contraindication, side effect or precaution that may be associated with the use of the drug should be reported.

Under-Five Mortality Rate: The probability of dying between birth and age five per 1000 live births in a given year.

ANNEX 2: PACKAGES OF MDA TYPES

Intervention package no.	Target disease combination	MDA types	Delivery channels	Timing of delivery	No. of regions (cf. footnotes)
I	Onchocerciasis + LF + Schistosomiasis + STH	MDA I	Community Directed Strategy (CDTI)	Month 1	5 regions
		T1	Community based, School based campaign	Month 6	
II	Schistosomiasis + Onchocerciasis + STH where prevalence is high	MDA I	Community Directed Strategy (CDTI)	Month 1	5
		T1	School based campaign	Month 6	5
III	Schistosomiasis + Onchocerciasis + STH where prevalence is low	MDA I	Community Directed Strategy (CDTI)	Month 1	5
		T2	School based campaigns	Month 6	5

IV	Onchocerciasis + STH	MDA I	Community Directed Strategy (CDTI)	Month 1	5
		T3	School based campaigns	Month 6	5
V	Onchocerciasis + Schistosomiasis	MDA 3	Community Directed Strategy (CDTI)	Month 1	5
		T2	School based campaigns	Month 6	5
VI	LF + STH (prevalence high) + Trachoma	MDA I	Community based	Month 1 Week 1	5 5
		Azithromycin	Community based	Week 3	5
		T3	School based campaigns	Month 6	5
VII	LF + SCH+ STH (prevalence high) + Trachoma	MDA I	Community based	Month 1 Week 1	5 5
		Azithromycin	Community based	Week 3	5
		T1	School based campaigns	Month 6	5
VIII	LF + SCH+ STH (prevalence low) + Trachoma	MDA I	Community based	Month 1 Week 1	5 5
		Azithromycin	Community based	Week 3	5
		T2	School based campaigns	Month 6	5
IX	LF + SCH + STH (prevalence high)	MDA I	Community based	Month 1	5
		T1	School based campaign	Month 6	5
X	LF + SCH + STH (prevalence low)	MDA I	Community based	Month 1	5
		T2	School based campaign	Month 6	5
XI		MDA I	Community based	Month 1	5
		T3	School based campaign	Month 6	5
XII	LF + SCH	MDA I	Community based	Month 1	5
		T2	School based campaign	Month 6	5

Legend

MDA1 = Ivermectin + Albendazole

T1 = Praziquantel + Albendazole or

Praziquantel + Mebendazole

MDA2 = DEC+ Albendazole

T2 = Praziquantel only

MDA3 = Ivermectin only

MDA4 = Azithromycin only

T3 = Albendazole or Mebendazole only

ANNEX 3: PROGRESSION PLAN FOR EACH PCT INTERVENTIONS (SCALING-UP AND SCALING-DOWN)

3.1 Schistosomiasis control program annual needs for scaling-up & scaling-down (drugs and supplies)

NTD Program	Activity	Units	Annual requirements/ No of units/population			Total
			2013	2014	2015	
Schistosomiasis	MDA	No. of districts	300	500	300	509
		No. Popn targeted	8.2 M	13.7 M	8.2 M	31.5 M
		Praziquantel needs	20.5 M	34.3 M	20.5 M	80.0 M
	Baseline surveys	No. of districts	40%	40%	10%	100%
	Impact evaluation surveys	No. of districts	100		100	200
	Surveillance	No. of districts	50	50	50	200

3.2 STH control program Annual Needs for scaling-up and scaling-down (drugs and supplies)

NTD Program	Activity	Units	Annual requirements/ No of units/population			Total	
			2013	2014	2015		
STH	MDA	No. of districts		250	408	250	565
		No. of population targeted		10 M	17 M	10 M	40 M
		Albendazol or Mebendazole needs		12 M	20 M	12 M	47.4 M
	Baseline surveys	No. of districts		200	200	150	550
	Impact evaluation surveys	No. of districts		100		100	200
	Surveillance	No. of districts		250	329	329	329

3.3 Onchocerciasis control program annual needs for scaling-up and scaling-down (drugs and supplies)

NTD Program	Activity	Units	Annual requirements/ No of units/population			Total	
			2013	2014	2015		
Onchocerciasis	MDA	No. of districts		112	112	112	112
		No. of population targeted		8288535	8,503,488	8,724,578	
		Mectizan® (Ivermectin) needs		23,207,898	23,809,766	24,428,818	94,094,380
	Baseline surveys (disease mapping)	No. of districts		34	Not needed	Not needed	70
	Impact evaluation surveys	No. of projects		2	3	3	
	Surveillance	No. of districts		112	112	112	

3.4 LF control program annual needs for scaling-up and scaling-down (drugs and supplies)

NTD Program	Activity	Units	Annual requirements/ No of units/population			Total
			2013	2014	2015	
Lymphatic filariasis	MDA*	No. of districts	34	34	34	
		No. population targeted	1.6M	1.63M	1.67M	
		Albendazol needs**	3,013,177	3,091,520	3,171,899	15,075
	Baseline surveys	No. of districts	3	No need	No need	
	Impact evaluation surveys	No. of districts	5		10	
	Surveillance	No. of districts	10	10	10	

* After completion of LF mapping, the figures of the districts, population, and Albendazol needs may change

** NB: One dose treatment is 400mg of Albendazole tablet

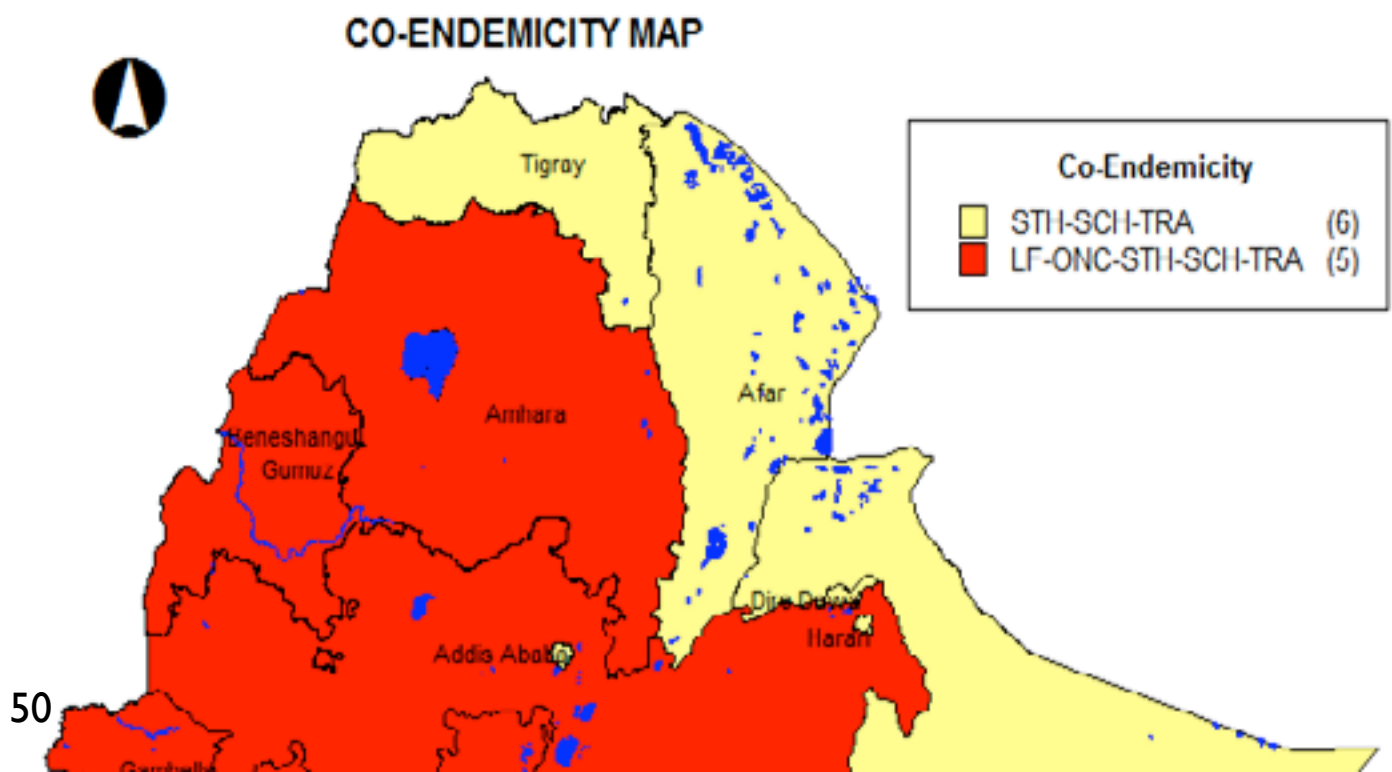
ANNEX 4: DRUGS, DOSAGES, IMPLEMENTATION THRESHOLDS AND REGIMENS IN PREVENTIVE

Chemotherapy interventions (Preventive chemotherapy in human helminthiasis World Health Organization, 2006)			
Disease	Drugs and dosages	Threshold for implementation of preventive chemotherapy interventions	Frequency of intervention
Lymphatic filariasis in countries where onchocerciasis is endemic	IVM according to height using IVM tablet-pole plus albendazole 400 mg	Prevalence of infection $\geq 1\%$	Once a year
Onchocerciasis	IVM according to height (using IVM tablet-pole)	Prevalence of infection $\geq 40\%$ or prevalence of palpable nodules $\geq 20\%$	Once or twice a year
Schistosomiasis	PZQ 40 mg/kg (using PZQ tablet-pole)	Presence of infection	According to prevalence of infection
Soil-transmitted helminthiasis (Ascariasis, Trichuriasis, or hookworm disease)	albendazole 400 mg mebendazole 500 mg (a)	Presence of infection	According to prevalence of infection

Trachoma	Azithromycin 20mg/kg (using tablet-pole) max 1g in adults	Active trachoma (TF) prevalence > 5 % in 1–9 years old at district level (b)	Once a year
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- (a) Levamisol 2.5 mg/kg or Pyrantel 10 mg/kg is useful where Trichuriasis does not pose a significant problem.
- (b) TF >10% at district level: district-wide mass treatment. If TF <5% at district level, some communities might still require community wide treatment.

ANNEX 5. CO-ENDEMICITY MAP FOR NTDS (PCT DISEASES BY REGION), ETHIOPIA



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