



Sightsavers Deworming Programme - Cameroon GiveWell Project Concept Note: Scaling-up an Evidence-Based Approach for Schistosomiasis and Soil Transmitted Helminths control.

Country: Cameroon

Location: South-West, North-West and West regions

Duration of project: Three years

Start date: January 2017

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Map of Cameroon highlighting three targeted regions,
Northwest, Southwest and West

Project overview

Problem statement

Sightsavers Cameroon has partnered with the Ministry of Public Health (MOH) since 1996, with early work focused on the fight against onchocerciasis. In 2010, following new support from USAID through their ENVISION program led in Cameroon by Helen Keller International, Sightsavers expanded its support to three other targeted preventive chemotherapy treatment neglected tropical diseases (NTDs) - lymphatic filariasis (LF), soil-transmitted helminthiasis (STH) and schistosomiasis (SCH) in the North-West, South-West and West Regions. Mass Drug Administration (MDA) of mebendazole and praziquantel (in STH and schistosomiasis endemic districts) takes place in these three regions through schools and vocational training institutions once a year, as it is in the entire country. Drugs are distributed by school teachers to both enrolled and non-enrolled school aged children (5-14 years). National and regional NTD coordination teams and NGO staff ensure supervision and monitoring.

Sightsavers is supporting the distribution of praziquantel for schistosomiasis in 14 health districts (three in the Northwest, six in the Southwest, five in the West) and mebendazole for STH in all 57 health districts of the three regions.

Despite continuous distribution of mebendazole and praziquantel supported with some sensitization activities, programme monitoring and treatment reports from the Ministry of Health have revealed outbreaks of haematuria in some project areas in the West region. Studies conducted in Muyuka health district of the South West Region have established evidence of high schistosomiasis and STH prevalence $\geq 50\%$ in some rural communities, with a significant association in parasite prevalence observed between water source and open field defecation with increased risk observed in farmers and school pupils (Ntonifor *et al.*, 2015)¹.

It is well documented that prevalence of infection tends to return to previous levels several months after treatment, and the WHO notes that the only definitive solution for eliminating schistosomiasis and STH infections is improvement in environmental conditions and a change in risk behaviours². As a result, the Cameroon national programme might not attain its objective to reduce morbidity (measured by the intensity of worm infection) because of consistent reinfection and systematic non-inclusion of adult high risk groups such as rice farmers and fishermen.

It is therefore important and feasible, in addition to refining schistosomiasis / STH MDA strategies based on new epidemiological information, to begin to address water, sanitation and hygiene practices (WASH) in endemic communities and schools. Additional epidemiological surveys to inform MDA strategies and the introduction of WASH interventions in targeted high-risk areas will be key components to curbing the continuous transmission of schistosomiasis and STH in Cameroon and are highlighted in this project narrative concept. As shown by Grimes *et al.* in their 2015 meta-analysis,

¹ Ntonifor H.N, A.E.Green, M.O.S.Bopda and J. T.Tabot. (2015): Epidemiology of Urinary Schistosomiasis and Soil Transmitted Helminthiasis in a Recently Established Focus behind Mount Cameroon. International Journal of Current Microbiology and Applied Sciences, Vol 4: pp. 1056-1066.

² WHO. Helminth control in school-age children: a guide for managers of control programmes (second edition). Geneva: World Health Organization; 2011.

schistosomiasis transmission is entrenched in social-ecological systems, and hence is governed by setting-specific cultural and environmental factors that determine human behaviour and snail populations³. Therefore, an emphasis on environmental and specific behavioral factors should be included in any effective deworming programme. A recent study by Dreibelbis et al. (2016), suggest that latrine use and hand-washing behaviours can be strongly influenced by manipulating certain environmental cues^{4 5}.

In other words, positive behaviour changes can be 'nudged' by influencing how children and adults physically interact with their environment and WASH facilities both at a conscious and unconscious level.

This project proposes to support the national schistosomiasis / STH control program by conducting new schistosomiasis / STH prevalence surveys in targeted sub-districts of the South-West, North West and West regions to develop more effective treatment strategies for school-aged children. In addition, in selected schools and communities, where prevalence of schistosomiasis or STH is determined to still be >50% after five effective rounds of MDA (>75% coverage of school-aged children), the project would facilitate teacher focused training on how to include specific hygiene components into the curriculum by introducing practical interventions that can help reinforce, or 'nudge', students into adopting good hand-washing and latrine use practices.

Problem identification

Research conducted in the South-West region in 2015 by H.N. *Ntonifor et al.*, titled "Epidemiology of urinary SCH and STH in a recent established focus behind Mount Cameroon" presented high prevalence of schistosomiasis and STH amongst pupils between 11-20 years old and the linkage with socio cultural and demographic determinants.

The integrated NTD control activities currently give room for shared learning during evaluation and monitoring. Monitoring visits conducted by Sightsavers and the MoH partner using standard monitoring forms provide key information on the issue of poor hygiene and sanitation.

Yearly review and planning meetings are also organised across the country to discuss challenges and plan for better interventions in the communities. This is the case for the three targeted regions, where review meetings are organised at the end of each mass drug distribution campaign. These meetings also serve as an avenue for sharing and dissemination of key learnings from evaluations and reviews, amongst the country and regional NTD coordination teams.

The issue of the need to improve on hygiene practices of school-aged children towards STH and schistosomiasis was also raised in the findings of the post-treatment coverage

³ Grimes JE, Croll D, Harrison WE, Utzinger J, Freeman MC, Templeton MR, 2015. The roles of water, sanitation and hygiene in reducing schistosomiasis: a review. *Parasite & Vectors* 8: 156.

⁴ Hullah K, Martin N, Dreibelbis R, DeBruicker Valliant J, Winch P (2015) What factors affect sustained adoption of safe water, hygiene and sanitation technologies? A systematic review of literature. London: EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London.

⁵ Dreibelbis R, Kroeger A, Hossain K, Venkatesh M and Ram PK (2016) Behavior Change without Behavior Change Communication: Nudging Handwashing among Primary School Students in Bangladesh. *International Journal of Environmental Research and Public Health*. 13, 129

surveys that were conducted by the Sightsavers Cameroon country office, following MDA campaigns in the three supported regions. These post treatment coverage surveys were conducted in order to validate results of routine reporting and to identify areas where coverage needs to improve. Improving the quality of supervision and monitoring drug stock and treatment progression during MDA are critical components for programs to improve coverage. These surveys also provide a possibility to observe specific WASH indicators such as “presence of hand washing stations with soap and water”.

Needs

It has been agreed with the MoH that efforts should be made to a) re-evaluate prevalence and intensity of infection in select districts in the South-west, North West and West regions and b) complement schistosomiasis and STH MDA activities with WASH interventions that support behavioural change and environmental improvement.

In Cameroon, school-based MDA has been implemented for a long time with a minor component of sensitization and mobilisation focusing on the need of children to be treated. Approaches to behaviour change and shifting of the social norms that will influence elimination of STH and schistosomiasis have been left out from the main milestones of our programme. With the current interest of the government with support from NGOs and other partners, within the framework of elimination of NTDs as an ultimate goal, it is well known now that treatment alone will not be sufficient to achieve interruption of transmission of schistosomiasis and STH. Health education for behaviour change and better environmental management are key to reducing transmission of the diseases. Combined approaches of intensive chemotherapy and educational interventions will ensure the elimination goal achievement.

Target beneficiaries

Sensitization activities for this project will target an estimated 1,385,222 people living in 15 health districts of the three Sightsavers supported regions with particular attention on school age children (5-14 years). The estimated target (25%) of school age children to be covered by the project is 346,306.

Reports from the Ministry of Education revealed these three regions have more than a 90% school enrolment rate on average. The 2016 school MDA reports showed the following in terms of enrolment rates:

- South West: 96.7%.
- North West: 87%.
- West: 91%.

Implementation Area

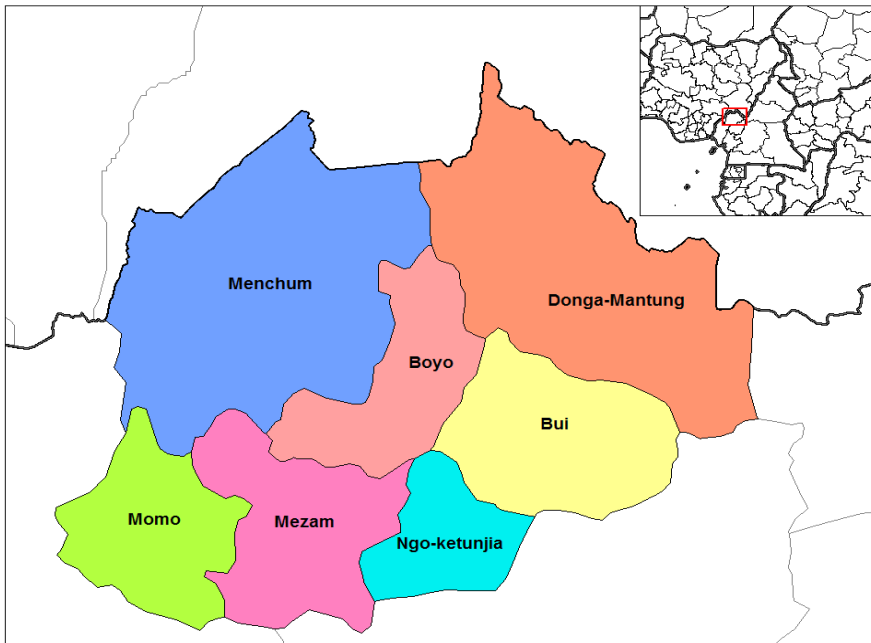
The project will be implemented in three regions (South West, North West and West), focused in the 15 health districts where Sightsavers is supporting MDA activities for NTD elimination. In 13 of these health districts schistosomiasis and STH are co-endemic. Two health districts are endemic for STH and not for schistosomiasis, and will be included in the project for comparison purposes.

The North-West region

The North-West region is located in the western highlands of Cameroon and covers an area of about 17,572km². It is bordered to the South West by the Southwest region, to the South by the West region, to the East by the Adamawa region, and to the North by

the Federal Republic of Nigeria. It is the third most populated region in Cameroon with an estimated population of 1,694,596 people living in 1,250 communities.

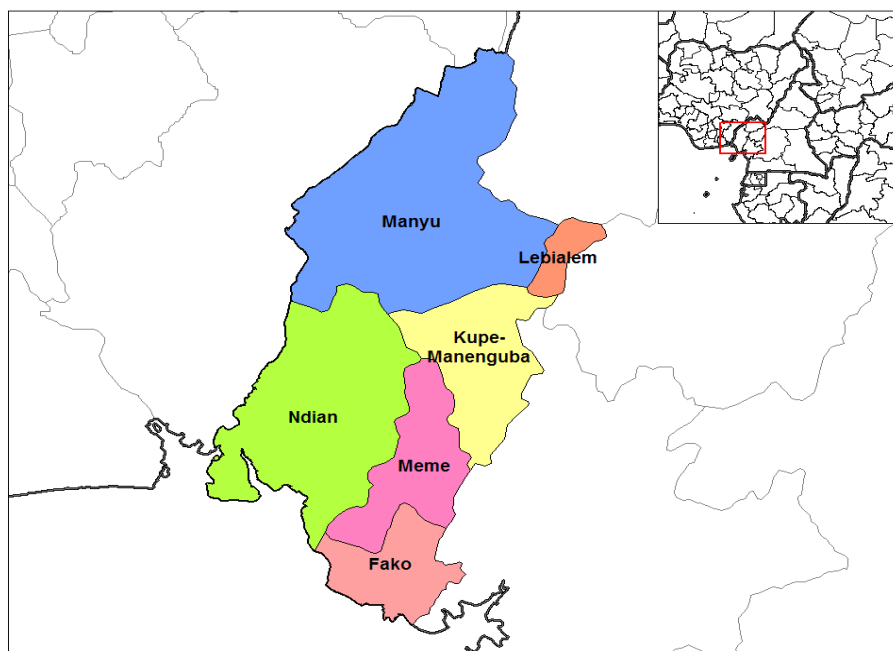
In the Northwest region, the project will be focused in Kumbo, Ako, Ndu, Mbengwi and Bali health Districts (located in Donga-Mantung, Bui and Momo divisions of the region). The region is mainly endemic to onchocerciasis, lymphatic filariasis (LF), soil transmitted helminths (STH), schistosomiasis and leprosy.



Divisions of the North-West region.

The South-West region

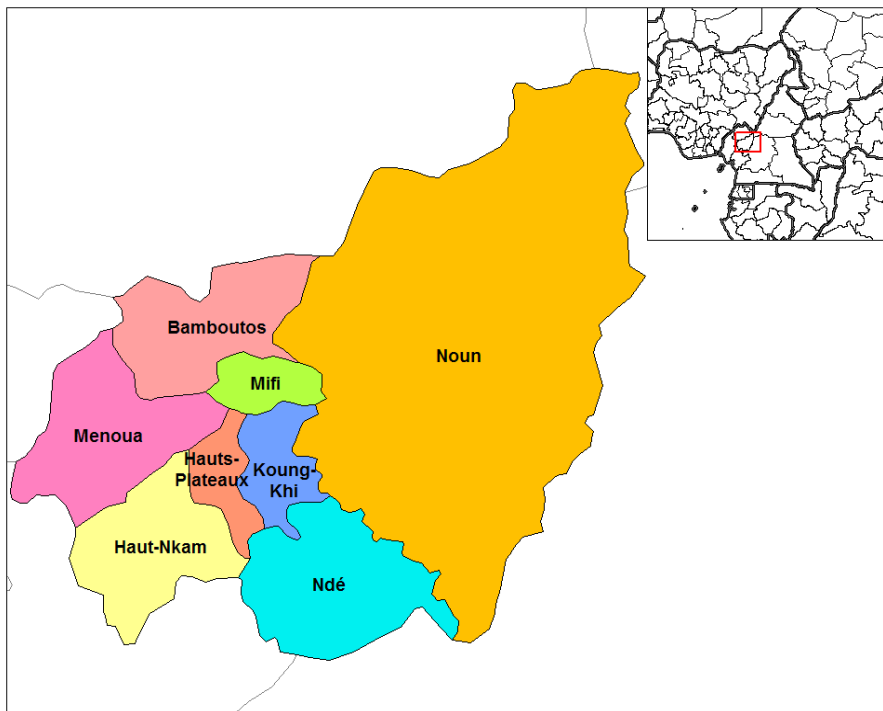
The Southwest region is an Anglophone region covers an area of 25,410km² with a total population of 1,407,363, living in 1,385 communities. The project will be implemented in five health districts (Kumba, Mbonge, Muyuka, Ekondo-Titi and Buea, Health Districts, located in the Meme, Fako, Ndian and Kupe-Manengouba divisions.), out of the 18 health districts in the region. The region is endemic to onchocerciasis, LF, STH and schistosomiasis.



The West region

The West region is 14,000km² of territory located in the central-western portion of Cameroon. It borders the Northwest region to the northwest, the Adamawa region to the northeast, the Centre region to the southeast, the Littoral region to the southwest, and the Southwest region to the west. The West region is the smallest of Cameroon's ten regions in area, yet it has the highest population density (134/km²), with a total population of 2,105,170 living in 2,704 communities.

The project will target five health districts (Foumban, Foubot, Galim, Kouoptamo, Malentouen) located in the Noun. The region is endemic to onchocerciasis, LF, STH and schistosomiasis.



Divisions of the West region.

Rationale for project location

STH is endemic in all the 57 health districts of the South West (18 districts), North West (19 districts) and West (20 districts) regions. Schistosomiasis is endemic in 13 health districts across the South West (5 districts), North West (3 districts) and West (5 districts) regions. These schistosomiasis endemic health districts will be automatically included in the project as they are co-endemic with STH. In these regions, baseline data range is as follows:

Table One: Demographic and Prevalence Data

Regions	Districts	Population	Target age group (5-14 years)	STH prevalence range (%)	Schisto prevalence (%)	No. schools	No. communities
North-West	Ako	45,948	11,487	14	86	66	45
	Bali	25,215	6,304	12	0	46	42
	Kumbo east	123,348	30,837	12	12	311	99
	Mbengwi	43,095	10,774	12	0	102	77
	Ndu	81,555	20,389	8	10	135	76
S/total	5	319,161	79,791	8-14%	10-86%	660	339
South-West	Buea	89,529	22,382	41	38	127	72
	Ekondo-Titi	65,898	16,475	62	54	83	65
	Kumba	307,749	76,937	73	46	214	112
	Mbonge	7,985	1,996	22	86	104	78
	Muyuka	33,965	8,491	16	0	56	92
S/total	5	505,126	126,281	16-73%	38-86%	584	419
West	Foumban	183,764	45,941	3	4	260	291
	Foumbot	77,375	19,344	7	18	91	110
	Galim	60,637	15,159	7	0	70	101
	Kouoptamo	70,027	17,507	1	0	68	74
	Malentouen	169,132	42,283	7	38	200	251
S/total	5	560,935	140,234	1-7%	1-38%	689	827
Total	15	1,385,222	346,306	1-73%	1-86%	1,933	1,585

Source: PNLSHI 2011. Baseline prevalence.

Previous Interventions

Sightsavers has supported school-based MDA as part of integrated NTD programs in South-West, North-West and West regions of Cameroon since 2011. This activity is currently funded by USAID through its ENVISION grant program managed in Cameroon through the NGO Helen Keller International. Sightsavers' work is organised into four projects, South-West 1, South-West 2, North West and West. Our aim with all projects is to eliminate four NTDs (onchocerciasis, LF, schistosomiasis and STH) as public health problems, in the targeted districts. Other regions of Cameroon are supported by other NGOs, including Helen Keller International in four regions (Centre, East, North and Far North), the International Eye Foundation in two regions (Adamaoua and South), and Perspective (a local NGO) in one region (Littoral).

Sightsavers Cameroon is supporting a fully integrated programme with community based MDA for onchocerciasis and LF and school based MDA for STH and schistosomiasis. For school based MDA, a sustained treatment coverage of above 80% has been reported for the past five years. More than 1 million children are treated with mebendazole each year and more than 350,000 for schistosomiasis.

Sightsavers is also supporting a wide programme of community awareness activities to encourage people in the communities to accept treatment. These strategies include advocacy meetings, radio messages, sensitization and mobilisation at community level to reach both enrolled and non-enrolled school aged children to participate in MDA.

In 2016, over 1,332,000 school aged children were treated with mebendazole, including more than 13,500 non-enrolled children. Before each campaign, training of school directors and teachers was organised in order to ensure quality implementation of the deworming activities. In 2016, 6,990 teachers were trained in 6,806 schools in the North-West, South-West and West regions.

Sightsavers Cameroon country office has been partnering with the MoH since 1996 in the fight against oncho and since 2010 in the framework of eliminating NTDs. On an annual basis, a fixed obligation grant is signed with Helen Keller International (USAID/ENVISION grantee) for the implementation of NTDs activities with USAID funds. Agreements are also signed with regional Delegation teams to ensure fulfilment of annual obligations. The Ministry of Health (MoH) currently plays the lead role to coordinate NTD control activities nationwide. The staff, infrastructure and institutions involved in programme implementation belong to the Ministry of Health.

Since 2016, The Countdown Project, a research consortium dedicated to investigating cost-effective scale-up and sustainable solutions needed to control and eliminate NTDs by 2020, has planned activities in some regions of Cameroon. Based on the insights from sociological and behavioural research complementary strategies have been designed and will be implemented following planning and discussion at national level in order to coordinate and avoid replication of activities in the same project areas.

Building on key lessons

The integrated NTDs projects activities make provision of opportunities to share and learn from evaluation and monitoring activities. This behaviour change communication (BCC) project concept is built on initiatives carried out since 2011 under existing Sightsavers' onchocerciasis/LF and STH/schistosomiasis supported MDA campaigns. Yearly review and planning meetings organised across the country to discuss challenges and plan for better interventions in the communities, have permitted to identify the gaps and weaknesses of the programme.

Implementation

The project will contribute towards effective elimination of STH and schistosomiasis through the promotion and adoption of healthy attitudes and improved hygiene practices amongst the population and high adherence to treatment.

Outcome

This project will contribute to the reduction of the transmission of STH and schistosomiasis in the three Sightsavers supported regions through the promotion and adoption of healthy attitudes and hygiene behaviours in school aged children and communities.

Following the planned population based prevalence surveys, a behaviour change communication (BCC) plan will be elaborated in order to guide specific activities focused primarily on hygiene aspects of WASH activities. It is important to note that this program

does not have the scope or remit to provide infrastructure components related to water points and sanitation facilities, but that monitoring these components and advocating for basic services across all the targeted areas will be an integral part of the program. The WASH specific interventions will be focused on the promotion and adoption of healthy hygiene and sanitation practices through behavioural interventions including communication interventions at various levels as well as environmental adaptations.

Through the behaviour change communication supported WASH activities, it is expected that more than 70% of children will adopt positive behaviour against transmission of STH and schistosomiasis by using latrines and hand-washing points. It is also assumed that with the implementation of Sightsavers' Cameroon behaviour change communication strategy, treatment numbers will increase, coverage rates will remain consistently high and disease burden will reduce. The behaviour change communication strategy has two main objectives, 1) to increase healthy hygiene and sanitation practices and, 2) to ensure high coverage and participation during MDA activities.

Long term, there will be an improvement in personal hygiene and sanitation practices amongst school aged children and in the 1,933 schools in the project area. It is expected that the combination of MDA and behaviour change communication will produce a synergistic effect that will reduce morbidity resulting from schistosomiasis / STH infection to an acceptable post intervention level of <1% in two-three years, as expected by WHO standards.

There is already strong commitment from the Cameroon Government through the Ministry of Health to prioritise the control and elimination of NTDs. This project will strengthen the national programme against schistosomiasis / STH by ensuring integration and implementation of water, sanitation and hygiene (WASH) activities in the national schistosomiasis /STH elimination master plan.

The learning component of this initiative will provide robust evidence to the Ministry of Health and other partners to prioritise and finance schistosomiasis activities as part of the NTDs control/elimination agenda.

Project Impact

Behaviour change communication will complement MDA through increased participation and coverage of MDA activities and through promotion and adoption of healthy hygiene and sanitation practices with the aim of lowering the schistosomiasis / STH endemicity over time, which is in-line with the strategic objective of moving from control to elimination.

The behaviour change communication component will play an important operational role in affecting the target population on behavioural aspects such improvement on personal hygiene, provision of clean water for hand washing and use of basic or safely managed sanitation, which are essential for the elimination of these diseases. This initiative will show the move towards integrated NTD elimination which requires projects to be restructured into an integrated approach; although MDA is currently the main activity, improving on individual and environmental hygiene will be essential to ensure sustainability of the elimination.

What we have not addressed in this project is the role of working with, or advocating, to other government ministries, i.e. school and WATSAN, to ensure that basic water and

sanitation facilities are in the targeted schools. Part of the proposed behaviour change communication plan could be focused on this by using STH / schistosomiasis prevalence from the planned surveys to help prioritize specific schools or areas. Joint indicators collected by the government could be used to monitor and measure changes.

Objectives

Objective 1

Complete population-based schistosomiasis / STH prevalence surveys in 15 districts in the three regions.

Activity

- Finalize protocol for conducting base-line prevalence survey.
- Develop sampling strategy for selection of schools and communities and designation of sentinel sites.
- Implement surveys before next MDA round.

Objective 2

Develop a behaviour change communication plan and evaluation strategy based on recent research by Dreibelbis et al. in the three supported regions.

Activity

- Recruit a consultant for developing behaviour change communication curriculum for teacher orientation workshop, including social mobilization and sensitization activities for improved timing and distribution mechanics of MDAs.
- Design the behaviour change communication “nudging” material to be produced for school-based activities as well as job aids for health professionals, and other community leaders.
- Produce behaviour change communication “nudging” materials and distribute sufficient quantities to targeted schools and communities (>50% prevalence) to the North West, South West and West regions.

Objective 3

Train field actors (health professionals, community members and teachers) to undertake behaviour change communication activities in schools and communities.

Activity

- Develop training modules for the behaviour change communication strategy to be implemented in the project area.
- Train 3,000 school teachers on how to conduct behaviour change communication activities in schools.
- Train 5,000 community social mobilizers on how to educate and sensitise communities on behaviour change regarding schistosomiasis / STH interventions.
- Supervise and monitor training sessions in health districts and communities.

Objective 4

To improve hygiene and sanitation practices amongst school aged children (SAC) and parents in communities.

Activity

- Organize community meetings on health promotion and environmental sanitation.
- Conceive and disseminate key messages to promote health hygiene and sanitation related to schistosomiasis / STH infection in schools and communities.
- Organize live radio and television programmes to discuss safe hygiene and sanitation practices regarding schistosomiasis / STH infections.
- Demonstrate practically how to conduct hand washing amongst school aged children in classroom sessions.
- Supervise and monitor field actors to ensure quality implementation of behaviour change communication activities.

Implementing Partners

Partner	History of work with Sightsavers	Role in the project
Ministry of Public Health	Partner since 1996	Coordination, monitoring and implementing partner
Ministry of Basic Education	Partner since 2011	Collaborator and implementing partner
Ministry of Secondary Education	Partner since 2011	Collaborator and implementing partner
Ministry of Water and Energy	Networking with Sightsavers since 2014	Collaborator and implementing partner
Communities	Partner since 2011	Implementing and beneficiaries
Helen Keller International	NGDO partner since 1996	ENVISION grant holder

In the inception phase, other WASH partners will be mapped and engaged to ensure non duplication and coordination of messaging around use of water and sanitation facilities and hygiene behaviours.