



Ministry of Health
Zambia
Trachoma Action Plan
(TAP)

[A component of the National Eye Health Strategic Plan 2012 – 2015]

[December, 2011]

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ABBREVIATIONS

CBM	Christian Blind Mission
CIDA	Canadian International Development Agency
CHAZ	Churches Health Associations of Zambia
DANIDA	Danish International Development Agency
DFID	Department for International Development
DHP	District Health Plans
DIP	Detailed Implementation Plan
DRC	Democratic Republic of Congo
DFFF	District Trachoma Task Force
GG	Geneva Global
IAPB	International Agency for Prevention of Blindness
ITI	International Trachoma Initiative
LAN	Lions Aid Norway
MDA	Mass Drug Administration
MDG	Millennium Development Goal
NECC	National Eye Care Coordinator
NEHSP	National Eye Health Strategic Plan
NGO	Non – Governmental Organisation
NPBC	National Prevention of Blindness Committee
NTD	Neglected Tropical Diseases
NTTF	National Trachoma Task Force
OEU	Operation Eyesight Universal
SAFE	Surgery, Antibiotics, Face washing and Environmental sanitation
SSI	Sightsavers International
TAP	Trachoma Action Plan
TF	Trachoma Inflammation – <i>Follicular</i>
TI	Trachoma Inflammation - <i>Intense</i>
TT	Trachoma Trichiasis

UNICEF	United Nations International Children’s Education Fund
USAID	United States Aid for International Development
WASH	Water, Sanitation and Hygiene
WHO	World Health Organisation

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FOREWORD

Trachoma is believed to be endemic in virtually all of the ten provinces of Zambia, with the highest levels of endemicity in Western Province followed by Southern Province. Other provinces endemic for trachoma include Luapula, Central, Eastern, Muchinga, North-western, Lusaka, Northern, and Copperbelt. Trachoma endemic areas are characterized by perennial water shortages, inadequate sanitation, poor hygiene and poverty.

Trachoma control efforts in Zambia, although limited in scope, have benefitted from support by a wide array of stakeholders, including the Ministry of Health and the co-operating partners and other Government Departments. The eye care partners / NGOs include CBM, Collin Glasco Foundation (Canada), Geneva Global, International Trachoma Initiative (ITI), Lions Aid Norway (LAN), Operation Eyesight Universal (OEU), and Sightsavers International (SSI). ITI has provided antibiotics for treating trachoma.

Eight districts out of 72 have been surveyed for trachoma and the surveyed districts include the following, in alphabetical order, Chiengi, Choma, Gwembe, Kaoma, Mpika, Mufulira, Nchelenge and Sinazongwe with trachoma identified as a public health problem in all except Mpika. The average prevalence has been found to be 21% in the surveys done so far. In order to achieve our goal of eliminating trachoma by the year 2020 it is imperative to scale up trachoma mapping and interventions. In an effort to scale up mapping the country has been divided into 23 “super districts” have been created and the cost of doing surveys has been significantly reduced. The National Prevention of Blindness Committee (NPBC) has also included trachoma as one of its critical elements in the National Eye Health Strategic Plan 2012 to 2015 through this TAP.

The National Eye Health Strategic Plan has been developed so as to serve as a path and a framework to guide in the planning, delivery, and management of clean, caring and competent eye care services at community, district, provincial and national levels.

This document sets out what eye care services the Zambian government wants to deliver to its citizens in the sixth National Development Plan and in line with the National Health Strategic Plan 2011-2015. Therefore, it is my hope that all the relevant stakeholders, including implementing agencies and cooperating partners, will refer to this Plan (NEHSP 2012-2015) for any eye care programmes in which they would like to participate.



Dr. Peter Mwaba
Permanent Secretary
MINISTRY OF HEALTH

EXECUTIVE SUMMARY

The challenge

Trachoma is one of the leading causes of blindness in the world. Globally, there are 1.3 million people blind and 1.8 million people with low vision as a result of trachoma. Trachoma exists in many parts of Zambia and although no nationwide studies have been conducted. It is believed that around 10 million people live in trachoma endemic districts in Zambia. Recent surveys in 6 (of 7) districts of Zambia have shown that trachoma is a public health problem with prevalence rates as high as 32% among children aged from 1-9 years. In these districts almost 4,000 adults are at risk of blindness due to trachomatous trichiasis.

Trachoma elimination has been included in Zambia's 6th National Development Plan. The Ministry of Health has prioritized trachoma for elimination by the year 2020 and is working with various partners to fight trachoma. The determination to tackle trachoma resulted in the preparation of this Trachoma Action Plan (TAP) in Zambia. The surveyed districts are in the process of embarking on the SAFE strategy, whereby activities related to trachoma surgery (S), antibiotic distribution (A), face washing (F) personal hygiene and environmental improvement (E) will be implemented. Trachoma mapping is to be accelerated by the creation of "super-districts" (3-5 districts) and by the adoption of integrated (with other NTDs) mapping, where possible. It is proposed that 21 super districts be mapped by 2013.

The solution

The elimination of trachoma by 2020 is the target; however, success depends upon a rapid scale-up of the full SAFE strategy in all trachoma endemic districts in Zambia. The first consignment of donated antibiotics is expected before the end of 2011; the International Trachoma Initiative has committed to provide Zambia with the antibiotics needed; requests for antibiotic being dependent upon survey data and presentation of a solid full SAFE implementation plan for trachoma endemic districts.

The Ministry of Health is the principal stakeholder in implementation of the SAFE strategy. The Ministry of Health is supported by partners from within the eye care NGO sector, agencies involved in water, sanitation and hygiene (WASH), and other bilateral organizations. The appointment of a National Trachoma programme officer will be critical in ensuring coordination of partnerships, reporting of progress and rapid scale-up of trachoma control activities. Revitalization and streamlining of a National Trachoma Task Force will provide the technical and managerial support for the national trachoma programme officer and for the desired rapid scale up. The Zambia TAP will serve as the trachoma component of the national NTD plan.

Achieving the elimination of trachoma will require the full commitment of both government and cooperating partners, both financially and materially. Strengthened partner coordination and improved community mobilization to help Zambia achieve its goal.

The case for action

Trachoma results in GDP loss in Africa of around \$3-6 billion annually and by adopting and implementing the Zambia TAP it is anticipated that reduced disability and blindness will result in 0.2-0.4% additional economic growth in Zambia. Zambia will not be able to achieve the elimination of trachoma without scale-up of efforts against trachoma. Scale-up is estimated to result in eliminating the risk of blindness in over 45,000 people (currently with potentially blinding trichiasis) and in ensuring Zambia's future generation, its children, are no longer at risk of this debilitating disease.

INTRODUCTION

Trachoma is the leading cause of infectious blindness in the world; it accounts for 1.3 million blind and 1.8 million severely visually impaired people worldwide. In Zambia, 10 million people live in areas believed endemic to the disease, and over 45,000 are at risk of blindness in the next decade. As such, trachoma is a leading cause of blindness in the country. Trachoma arises from poverty and propagates poverty, and has grave medical and socio-economic ramifications. Encouragingly, with the help of international partners, Zambia has an opportunity to eliminate trachoma as a public health problem by the year 2020.

Trachoma is caused by bacterial infection that presents initially as a chronic inflammation of the eyelid (Trachomatous Inflammation – Follicular (TF) and Intense (TI)). Recurrent infections can lead to Trachomatous Trichiasis (TT) -- an in-turning of the eyelashes that brushes the eye when one blinks. This condition causes intense pain and can lead to scarring of the cornea and ultimately blindness. Fortunately, trachoma can be treated and ultimately eliminated with the “SAFE” strategy—a WHO-approved strategy:

- **Surgery** to stop trichiasis cases from leading to blindness
- **Antibiotics** to treat active infections (TF/TI) and prevent further transmission
- **Facial** cleanliness helps to reduce spread by fingers, flies and other vectors
- **Environmental** improvements (such as access to clear water and basic sanitation) reduce exposure to the bacteria and re-infection.

The Zambia Ministry of Health with the help of cooperating partners, have been leading a broad effort to eliminate trachoma as a public health problem in Zambia.

The National Prevention of Blindness Committee and Ministry of Health included trachoma in the *National Prevention of Blindness Plan* in 2006; however, it has become evident that the 2020 target date for elimination is not realistic given the scale of current efforts. Only 7 out of 72 districts have been surveyed and only limited trachoma control activities are in place. Against the anticipated backlog of 45,000 people with trachomatous trichiasis only around 350 surgeries were carried out in 2010.

In light of current progress, a 2-day workshop was convened by Ministry of Health with the help of the International Trachoma Initiative (ITI) to develop this document, *Zambia National Trachoma Action Plan*. The meeting brought together a broad mix of local and international stakeholders (Appendix Table 1). The primary objective of this document is to present the framework for the elimination of blinding trachoma in Zambia. The document has four sections:

- Current state of trachoma in Zambia
- The path to elimination of trachoma in Zambia
- Key success factors in Zambia
- Case for action

TRACHOMA IN ZAMBIA

The first survey of trachoma in Zambia was carried out in Nchelenge in 1985; this survey showed trachoma to be a blinding disease in the district. More recently, in 2007-2008 surveys were carried out in five districts (Choma, Sinazongwe, Mufulira, Mpika, and Kaoma); with trachoma identified as a public health problem in all except Mpika. In mid 2011 survey of Chiengi and Nchelenge also demonstrated trachoma to be a public health problem. In these 7 districts it was estimated that there were 3,721 people with trichiasis and at risk of blindness, while in the year 2010 only around 150 trichiasis surgeries were reported from these districts (and about 350 nationwide).

Trachoma is believed to be endemic in virtually all of the nine provinces of Zambia, with the highest levels of endemicity in Western Province followed by Southern Province. Other provinces endemic for trachoma include Luapula, Eastern, Northern, Muchinga and Copperbelt. Neighboring countries, including Malawi, Tanzania, and DRC have areas known to have a high prevalence of trachoma. Trachoma endemic areas are characterized by perennial water shortages, inadequate sanitation, poor hygiene and poverty.

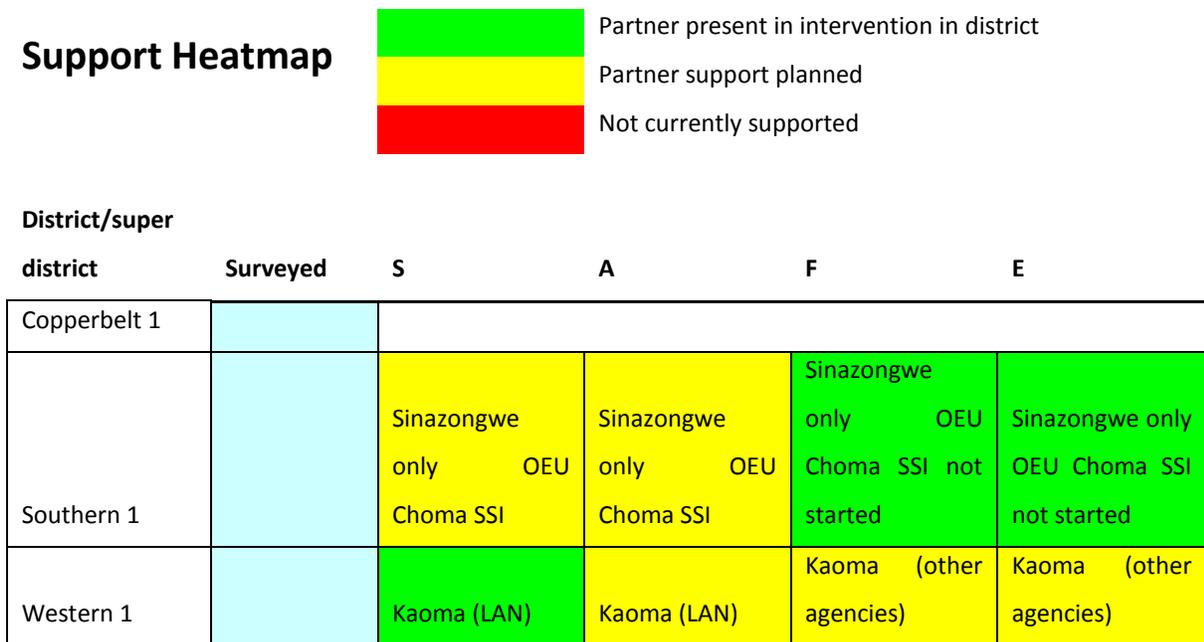
Trachoma control efforts in Zambia, although limited in scope, have benefitted from support by a wide array of stakeholders, including the Ministry of Health (the lead partner), the Ministry of lands, Energy & Water development, the Ministry of Education, the Ministry of Local Government, Housing, Early Education and Environmental Protection, the University of Zambia School of Medicine, and eye care NGOs including CBM, Operation Eyesight Universal (OEU), Lions Aid Norway (LAN), and Sightsavers International (SSI). The International Trachoma Initiative (ITI), has provided (by a donation from Pfizer) antibiotics for treating trachoma, and the Kilimanjaro Centre for Community Ophthalmology has provided technical assistance.

Previous experience with trachoma control in the Gwembe Valley (supported by OEU) has demonstrated that adoption of the full SAFE strategy can significantly reduce the prevalence of trachoma. Based on these successes and progress achieved in other sub-Saharan African countries (notably Ghana, Mali, and Niger) the global prevention of blindness and NTD community has committed to assist Zambia achieve its goal of the elimination of blinding trachoma by the year 2020.

The figure below shows the current distribution of support for trachoma control in both the surveyed districts as well as the districts yet to be surveyed. The face washing and environmental improvements components are generally present in every district, largely as a result of efforts from the Ministry of lands, Energy & Water development, UNICEF, and others, and typically are driven by a broader development agenda rather than solely that of trachoma control.

It should be noted, however that trachoma-specific messages have not been adequately integrated into WASH programmes.

Figure 1: Partnership for trachoma control



Northern 4		CBM			
Copperbelt 1		Mufulira (SSI)	Mufulira (SSI)	Mufulira (other partners)	Mufulira (other partners)
Copperbelt 2		CBM			
Copperbelt 3		CBM			
Copperbelt 4		CBM			
Luapula 1		Nchelenge (GG & CBM)	Nchelenge (GG)	Nchelenge (GG)	Nchelenge (GG)
Luapula 2		Chienge (GG & CBM)	Chienge (GG & CBM)	Chienge (GG)	Chienge (GG)
Luapula 3		Kawambwa, Mansa, Samfya, Milenge, Mwense (GG & CBM)	Kawambwa, Mansa, Samfya, Milenge, Mwense (GG)	Kawambwa, Mansa, Samfya, Milenge, Mwense (GG)	Kawambwa, Mansa, Samfya, Milenge, Mwense (GG)
Northern 1		Kaputa (GG)		Kaputa	Kaputa
Northern 2		CBM			
Northern 3		CBM			
Northern 5		CBM			
Northern 6		CBM			
Eastern 1		Chama, Lundazi, Mambwe (OEU)	Chama, Lundazi, Mambwe (OEU)	Chama, Lundazi, Mambwe (OEU)	Chama, Lundazi, Mambwe (OEU)
Eastern 2		Katete, Petauke, Chateza (OEU)	Katete, Petauke, Chateza (OEU)	Katete, Petauke, Chateza (OEU)	Katete, Petauke, Chateza (OEU)
Eastern 3		Chipata (OEU)	Chipata (OEU)	Chipata (OEU)	Chipata (OEU)
Central 1		Mumbwa			
Central 2		Chibombo, Kabwe, Kapiri-Mposhi, Mkushi, Serenje			
Lusaka 1		Luangwa, Chongwe			
Lusaka 2		Kafue, Lusaka			

North Western 1		Zambezi, Kambompo, Mwinilunga (OEU)			
North Western 2		Kasempa, Solwezi, Mufumbwe (OEU)			
Southern 1		Monze, Livingstone, Kalomo, Mazabuka, Namwala, Siavonga (OEU & SSI)			
Western 1		Kalabo, Lukulu, Mongu, Senanga, Shang'ombo, Sesheke (Sesheke for pilot integrated mapping) LAN	Kalabo, Lukulu, Mongu, Senanga, Shang'ombo, Sesheke (Sesheke for pilot integrated mapping) LAN	Kalabo, Lukulu, Mongu, Senanga, Shang'ombo, Sesheke (Sesheke for pilot integrated mapping) LAN	Kalabo, Lukulu, Mongu, Senanga, Shang'ombo, Sesheke (Sesheke for pilot integrated mapping) LAN

THE PATH TO ELIMINATION IN ZAMBIA

GET2020 has set a goal of achieving, by 2020, the elimination of blinding trachoma in all endemic countries. Elimination is defined as:

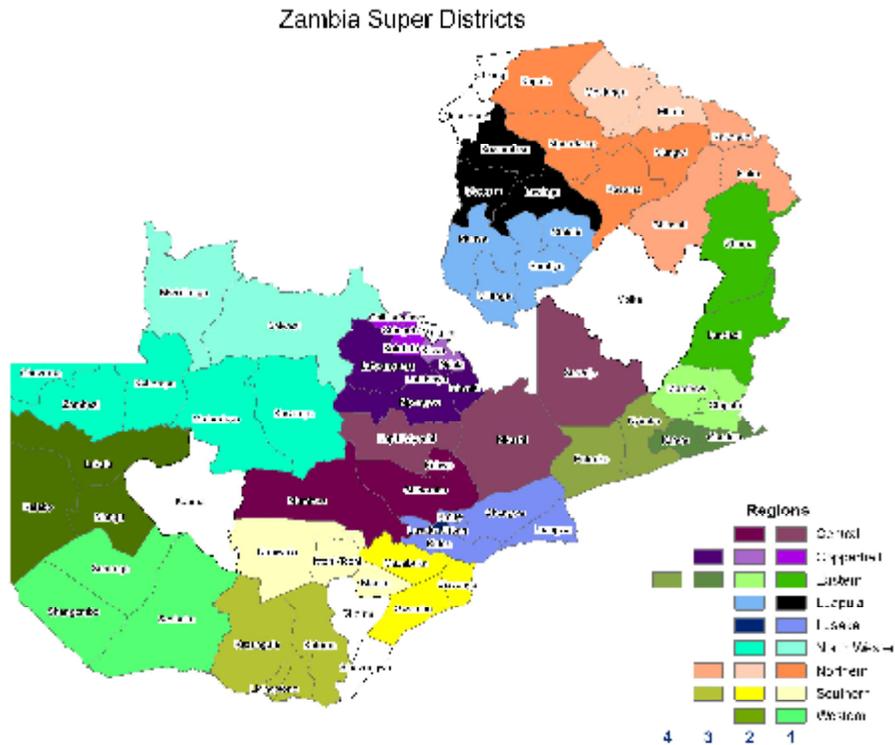
- Reduction of prevalence of TF in children ages 1 -9 years to <5%, and
- Reduction of the prevalence of TT to less than 1 per 1,000 population

By building a strong network of global and local support, Zambia has a very real opportunity to achieve elimination by 2020, in alignment with the global goal. However, this will require a significant scale-up of mapping and interventions from current levels across the entire SAFE strategy.

Quantifying scale-up

Achieving elimination will require significantly increasing the level of activities against each SAFE dimension. As only 6 districts have been surveyed to date, the first step is the mapping of trachoma endemicity in the rest of the country. Global guidelines for mapping of “super-districts” (with similar geographic, environmental characteristics and anticipated prevalence of active trachoma in children) have been adopted and 23 “super-districts” have been created for the purpose of mapping trachoma.

Figure 2: Super-districts for mapping



It is anticipated that most districts, with the exception of urban districts, will have trachoma as a public health problem (TF prevalence in children 10% and greater) however, some districts, particularly in the Western Province, are likely to have trachoma at hyper-endemic (above 30%) levels, requiring longer term trachoma control activities. These areas are prioritized for early intervention. Thus, scale up of trachoma control is based upon anticipated levels of endemicity. In total, 10 million Zambians are likely to be living in trachoma endemic areas.

In the six surveyed districts there are an estimated 3,720 people with trichiasis. In yet to be surveyed districts there are an estimated 42,530 people with trichiasis.

This translates to a known surgical backlog of 2,790 ($3,730 \times 0.75$) and an estimated surgical backlog of 31,900 ($42,530 \times .75$). The estimated surgical needs for each super-district are shown in Appendix 2.

In the five surveyed districts in which trachoma is a public health problem, the population in need of antibiotic treatment is 1,077,200. In the districts yet to be surveyed it is estimated that 8,954,400 live in districts that are likely to require antibiotic distribution. The antibiotic needs (three years in most districts, five years in an estimated 10 districts) for elimination are given for all super-districts in Appendix 3.

Reducing TF prevalence to the target levels will require enhanced efforts in face washing education and environmental change alongside antibiotic distribution. All trachoma endemic districts require interventions to improve sanitation and hygiene.

According to the proposed district rollout schedule (see Appendix 4), antibiotic distribution will need to be scaled-up from just over one million in 2012 to 3 million in 2013, 7.5 million in 2014, to 9.6 million in 2015. If antibiotic coverage remains high and face washing and water and sanitation efforts are active in the intervention districts, it is anticipated that antibiotic distribution needs will start reducing thereafter with antibiotic needs in 2016 totaling 8.5 million dropping to 3.8 million in 2017. Thus, the scale up from 2012 to 2015 is almost ten fold.

These activities will contribute to a reduction in trichiasis incidence (occurrence of new cases), but reaching the trichiasis prevalence target of <1 case per 1000 population will require rapid scale-up of surgical activity. To address the current and likely-to-emerge cases of trichiasis, surgical activity (currently estimated at 350 people per year) will need to triple in 2012 to just over 1,000, increasing to almost 5,000 in 2013 and 8,700 in 2014, dropping to 5,000 in 2015 and further to 2,000 in 2017. Thus, the scale up from 2012 to 2015 is eight fold.

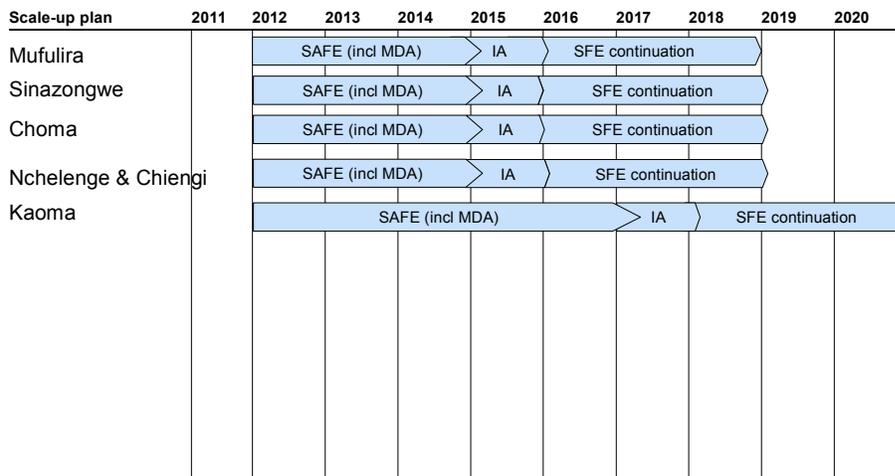
Timeline to Scale-up

Achieving this level of scale-up will require superb national coordination as well as a highly localized strategy; each district needs a Detailed Implementation Plan (DIP) to clearly articulate operational plans therein. The DIPs for SAFE should be developed in consultation with the district stakeholder’s forum (ideally, a district trachoma task force: DTF) which ultimately will feed into the District Health Plans (DHP). The timelines shown below reflect a realistic estimate about what is required to reach elimination by 2020 for both confirmed endemic districts and anticipated trachoma endemic super-districts.

Scale-up and/or initiation of interventions in *surveyed* districts should begin immediately (as below); all 6 endemic districts will need to launch the full SAFE strategy in 2012.

Figure 3: Elimination timelines for confirmed endemic districts

Confirmed Endemic Districts



Note: IA= Impact Assessment, the A part of SAFE defined as Mass administration of antibiotic
 Note: There is a possibility that the districts of Mufulira, Sinazongwe, and Kaoma can begin SAFE in 2011

For the 21 suspected endemic super-districts, surveys need to be conducted as soon as possible. Survey findings should stimulate drafting of a district trachoma plan and request for antibiotics for the following year. In some special cases, it might be possible to initiate mass drug administration (MDA) in the year following survey; this will depend upon the speed at which findings are compiled, plans developed, partners identified, and funding allocated. Practically, five super-districts can be surveyed in 2011, ten in 2012, and six in 2013. Surveys need to be followed immediately by drafting of full SAFE plans and application for MDA. Achieving elimination by 2020 will require completion of all district level surveys by the end of 2014.

The Cost of intervention

The total cost (for 2011-2020) of trachoma elimination in Zambia is estimated to be around \$16 million. This includes \$1.5 million for trichiasis surgeries, \$8.8 million for antibiotic distribution, and \$5.7 million for enhanced face washing and environmental improvements. It is anticipated that surveys and impact assessments will add an additional \$500,000 to this figure.

The funding for the TAP will come from the Government of Zambia and cooperating partners. It is anticipated that improved efficiency should lead to reduced unit cost for surgery (currently \$45 per patient), as well as reduced unit cost per person treated with antibiotic (currently \$0.25 per person).

With the completion of surveys of super-districts it is anticipated that more accurate cost figures can be generated for surgical interventions and antibiotic administration. Only two super-districts (plus urban areas of Lusaka, Ndola, and Kitwe) are anticipated to have active trachoma below the threshold for triggering antibiotic distribution; if other super-districts are identified as hypo-endemic, this will reduce the overall cost of elimination.

Pfizer Pharmaceuticals, through the ITI, have agreed to donate the antibiotic (Zithromax) necessary to eliminate trachoma in the country.

This contribution of 33 million doses over the next 9 years has an approximate retail value of \$ 328.7million. Every dollar spent on the SAFE strategy can generate about \$35-\$40 in drug donation.

F&E interventions will be closely coordinated with other Government Ministries (Ministry of lands, Energy & Water development, the Ministry of Education, the Ministry of Local Government, Housing, Early Education and Environmental Protection, Gender, etc.). These costs are not specifically quantified in this document due to uncertainty around costing and gaps for existing programs run by other ministries; instead, an estimate of \$5.7 million is made given the experience in other countries. F&E costs will need to be quantified separately and would likely be substantial in their own right. Similarly, there are a number of coordination/ administrative costs that are not included.

Stakeholder engagement strategy

Given the scale of the effort required, the effective coordination of multiple stakeholders will be vital to the long-term success of elimination efforts.

Government ministries:

- The *Ministry of Local Government, Housing, Early Education and Environmental Protection* is the lead ministry for WASH activities. As such, it will be the key partner in the scale-up of environmental change activities. Other ministries, in particular the *Ministry of lands, Energy & Water development*, are part of the WASH programme and the trachoma control community should continue to work through these ministries to advocate for trachoma as part of WASH strategies.

In addition, both at the national and the district level advocacy and collaboration is needed to position highly endemic areas as priorities for public sector water source improvement efforts

- The *Ministry of Education* will continue to play an important role in the development and execution of face washing education initiatives. Efforts to integrate trachoma control into the national school health curriculum should be a priority. In addition, advocacy with district education officers should be included in district strategies to encourage and support the development of teacher capabilities in delivering these lessons.
- Collaboration with other divisions of the *Ministry of Health*, including other NTDs, district leadership, and the broader health system will be critical to ensure that trachoma is not handled as a “vertical silo,” but rather as one component of the broader health system and NTD strategy that capitalizes on complementarities with other efforts.

Bilateral development agencies:

- Given the broad scope of existing health efforts of bilateral development agencies including DANIDA, CIDA, USAID, DFID, and others, advocacy focused on trachoma control as addressing the MDGs in Zambia would lead to the inclusion of trachoma into broader bilateral agency support.

NGOs:

- Zambia currently benefits from the presence of multiple *health and eye-care focused NGOs*. Through the National Trachoma Task Force and the proposed National Trachoma Programme Officer and office, NGO efforts can be effectively aligned against the timelines and priorities of the strategic plan.

Focusing the resources and activities of these organizations against a common strategic approach will maximize their collective impact in the march to elimination.

KEY SUCCESS FACTORS

Achieving 2020 elimination will necessitate a program-wide enhancement of activities. The Government of Zambia, through the Ministry of Health is the lead partner in the elimination effort. To make elimination possible key success factors include:

- *Rapidly responding, well-functioning National Trachoma Task Force:* This 5-6 member group will spearhead all trachoma activities in Zambia, addressing all technical and programmatic aspects of scale-up. The NTTF will work closely with the National Trachoma Programme Officer.
- *Pro-active coordination of trachoma control activities by a National Trachoma Coordinator:* The role of the National Trachoma Control Coordinator will be to manage and coordinate all trachoma control activities in the country.
- *Rapidly surveying remaining districts:* Immediate start up of surveying of high-priority super-districts to enable development of plans and identification of funding for scale up of the SAFE strategy in identified areas.
- *Shorter timelines to implementation of full SAFE strategy.* District plans should be drafted and application for antibiotic should be submitted within one year of the survey. Ideally, surveys should be conducted in June to September to enable districts to include trachoma in district action plans (which are submitted by the end of September).
- *Effective integration of trachoma control into NTDs:* Trachoma is one of the neglected tropical diseases (NTDs) and future resourcing for trachoma control will require effective integration of trachoma control into the national NTD programme.

- *Close integration of F&E with other ongoing efforts:* Inclusion of trachoma into the WASH programmes may help “ring fence” government financing for F&E efforts in trachoma endemic districts. This requires closer interaction with the agencies involved in WASH efforts.
- *Encourage district-level planning:* While surveying will be carried out at the super-district level, implementation planning is carried out at the district level. Advocacy at district level, through the establishment of district trachoma task forces, will be effective in encouraging district level planning. The National Trachoma Programme Officer and partners will need to assist districts with planning efforts.
- *Increased community outreach:* A successful scale-up will require a new, broad-based plan to work with communities to inform, educate, and collaborate. In particular, it is recognized that targets for trichiasis surgery will only be met if outreach surgical services are adopted. Ultimately, engaging communities in antibiotic distribution will improve compliance and reduce the costs of MDA.
- *Improved monitoring of SAFE implementation:* A new national strategy must be developed to monitor the implementation of all aspects of the SAFE strategy. Monitoring should be against targets; there is a need, however, to identify indicators for F&E activities. Impact assessments (after 3 to 5 years of MDA) need to be carried out in all intervention districts.

CASE FOR ACTION

As the leading cause of preventable blindness, trachoma disproportionately affects those least able to help themselves, predominantly women and children. The disease contributes, along with poor access to water and sanitation, to a vicious cycle of poverty and infection. Living conditions associated with poverty contribute to the spread of trachoma, and the resulting vision loss exacerbates poverty by decreasing productivity (of the blinded), and compromising the education of future generations (as children frequently miss school to assist their blinded elders in the activities of daily life). Lacking intervention to interrupt this vicious cycle, many rural Zambians will remain subject to the risk of blindness and the associated ills of poverty and disability.

Without scale-up of efforts against trachoma in Zambia, an additional 45,000 persons are at risk of blindness or severe vision loss by the year 2020. However, primary prevention (antibiotics) can be achieved for less than US\$1 (current estimate = \$0.84) per person, and secondary prevention (surgery) for less than \$45 per person, creating a cost-effective opportunity to eliminate trachoma from the country.

Pursuing trachoma elimination in the near-term will yield a number of broader benefits beyond the avoidance of disability and death. Personal hygiene education and environmental change initiatives contribute to a broader development agenda--the collateral benefits of clean water provision, along with improved personal hygiene and sanitation cannot be understated. These core components of SAFE will help reduce the burden of nearly all infectious diseases, including diarrheal disease which claims the lives of nearly 15, 000 Zambians children annually. The aim of trachoma elimination – freeing all Zambians from an easily preventable cause of blindness – not only preserves the sight and health of our most vulnerable citizens but will enable them to live long and productive lives. Most importantly, it will ensure that our children do not have to face the possibility of trachoma infection and blindness.

Appendix 1:

STAKEHOLDERS ATTENDING THE TAP

- CBM
- Geneva Global
- International Trachoma Initiative
- Jesus Cares Ministries
- Kilimanjaro Centre for Community Ophthalmology
- Lions Aid Norway
- Ministry of Education
- Ministry Lands, Energy and Water Development
- Ministry of Local Government, Housing, Early Education and Environmental Protection
- Operation Eyesight Universal
- Sightsavers International

Appendix 2: Trichiasis surgical needs

	TT cases	Surgical needs	Annual scale up (40% in year one, 30% in year 2, 20% in year 3, 3% each additional year for incident cases)									Total
			2012	2013	2014	2015	2016	2017	2018	2019	2020	
Surveyed districts	3,721	2,791	1,116	837	558	84	84	84	84	84	84	3,015
Super-districts yet to be surveyed												
Phase 1 districts	13,317	9,988		3,995	2,996	1,998	300	300	300	300	300	10,489
Phase 2 districts	17,529	13,147		0	5,259	3,944	2,629	394	394	394	394	13,408
Phase 3 districts	8,961	6,721				2,688	2,016	1,344	202	202	202	6,654
		0										
Total trichiasis surgeries	39,807	29,855	1,116	4,832	8,813	8,714	5,029	2,123	980	980	980	33,567
Programme cost (\$45/person)			\$ 50,233.50	\$ 217,454.63	\$ 396,592.88	\$ 392,111.89	\$226,314.34	\$ 95,514.86	\$ 44,083.01	\$ 44,100.00	\$ 44,100.00	\$ 1,510,505.10

Appendix 3: Antibiotic needs

Surveyed districts	Population	Distribution period									Total
		2012	2013	2014	2015	2016	2017	2018	2019	2020	
Districts that require 3 year antibiotic distribution	852,258	852,258	852,258	852,258							2,556,774
Districts that require 5 year antibiotic distribution	224,942	224,942	224,942	224,942	224,942	224,942					1,124,710
Total population receiving MDA	1,077,200	1,077,200	1,077,200	1,077,200	224,942	224,942	0	0	0	0	3,681,484
Super-districts yet to be surveyed											
Phase 1 districts expected to require 3 year antibiotic distribution			1,151,477	1,151,477	1,151,477						3,454,431
Phase 1 districts expected to require 5 year antibiotic distribution			792,111	792,111	792,111	792,111	792,111				3,960,555

Phase 2 districts expected to require 3 year antibiotic distribution				4,454,430	4,454,430	4,454,430					13,363,290
Phase 2 districts expected to require 5 year antibiotic distribution											0
Phase 3 districts expected to require 3 year antibiotic distribution					3,018,069	3,018,069	3,018,069				9,054,207
Phase 3 districts expected to require 5 year antibiotic distribution											0
Total anticipated population covered by MDA	1,077,200	1,077,200	3,020,788	7,475,218	9,641,029	8,489,552	3,810,180	0	0	0	33,513,967
Anticipated cost of distribution (\$0.25 per person)		\$ 269,300.00	\$ 755,197.00	\$ 1,868,804.50	\$ 2,410,257.25	\$ 2,122,388.00	\$ 952,545.00				\$ 8,378,491.75

Appendix 4: Anticipated roll out of the SAFE strategy

Surveyed Districts	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mufulira		MDA	MDA	MDA	IA	SFE	SFE	SFE		
Sinazongwe		MDA	MDA	MDA	IA	SFE	SFE	SFE		
Choma		MDA	MDA	MDA	IA	SFE	SFE	SFE		
Kaoma		MDA	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
Mpika										
Nchelenge (+Chienge)		MDA	MDA	MDA	IA	SFE	SFE	SFE		
Total										

Unsurveyed Districts	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Northern 3 (Isoko, Chinsali, Nakonde)	Survey	Planning & submission	MDA	MDA	MDA	IA	SFE	SFE	SFE	
Eastern 1 (Chama, Lundazi)	Survey	Planning & submission	MDA	MDA	MDA	IA	SFE	SFE	SFE	
Southern 1 (Namwala, Itezhi tezhi, Monze)	Survey	Planning & submission	MDA	MDA	MDA	IA	SFE	SFE	SFE	
Western 1 (Senanga, Sesheke, Shang'ombo)	Survey	Planning & submission	MDA	MDA	MDA	MDA	MDA	IA	SFE	SFE

Western 2 (Kalabo,Lukulu,Mongu)	Survey	Planning & submission	MDA	MDA	MDA	MDA	MDA	IA	SFE	SFE
Copperbelt 3 (Masaiti,Mpongwe, Lufwanyama, Luanshya) + Ndola rural	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
Northern 1 (Kaputa, Mungwi,Kasama, Mporokoso)	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
North Western 2 (Kabompo, Mufumbwe, Kasempa, Chavuma, Zambezi)	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
Eastern 4 (Petauke,Nyimba)	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
Southern 3 (Livingstone, Kazungula, Kalomo)	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
Luapula 1 (Kawambwa, Luwingu, Mwense)	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
Northern 2 (Mpulungu, Mbala)	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
Eastern 2 (Chipata, Mambwe)	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
Central 1 (Mkushi, Serenje, Kapiri Mposhi)	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE
Southern 2 (Siavonga, Mazabuka,Gwembe)	Survey	Planning & submission	MDA	MDA	MDA	MDA	IA	SFE	SFE	SFE

Copperbelt 1 (Chingola, Kalulushi, Chililabombwe)			Survey	Planning & submission	MDA	MDA	MDA	IA	SFE	SFE
Luapula 2 (Mansa, Samfya, Milenge, Chilubi)			Survey	Planning & submission	MDA	MDA	MDA	IA	SFE	SFE
North Westen 1 (Mwinilunga, Solwezi)			Survey	Planning & submission	MDA	MDA	MDA	IA	SFE	SFE
Eastern 3 (Katete, Chadiza)			Survey	Planning & submission	MDA	MDA	MDA	IA	SFE	SFE
Central 2 (Kabwe, Chibombo, Mumbwa)			Survey	Planning & submission	MDA	MDA	MDA	IA	SFE	SFE
Lusaka 1 (Chongwe, Luangwa, Kafue)			Survey	Planning & submission	MDA	MDA	MDA	IA	SFE	SFE
Lusaka 2 (Lusaka)										
Copperbelt 2 (Kitwe, Ndola)										