BEYOND MDA

A HYBRID APPROACH TO EXPANDING STH/SCH MDA TO THE COMMUNITY

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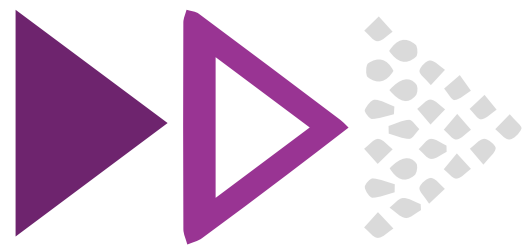
MINISTRY OF HEALTH·ETHIOPIA

NALA

THE END FUND

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EXECUTIVE SUMMARY

Soil-transmitted helminthiasis (STH) and schistosomiasis (SCH) are prevalent among low-resource and high-poverty populations with the least access to clean water, hygiene, and sanitation (WASH) services. Like other neglected tropical diseases (NTDs), they do not often cause mortality but instead debilitate people in the short and long-term. Multiple and prolonged infections can lead to physical disability, organ damage, and cognitive impairment that make it difficult for people to go to school, earn a living, or care for a family. In the short-term, these infections can also increase susceptibility to other more fatal diseases (e.g. HIV, tuberculosis) and increase the risk of anemia and malnutrition, which can be especially damaging for growing children and pregnant women. *In Ethiopia, an estimated 37.3 million people live in areas endemic for schistosomiasis and 79 million live in areas endemic with STH* (1)*.*

The cornerstone of most NTD elimination programs is mass drug administration (MDA) that targets school-age children (SAC). Deworming is both cost-effective and impactful at reducing the prevalence of STH and SCH, and Ethiopia has achieved widespread coverage of SAC in its school deworming program since 2015. However, to achieve transmission break, highly endemic areas can optimize MDA by targeting the whole community as adults are also a reservoir for worms (2). In addition, re-infection is common without sustained improvements to WASH behaviors and access. For this reason, the Ethiopian Ministry of Health (MoH) promoted a multi-faceted approach to NTD elimination in its NTD Master Plan (3). Also, the MoH has planned to scale up the national deworming program to reach the whole community in highly endemic areas, in line with WHO recommendations, starting with women of reproductive age (WRA).

From December 2021 through June 2022, NALA together with the MoH undertook an intensive review and consultative process to examine and assess social mobilization and implementation strategies from previous MDA campaigns in order to recommend optimal methods for expansion of MDA to WRA and others in the community. This process included: **1)** a desk-based review of previous MDA campaigns in Ethiopia and abroad; **2)** focus group discussions and in-depth interviews with school principals, health extension workers (HEW), and Health Development Army (HDA) members; and **3)** a consultative workshop with key stakeholders from all regions in Ethiopia, including government and NGO partners.

Based on this work, the team recommends a hybrid approach to community-based MDA, with the following recommendations:

To improve MDA implementation and support expansion to the whole community,

> Work with stakeholders to map out all target groups and special groups in the community;

> Improve administration of deworming medicines by providing additional practice during the training, as well as visual tools to use during the event;

> Expand school-based deworming to include secondary schools, as a way to reach adolescent females;

> Choose convenient locations for community distribution, but plan also for house-to-house distribution to reach coverage goals; and

> Schedule deworming days on dates that will maximize attendance.
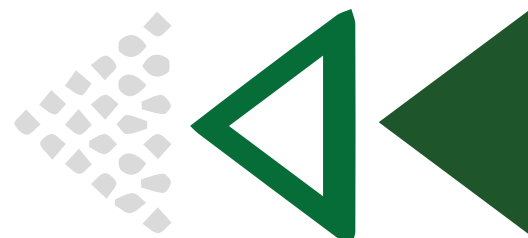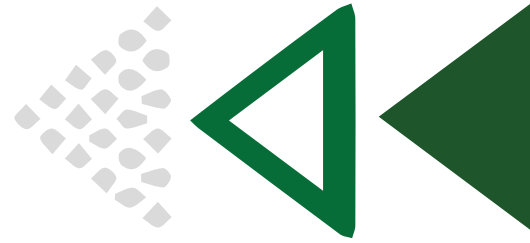
To strengthen social mobilization efforts and amplify the impact of messaging,

> Enlist and train respected community members to lead on messaging and mobilization efforts;

> Enhance deworming training by improving section on social mobilization and including local leaders in that session;

> Hold a launching ceremony for the MDA campaign wherein respected leaders and officials take the deworming medicine;

> Customize messaging for each target group and to address specific barriers to MDA participation, such as including information on how to reduce side effects;

> Use a combination of traditional and modern communication channels, tailored to the community and with consistent messaging between all channels;

> Employ interactive and responsive approaches to messaging that inspire community participation; and

> Reinforce hygiene and disease prevention messaging in the schools.

To reach coverage goals in a cost-effective way,

> Coordinate with stakeholders and other sectors to expand reach and optimize resources;

> Integrate activities into existing programs, when possible; and

> Recruit volunteers for social mobilization from local colleges and secondary schools.

The following suggested tools could support this work and ensure a consistent, holistic, and focused approach:

> Community Mapping Tool for MDA planners,

> Deworming Steps Poster for the Deworming Team,

> Social Mobilization Training for the Deworming Team and Local Leaders/ Influencers, and

> Sample Messaging Tools, such as FAQs/ scripts for radio/ community meetings for Social Mobilizers.

A more detailed list of recommendations and tools is included in pages 21-24.

I. BACKGROUND

Ethiopia carries one of the highest burdens of neglected tropical diseases (NTDs) in the world, with an estimated 37.3 million people living in areas endemic for schistosomiasis (SCH) and 79 million in areas endemic with STH (1). These diseases are common and widespread in areas with limited access to water, sanitation, and hygiene (WASH) services. Infections from SCH and STH can lead to physical disability and cognitive impairment, slowing educational advancement and economic development. To eliminate these diseases, the World Health Organization (WHO) recommends **1)** preventive chemotherapy with praziquantel for all people over 2 years old, excluding pregnant women in the 1st trimester, in areas with ≥ 10% SCH prevalence (4) and **2)** preventive chemotherapy with albendazole or mebendazole for all children between 1-14 years old and for all women of reproductive age (WRA), excluding pregnant women in the 1st trimester, in areas where baseline prevalence is ≥ 20% for STH, and where anemia is a severe public health problem with ≥ 40% prevalence in pregnant women (5).

▷ SCHOOL-BASED MDA IN ETHIOPIA

In November 2015, Ethiopia's Ministry of Health (MoH) officially launched a national school-based deworming program that targeted both enrolled and non-enrolled children. The national deworming program uses the school as a treatment platform for both enrolled and non-enrolled children. In places where school enrolment is low, community centers treated non-enrolled children. Health extension workers (HEW) delivered the treatment to the children, and teachers and HDAs supported them by mobilizing the SAC to come to schools or treatment centers on the deworming days.

Over five years of program implementation (November 2015-December 2020), 10 rounds of STH distribution and 5 rounds of SCH distribution were conducted. More than 106 million treatments for STH were administered to school-aged children (SAC), and over 27 million treatments for schistosomiasis were given. Additionally, over 20 million adolescents also received deworming pills for STH (6). Coverage validation surveys showed 70.95% SAC had received albendazole for STH and 75.5% received praziquantel for SCH. However, coverage for non-enrolled children was much lower– 79% enrolled vs 25.6% non-enrolled for albendazole, and 86.1% enrolled vs 21% non-enrolled for praziquantel (7).

▷ SOCIAL MOBILIZATION

Community sensitization and social mobilization are key elements for any MDA. They are critical for making the community and stakeholders aware of the campaign and its need, as well as for motivating the target groups to attend. Over the course of the five-year program in Ethiopia, a model was developed by the MoH that consists of five steps abbreviated as POSTE. POSTE is used for planning the sensitization & mobilization activities with consideration for cultural appropriateness, context, and language (8).

> **People**- Identify possible target groups, such as students, teachers, parents, and HEWs.

> **Objectives**- Agree on objectives after reviewing gaps and needs for the deworming program.

> **Strategy**- Identify key messages for each target group related to the program objectives.

> **Tools**- Use appropriate channels to disseminate the messages to the target groups (posters, radio, community meeting, town criers, etc.).

> **Evaluation-** Assess the performance in order to improve the strategy for future campaigns.

2. Methods & Limitations

This project was conducted between December 2021 and June 2022 by NALA, an international public health NGO, together with the Ethiopian MoH and supported by The END Fund. The team undertook an intensive review and consultative process to examine and assess the most effective social mobilization and sensitization strategies and tools in order to recommend optimal methods for expansion of MDA to WRA and others in the community. This process included:

▶ Desk-Based Review

The desk-based review included reviews of **1) Ethiopia's deworming program from 2015-2020**, based on information from independent monitoring reports from all five years (9-13) conducted by Arba Minch University, coverage validation survey reports (7), the national deworming performance report by the MoH (6), and an operational research report on social mobilization in MDA campaigns in Ethiopia by Emory University (14); **2) international guidelines and recommendations** for STH and SCH MDA by the World Health Organization (4,5, 15, 16); and **3) academic articles related to community MDA and social mobilization strategies** (18-23, 25, 28).

LIMITATIONS ◀

The analysis of the desk-based review is based on secondary data on Ethiopia's MDA campaigns. Some of the social mobilization data was missing from the reports. Although we made efforts to retrieve missing data, the findings may be biased. Also, the collected data from the reports was not scientifically representative for the respective regions.

▶ Focus Group Discussions (FGDs) & In-Depth Interviews (IDIs)

Focus group discussions (FGDs) and in-depth interviews (IDIs) were carried out to examine the efficacy of different behavior change and communication strategies for MDA, with particular focus on expanding to WRA and the entire community. A purposive sampling technique was used to recruit participants. Amhara and Southwest regions were selected after consultation with the Disease Prevention Directorate at the MoH. Once the regions were selected, the Health Bureaus of the respective regions selected the woredas and kebeles for the assessment. A total of four FGDs and eight IDIs were conducted. Participants of the FGDs mainly consisted of women who are part of the HDA and the IDIs mostly targeted HEWs, school principals, and school administrators. All interviews and discussions were transcribed and translated from Amharic to English. The translation was reviewed to ensure its accuracy. Transcripts were read multiple times and an inductive approach method was used to analyze the data. A coding framework was developed based on emerging themes and categories. Themes were identified based on meticulous and systematic reading of the transcript. Analysis was conducted using ATLAS ti software version-8.

LIMITATIONS ◀

The qualitative assessment has some limitations that should be considered. The focus groups and interviews were conducted only in two selected regions and therefore it might not be representative of all regions in Ethiopia. Yet, we have made efforts to generate relevant findings by employing a purposive sampling procedure to include the main actors of MDA campaigns (HEW, HDA, and school principals), as well as assuring theoretical saturations in all the interviews and focus group discussions.

▷ CONSULTATIVE WORKSHOP

A one-day intensive consultative workshop was conducted on May 6, 2022 with participants from both governmental and non-governmental organizations, including the MoH, Regional Health Bureaus, the END Fund, WHO, ORBIS-Ethiopia, RTI-International, Light for the World, Carter Center, and the NTD research center at Arba Minch University. The findings from the desk-based review and the qualitative assessment were presented during the workshop. An extensive discussion was held regarding the findings presented and centered on the different social mobilization strategies and tools used in different programs and organizations across the country during MDA campaigns. Participants discussed challenges faced during MDA campaigns, mitigation measures taken, and effective community mobilization strategies for increased coverage of MDA campaigns. The purpose was explained thoroughly before initiation of discussion, and all attendants verbally consented to their participation and their agreement for the discussion to be recorded.

3. OBJECTIVES

In order to break transmission and eliminate STH and SCH as public health problems, the Ethiopian MoH plans to scale up the national deworming program to reach the whole community in highly endemic areas, in line with WHO recommendations, starting with women of reproductive age (WRA). In order to support this expansion and optimize MDA delivery, NALA together with the MoH undertook an intensive review and consultative process with the following objectives:

Objective 1

Identify effective **social mobilization tools** to optimize MDA delivery for SAC (enrolled and non-enrolled), WRA, and the entire community.

Objective 2

Develop **messaging strategies** that address barriers to participation in MDA programs (i.e. misinformation, fear, etc.) and generate demand for deworming from target groups.

Objective 3

Determine most relevant **channels for communicating and mobilizing** target groups for MDA.

Objective 4

Recommend improvements to the **planning and implementation of MDA campaigns** in order to support expansion to community-wide distribution.

4. TARGET GROUPS

The World Health Organization identifies three population groups at high risk for STH infections: school-age children (SAC), preschool children, and girls and women of reproductive age (15). However, the current deworming program in Ethiopia does not reach a significant number of preschool children or WRA. Also, in highly-endemic areas, school-based deworming is unlikely to break transmission as adults remain a reservoir for worms (2). For this reason, the Ethiopian MoH plans to expand MDA coverage beyond children in schools. This report will look at expanding treatment to the following groups:

Women of Reproductive Age (WRA), 15-49 years old

Women are uniquely vulnerable to the blood loss caused by hookworm, whipworm, and SCH infections, as women already lose blood during menstruation and have higher iron requirements before and after pregnancy. Anemia during pregnancy can increase the risk of low birth weight, infant mortality and morbidity, and stunting. Female genital schistosomiasis can cause pain, bleeding and infertility, and it makes women more susceptible to sexually-transmitted infections such as HIV (15).

Clinical studies have shown that deworming pills are safe for children and pregnant women after the first trimester. Since there is limited evidence related to pregnant women in the first trimester, they are excluded from the recommendation out of caution (15). However, despite all the risks of STH and SCH and benefits of treatment, deworming coverage of WRA remains low across the world. It is estimated that only 24.8% of at-risk WRA in Africa have received deworming for STH, primarily through community distribution of ivermectin and albendazole for lymphatic filariasis (LF). However, as the LF MDA program winds down, more WRA will be at risk (17).

WRA are not a homogenous group and can be divided into three sub-groups: **1) adolescent, non-pregnant girls from 15-19 years old**; **2) pregnant and lactating women**; and **3) non-pregnant and non-lactating women from 20-49 years old**. Sometimes, lactating women are listed as a separate group. Each of these sub-groups may require a different approach. For example, adolescent girls may be reached through an expansion of the school-based program to secondary schools or through youth programs and outreach. Pregnant and lactating women may be best approached through the healthcare system, and non-pregnant women may only be reachable through a community or household-level approach (17).

Non-Enrolled Children

Both the reports from the desk-based review as well as the qualitative assessment indicated that a very low number of non-enrolled SAC attended MDA campaigns in the schools. Data from the coverage survey showed that only 21-26% of non-enrolled children participated in the school-based deworming program. Often they claimed they did not know about the MDA (7). For those children who attended the MDA, they often heard about it through their siblings or friends (9).

Special Groups

During planning, it is also important to consider disabled people, displaced populations such as refugees and those in conflict areas, populations in geographically hard-to-reach areas, migrant workers, pastoralist communities, and other special groups. MDA campaigns should be accessible and inclusive to all at-risk groups. For this reason, it is important to map out all at-risk populations and consider modifications to messaging and implementation.

5. BARRIERS TO PARTICIPATION

Though the school-based deworming program has achieved considerable reach, coverage of SAC is still far from universal- 70.95% estimated for STH treatment and 75.5% for SCH in 2019. The proportion of non-enrolled children is far lower (7). In order to reach an even larger part of the community, it is therefore important to understand the barriers to receiving treatment for both SAC and other groups. In this way, the program can take a proactive approach to addressing these barriers in order to optimize community participation during the campaign. Literature reviewed during the desk-based review covered many barriers, and the qualitative assessment gave a first-hand account of them from actors in the field and community members.

Lack of Awareness/ Concern

Implementation Monitoring (IM) Reports of MDA programs from 2015-2020 assessed the number of community members aware of deworming day, with results ranging from 49%-55%. The awareness of parents with children in school was generally higher, though it only surpassed the program target of 70% one year in 2018 (12). In addition, there is also a lack of concern over the diseases and the need for deworming. Many community members ask why they should take the medicine if they feel healthy (14). This lack of knowledge and concern seems to be a common problem across MDA campaigns. A study of MDA participation for lymphatic filariasis in Kenya showed that people with low knowledge of the disease gave it lower priority (21). The following quotes highlight this barrier.

> *"To be honest, most people are unaware of intestinal parasites; because of this medication/ MDA delivery is difficult."* *HDA member, 32 years old woman*

> *"A lot of people argue that we did not take any medicine before, so I cannot participate in MDA." – Clinical nurse (14)*

> *".. the biggest challenge and the frequently asked question in the town is under what condition or scenario can residents become so susceptible to SCH if the water is only available two days a week. They said this is not convenient and they decide their children should not take the medicines." – Dire Dawa NTD representative*

Cultural Barriers

Cultural practices and religious beliefs also act as barriers to MDA participation. For example, a trachoma campaign in Tigray occurred during the Muslim fasting month, which resulted in heavier side effects. Also, religious Christians fast on Wednesdays and Fridays and may also suffer more side effects from the medicine (20).

> *"Instead of using drugs, it is better to use religious practice like using 'holy water'." – Elderly community member (14)*

> *"Some Protestant pregnant women refuse to take medications and they say I get my health from God, so I don't want to take any medication." – HDA member, 40 years old*

Misinformation & Rumors

One of the most significant reasons that people do not participate in the MDA is due to false beliefs and misinformation about the medicine. These rumors can spread quickly throughout a community and reduce MDA participation. It is important to know what misinformation is already circulating around the community in order to target it effectively.

> *"Some people raised a rumor that many children at Bahir Dar died after vaccination, after this rumor, when we mobilize the community for any medication some people raised the above rumor."* - *HDA member, 45 years old*

> *"Some older female students are embarrassed when they take the medication/MDA because they believe it is a contraceptive agent. Some of them also refused to take the medication because there is a rumor that it causes infertility."* - *School principal, 36 y/o*

> *"There is a wrong perception about MDA drugs that the drug from health center is with payment, so they consider that it is more effective than (when) they get it free."* - *Health Center head in FGD (14)*

> *"During MDA we took biometric features and figure print scanning of four fingers by the scanner. The scanner (machine) shows light when it takes a finger print then the community thought that it was taking blood and called us 666."* - *World Vision representative*

> *"Some mothers did not accept their children to take the medication/MDA due to political reasons. They believe that ----- [a political group] purposely prepared toxic drugs for poisoning their children."* - *HDA member, 50 years old*

Fear of Side Effects

The drugs used for the STH and SCH MDAs are generally considered safe and have minimal side effects. However, side effects can occur, especially when they are not taken properly (e.g. wrong dosing or on an empty stomach). If serious side effects occur during an MDA campaign, then other people are less willing to participate (14, 20).

> *"Concerning SCH treatment (Praziquantel), children fell to the ground after receiving the treatment, and others began vomiting. When such problems occurred in rural areas, parents came to us ready to fight us….Due to the above complications, some children refused to take the medications/MDA. When we approach them, they start crying and spit out medication after they took it."* - *School Principal, 41 years old*

> *"In one district, many students fainted due to severe side effects of the drug because they took the medication without eating food. Besides, one child became paralyzed after taking the medicine. In fact, there was a drought at that time. We were blamed even by higher officials. If one child passes away, all other children will refuse to take the drug."* - *Somali NTD rep*

Gender

Women are at high risk for contracting STH and SCH in endemic areas, as they are often more exposed to the disease as the primary caregivers to children. Additionally, due to poverty and gender constructs, they may be less likely to access health services. Research conducted in rural SNNPR, Ethiopia revealed gender barriers to care. For example, participants stated that women may require a husband's permission to seek care or pay for health services. They may also fear violence if they disclose any symptoms that may have a stigma (18). In addition, there are specific fears and misconceptions about the medicines that are related to gender and fertility.

> *"Males and females are not equally faced with the diseases. The women need permission to get care from her husband, because the females are influenced by males at home whether or not to disclose the disease. Fear and stigma is there. They have no money to go for treatment and come to the health center on their own."* - *Male nurse, kebele health post support (18)*

> *"Some people believe the drug is given to mothers to prevent them from giving birth, and others believe the purpose of giving medication is to reduce the number of people living in the community. Now we are targeting reproductive age groups, this might mislead the mother's perception on the idea of perceiving drugs as a cause of infertility as they believed at the beginning time of MDA."* - *Consultative workshop participant*

> *"When we deliver medication/MDA to WRA, men of the same age group embarrass the women by saying that they are taking birth control."* - *HEW, 30 years old*

> *"The community widely believed that pregnant women should not take any medication. Even when they are sick, some mothers refused to take paracetamol. They believe any drug affects the fetus."* - *HDA member, 32 years old*

Schedule/ Timing

If not convinced of the importance of MDA, people will prioritize their own busy schedules. Also, certain times of year are busier than others. Planning around these times may increase participation (14, 19).

> *"Sometimes some mothers were well aware about MDA but they didn't come with their children when they are called for MDA because of their busy schedule."* - *HEW, 30 years old*

> *"At the time of working season and rainy season, it is hard to participate."* - *Elderly participant in FGD (14)*

> *"The main problem of MDA is the season. This year Zithromax came in December which is a fasting season, so we could not find most of the community."* - *Health Center focal(14)*

> *"Season of the (drug) distribution reduces participation. (In the wedding season), the community frequently uses alcohol (and believe it prohibits them from the MDA)."*- *HEW (14)*

Research on the MDA program for onchocerciasis in Cameroon listed the rainy season as a significant barrier to participation in the community campaign. Abundant rains created geographic barriers that reduced participation in more remote areas, as the roads became flooded (19). The rainy season and road conditions should also be considered when planning MDA in Ethiopia. In addition, sometimes great distances exist between kebeles, which can make the identification of a central place for distribution more difficult. Household distribution would also be complicated by large distances and limited transportation. Also, some areas may become inaccessible due to security and conflict.

"Lack of transportation is a big challenge because one kebele is 10 -20 km away from the other kebele." - *Somali NTD representative*

6. STRATEGIES FOR MESSAGING

Community sensitization is critical for maximizing treatment coverage as it makes stakeholders and community members aware of the need for deworming, its benefits, and the logistics (date, location) for the planned event. For this reason, it's important that the messaging resonate with target audiences and and motivate their participation. The Following strategies for messaging were identified as effective:

> **Build trust** by selecting respected community members to lead messaging and mobilization efforts.

To reduce fear and effectively target rumors, it is important to select trusted community members for messaging and social mobilization in the community. Trust is a key factor in MDA participation. Based on our review, often these trusted individuals are local community and religious leaders (9-14). To launch social mobilization activities, a **launching ceremony** has been shown as an effective way to introduce the MDA campaign to the community and reduce fear by having respected leaders and officials take the medicine publicly (20).

"In the first two years of starting our project, rumors have caused a lot of problems. In order to address these rumors, we organized a launching ceremony that includes higher officials, project managers and sections of the community. In the ceremony the drug distributor, the project manager and higher officials took the medicine in front of the community. As a result, the false rumor was greatly reduced." - *World Vision representative*

>> Case Study: Zithromax MDA for Community in Tigray, 2016 <<

In 2015, a community MDA for trachoma with Zithromax led to a large number of side effects, as the drug was distributed during fasting days. Following this, there was ambivalence in the community about whether they should take the drug in the next MDA. To re-build trust, the providers used community role models to take the drug publicly, discuss side effects, and encourage others to take it. This action increased participation and reduced side effects during the 2016 MDA (20).

> **Include messaging on side effects** to reduce their occurrence and decrease fear in the community.

In the 2015 MDA campaign for Zithromax in Tigray, the main program messages did not emphasize the need to eat food before taking the medicine, thus leading to more side effects (20). Therefore, it is important to include information on reducing side effects in the MDA messaging.

"When we prepare the message for community mobilization, we have to give information on the nature of the disease, what is expected from those taking the medicine before they come to the MDA center, , and also, we have to incorporate the adverse effects of the drugs and what people could do in the eventualities of drug reaction. This will allow us to produce a standardized message centrally and then translate the message into local language and use it locally." - Consultative workshop participant

> **Customize messaging** to each target group, with special attention on addressing specific barriers to MDA in the community.

Messaging should enable the target groups to overcome their barriers to MDA. These messages should be translated to the local languages and be culturally sensitive (14). The example below shows how World Vision adapted their messaging as a way of enlisting religious leaders to support and promote the MDA.

>> Highlight: Using Religious Texts about Hygiene and Health <<

"Faith or religious leader's engagement is the most effective of all the strategies. Till this day, we have been teaching religious leaders by using our own platform, which is pure science and this science was not understood well by them. But now we are teaching science in a way that they can understand it easily. For example, there are well known biblical stories about medicine, and we can teach them by harmonizing those stories with science. We have also compiled other biblical stories with personal and environmental hygiene. In general, we have developed a manual by harmonizing science with biblical stories from the Old and New Testaments. It has been a game changer for the project. This should be scaled up, and it is a favorable strategic direction. Orthodox and Protestant Christians are the majority in the project area, but it can also be done for Muslim religion." – World Vision representative

> **Employ interactive and responsive approaches to messaging** that inspire community participation.

Instead of only delivering the messages in a one-way manner– e.g. speeches, pamphlets, radio announcements, also try to incorporate interactive elements that promote community participation. For example, a radio show can include calls and texts from listeners. A community meeting can include a question and answer session. A town crier can stop and answer questions after delivering the messages. Social mobilizers should be trained in not only how to deliver the messages but also on how to respond to community members.

7. CHANNELS FOR COMMUNICATION

Over the five years of school-based MDA (2015-2020), several different mobilization strategies were employed across the regions: messaging via the school community (children, teachers, PTA), mobilization by HEWs/ HDA, community meetings, town criers, radio, banners, and even TV in some areas. Person-to-person communication was the dominant mobilization tool (11,12). In this section, we will look at these different channels and their effectiveness.

▷ TRADITIONAL METHODS

Traditional media is a part of a community's culture, and in Ethiopia these channels include the town and village criers, churches, village squares ("gote"), marketplaces, proverbs, and folklores. Town and village criers have been used by various partners as an effective tool for social mobilization both in urban and rural settings to increase MDA coverage. Partners emphasized the following factors to be considered when using criers as a tool for social mobilization:

> The importance of transmitting messages in the respective local language;
> The time during which these messages are disseminated (early morning and evening time);
> The importance of using a megaphone (microphone or "montarbo") in social gatherings.

Also, traditional gathering places such as "Edire" and "Ekube" and traditional religious centers such as "Senbetie" and "Mahiber" were recommended as places where WRA can be effectively reached.

"The most successful method of disseminating information occurs in kebeles. The dissemination then proceeds to "gotes" through blowing an instrument similar to a trumpet (locally known as trumba)." - HDA member, 30 years old

"Using montarbo or megaphone as social mobilization tool. Messages are translated into local language and given to the HDA (a person who conducts the crier). Using megaphones, they move around and tell the community the date and location of the campaign. It may not be during the day time. In the early mornings and during evening time, they deliver messages when people are still in their homes. Therefore, I think we should strengthen the town/village crier tool." - Gambella region NTD representative

CHURCHES ◁

In surveys conducted during the deworming program, community leaders and meetings (67-75%) followed by religious leaders and church (23-30%) were the two most commonly cited places for where people receive news and information. Not only are religious leaders a respected source of information in the community, but churches are also a regular meeting point for them (11,12).

"In Bench Sheko, most of the people are Protestant religion followers. Due to this, there is a church in every 30 km distance. In those churches, there are religious activities every Sunday. In one family if there are five members, at least two of them goes to church every Sunday. Therefore, if the information is disseminated in churches, then we can reach the majority of the Bench community." - HDA member, 32 years old

▷ MODERN METHODS

Using mass communication tools, such as TV or radio, for social mobilization during the MDA campaigns has been found effective. However, there is a need to identify and choose appropriate times for broadcasting and allocate sufficient budget for purchasing airtime. Also, it is important to choose a person who is accepted by the community and that the community relies on and admires for delivering messages across the mass media.

Stakeholders suggested using social media to reach the youth in areas where this media is accessible and accepted. Using sign language during television broadcasting and Braille brochures should be considered in order to reach people with disabilities.

> *"We work with artists and people who are working in the media, for example, in the project area there is famous sport news reader working on the radio station, and we transmit MDA messages using his voice to attract youth population. In Wolayita, there are well known comedians at the zonal and woreda level and we also work with them to transmit MDA messages."* - *SNNPR NTD representative*

> *"The timing of the program on television is crucial for transmitting MDA message. For example, if you go to the Eastern part of Ethiopia, there is fixed time most people watch television so the program has to be televised at that time. The chosen media in which the message is transmitted has its impact on reaching the community. Therefore, the MDA messages must be transmitted through the media that most people follow or watch."* - *Consultative workshop participant*

>> Highlight: Roadshows to Mobilize Community in Kenya <<

One social mobilization employed for an LF MDA in Kenya was the use of "roadshows." These roadshows included the use of a truck equipped with loudspeakers that crisscrossed the community and delivered MDA messages. Whenever there was a gathering of people, the truck would stop to give more information and answer questions (23).

>> Case Study: LF MDA in Sierra Leone in 2010 <<

In 2008, Sierra Leone conducted community-directed treatment with ivermectin and albendazole for the treatment of lymphatic filariasis (LF). However, poor coverage of an estimated 22.7% was recorded after the campaign. Following this, the National NTD Task Force changed strategy from a 6-8 week process to a 5 day implementation period with 2 week sensitization and mobilization before. The LF MDA followed Mother & Child Week and used the same health personnel and many of the same resources.

For the sensitization process, they developed an FAQs script to be used on community radio with follow-up discussion with phone-in questions and text messages. The FAQs were updated based on this interactive approach with the community and then used also during more traditional community meetings for consistency of information. ***High coverage was thus achieved through coordinated, intense, and focused social mobilization strategies that combined modern and traditional approaches***. In 2010, the program achieved coverage of 85.2% rural and 87.1% urban (22).

▷ Schools

During the school deworming program, the school community was responsible for much of the mobilization and messaging. Students received messaging on the MDA during the morning flag ceremony, via the mini-media announcements, and from their teachers. Schools then encouraged students to spread the information to their family and friends, and principals informed the Parent Teacher Association (PTA). Based on the relatively high coverage of enrolled students during the MDA, this relatively cheap and simple messaging was highly effective (9). However, this method was not as successful at reaching non-enrolled children, as their coverage remained low (7).

In addition, while logistical information on MDA was transmitted successfully, student knowledge about the disease and its prevention was not. The number of students who could list at least two STH and SCH prevention methods was below the target of 60% in all years but one, and it even dipped to 20% one year (12). In order to generate demand for MDA and prevent infections year-round, it is important to conduct hygiene and health messaging more frequently and not only in the period of the MDA campaigns (21).

> *"We raise awareness about MDA through mini-media. The main method for us to disseminate messages is at flag ceremonies. It is because we have access to all 12 classrooms of students at this time. Furthermore, we deliver messages during break times to make students aware of MDA."* - *School principal, 33 years old*

> *"Many people are illiterate and are unable to read the announcement letters posted. Furthermore, disseminating information at social gatherings may not reach all eligible people. However, the majority of the people in our area send their child to school; one family might have 3-4 children, so at least one child from each household may attend school. Passing MDA information in school will benefit the parents …We instructed teachers to write MDA messages on blackboard as home take messages, which they then wrote in their exercise book to read to their families."* - *School principal, 36 years old*

▷ House to House

During focus group discussions and in-depth interviews, household mobilization by the Health Development Army (HDA) was often cited as one of the best ways to reach WRA as well as non-enrolled children. HDA members have significant reach in the community, especially with WRA, and can tailor the messages to each household. In the 2016 Zithromax MDA in Tigray, HDA and HEWs were identified as key players in community mobilization and were lauded for facilitating a smooth and orderly provision of the MDA (20). However, household mobilization is a tedious process, and it requires significant time and human resources to complete.

> *"House-to-house visits occur using an interpersonal communication approach while tailoring messages to each household. But this approach has its own pros and cons. It is very difficult, requires intensive human power, and is very costly. However, it is a good strategy."* - *World Vision representative*

> *"We reach out to non-enrolled SAC via community mobilization using HDAs. HDAs are familiar with the children found in each village and we also get them during household level mobilization. As a result, we distinguish between who took the drug and who did not."* - *HEW, 33 y/o*

8. TOOLS FOR SOCIAL MOBILIZATION

Social mobilization is the process of raising awareness and demand for a particular program in the community. It consists of both education and action, i.e. educating the community about the program and its need as well as motivating them to participate in it. Social mobilization should generate dialogue, engage a range of people and stakeholders, and adjust to the needs and realities on the ground (24). This section will cover tools and mechanisms that can be used to better facilitate social mobilization.

Advocacy Workshops

Before launching the MDA campaign, we recommend holding an advocacy workshop with local leaders along with higher officials from the zonal and regional levels in order to encourage adherence and acceptance of the treatment. As shown in interviews and surveys, community leaders are ranked high among sources of trusted information (9-12). Their involvement is crucial to ensuring a high level of community interest and participation. In a systematic review of LF MDA campaigns in sub-Saharan Africa, one of the key factors to program success is the engagement and commitment of local leaders and health representatives to the program. The article cites advocacy meetings as a way to bring key stakeholders on board and increase a sense of ownership of the program in the community (25).

Training

Training is another key factor to success listed in the review of LF MDA campaigns. In Kenya, training the community drug distributors on communication skills and mobilization techniques not only equipped them with knowledge, but it also motivated them to confidently address community members and respond to their misconceptions and questions (25). The standardized MDA training in Ethiopia covers an extensive amount of information, including social mobilization. However, it is text-heavy, and the social mobilization section is short and sometimes skipped due to limited time and de-prioritization (10). During the consultative workshop, a need for strengthening this section was emphasized by several government and NGO partners.

The NALA review team identified two major gaps to the MDA training in Ethiopia: **1)** limited time, depth, and priority given to the section on social mobilization and **2)** lack of interactive and participatory teaching strategies. In all five years reviewed of the deworming program, the monitoring reports reveal that the trainings were mostly delivered via lecture with limited groupwork and practice. There is a deworming day role play recommended by the MoH that is rarely practiced. In 2019, only 46.2% of trainings practiced the steps for deworming, and only 23.1% included role play (13). Limited time was given for discussion, role play, or interactive learning, though the amount of time given for discussion has increased since 2015 when the training was fully lecture-based (9-13).

"Social mobilization is often overlooked in the MDA training and it would be effective if we give emphasis on it. For instance, if it needs two days, we should give it two days, if it needs to be separated from the normal MDA training, it should be separated." - *World Vision representative*

"Based on the Ministry of Health, at district level, the MDA training is held for two days. However, at kebele level it is given only for one day. It is better to extend the date and provide one day training on social mobilization." - *Somali Region NTD representative*

Printed materials such as posters, brochures, leaflets, and banners are the one of the most frequently used tools for social mobilization during MDA campaigns. In past MDA campaigns, they were used to inform the public about the upcoming deworming day and also to deliver additional information about the diseases and their prevention. However in Ethiopia, the adult literacy rate is 51.77% (26), and it may even be lower when targeting rural WRA. Therefore, using printed materials for the target beneficiaries may not be advisable unless the materials are highly visual and designed for low-literate populations.

Also of note, printed materials are not even fully used by schools and the deworming teams as a resource. In reviewing the school-based deworming, only a small number of schools even displayed the posters and banners, with only a recorded 3-5% displaying them in 2018 (12). Moreover, the Deworming Pocket Guide was rarely used by the deworming team. In an observation of 48 schools in Oromia in 2017, only 6% of teachers and 15% of HEWs had the guide, with similar low numbers of usage recorded in other years and other regions as well (11). One reason is the lack of reference to the guide during the training, resulting in participants who were unaware of how to use it.

However, the need for better and more useful materials is there, as all years of the independent monitoring show gaps and problems with deworming day administration, including not properly screening the children for sickness, not ensuring that they ate before, not observing that that they swallowed the tablets, and incorrectly administering drugs in the wrong order (9-13). For these reasons, we recommend that any printed materials be visual, practical, and reviewed in the training.

> *"When we use posters and banners, we only reach educated people. Therefore, it is good to deliver MDA messages through school, kebeles, religious centers, and by using HEWs and HDAs."* - *School education supervisor, 35 years old*

> *"…. not all local leaders are educated so they may not understand the brochures. Therefore, audiovisual material is very important to address illiterate group of people."* - *Oromia regional NTD representative*

> *"…. If they see the poster and understand the message, we give highlights, so in our case, the poster is useful. It is very easy for the community to understand posters with artistic features. Especially, when we do mass communication with community leaders, elderly people, and locally respected people we can reach them effectively by using posters."* - *World Vision representative*

>> Highlight: "PCT Image and Tag" in Sierra Leone <<

In the successful 2010 community MDA for LF in Sierra Leone, consistent and visual messaging was ensured by the "PCT Image and Tag", an A4-size laminated card for use by the health team, councilors, and monitors. The image graphically showed the treatment protocol, with an illustration of a dose pole with family members receiving different doses based on their height, and it included information about the medicine in the local language. The image was also used as advertisement in a leading newspaper for the upcoming MDA. The hand-held image was used to facilitate discussion with the communities during implementation. This tool minimized communication problems and familiarized the public with the dosing pole and deworming day protocols (22). It was specific, visual, and practical, and the same tool was used in a variety of settings.

Existing systems

By integrating deworming into existing systems, program planners can reach more people without too much added cost. The existing structures of the health and education systems have been used in previous MDA campaigns in Ethiopia, with extra training given to HEWs, teachers, and HDAs to support it. For reaching WRA, the WHO recommends an integrated approach that reaches the target groups through services they already access. For example, **1)** adolescent girls can be accessed through HPV vaccinations or school-based programs and **2)** pregnant and lactating women can be reached through pre- and postnatal health check-ups. **3)** Non-pregnant women are harder to reach and may need a community-based approach (16). Cambodia has reached 72% of WRA by expanding its school-based program and integrating deworming into routine health services (16).

Since 2018, Ethiopia has held mass vaccination campaigns for 14-year-old girls against HPV, which can also be an opportunity to integrate in deworming (27). In India, they reached adolescent girls by holding deworming campaigns at secondary schools and "aganwadi" centers (rural child care center) (15), which can also be an approach that Ethiopia can implement. In regards to adding deworming to prenatal care services, the average utilization of prenatal care by women in Ethiopia is 63.77%, based on a meta-analysis of studies conducted between 2002-2016. The rates were higher in urban areas and with educated parents. The access rate also varied significantly across regions, with the highest prenatal care utilization in Oromia at 85.2% and the lowest in Amhara at 32.3% (28). Therefore, this system may not be the most effective way to reach WRA in some areas.

Also, if high coverage is required in a short amount of time, then approaching WRA through routine health services would not achieve sufficient coverage. Also, it may create added pressure on the health system and its workforce. In interviews conducted with regional NTD focal points, several of them expressed a preference for a community-based approach to reach WRA, or a two-tiered approach with adolescent WRA reached through the school-based program and older WRA reach through a community-based platform.

"If the drug distribution is facility-based (antenatal care), it would create pressure on the routine health system. As high coverage is required in a short amount of time in MDA; the health facility-based platform would not give results in the shortest amount of time as the flow of WRA would be intermittent making it a routine service rather than a campaign." - *Amhara NTD focal point (29)*

Coordination Mechanisms

As part of Ethiopia's holistic plan to eliminate NTDs (3), multisectoral coordination is highlighted as a key strategy for improving WASH through shared planning, resources, and monitoring. Since 2017, coordination platforms have been set up across Ethiopia and include several different government sectors and NGOs. These platforms can also be accessed for better MDA provision, especially for reaching new target groups. The WHO recommends including the Women's and Children's sector to support planning and outreach to WRA (16).

>> Highlight: Stakeholder Coordination in Kenya <<

In Kenya, coordination and stakeholder participation was identified as a crucial factor in resource mobilization and awareness-raising during their MDA for LF. By involving partners and stakeholders in the planning from the beginning, they were able to save cost and reach more people. Stakeholders supported the MDA through three key roles: social mobilization, messaging, and resources. Resources provided by the stakeholders included financial resources, manpower, fuel, umbrellas, airtime, etc. (23).

9. RESOURCE OPTIMIZATION

Expanding MDA to the community will incur added costs, as the scale will be much larger and the target beneficiaries not as easily accessible as children in school. One cost-effective strategy that was already discussed is to Integrate deworming into other ongoing activities, such as adding deworming to the HPV program for 14-year old girls. For other ideas on how to maximize reach without too much extra cost, consider the follow:

▷ PLANNING

Program planners and stakeholders can assess all the extra needed resources in the planning phase. During the advocacy workshop with local leaders, the needed resources can be discussed. Can certain resources, such as fuel or loudspeakers, be provided locally? Are there multisectoral coordination platforms that can be accessed and activated to support the community MDA?

Also, planning is the time to set coverage goals and discuss how to best achieve them. It is important not to overload certain locations with too many people and over-burden the staff. Similarly, if a house-to-house distribution method is discussed, how many people can the HDA reasonably reach in the timeframe? Maybe it is best to reserve their efforts for the harder-to-reach populations and use a school and/or community-based approach for the majority of people. Thus, a hybrid distribution approach may be the most effective one, if planned well.

▷ TIMING

More time is not always necessary to increase effectiveness. In fact, the LF MDA in Sierra Leone was more successful when the time was decreased– from 6-8 weeks to 5 days with a 2 week sensitization beforehand. They achieved high MDA coverage not by adding more time, but by enacting a coordinated, intense, and focused social mobilization strategy that combined modern and traditional approaches (22).

▷ MULTI-PURPOSE MATERIALS

Use materials for messaging that can be re-used in other platforms. This multi-use approach will ensure consistent messaging, as well as reduce cost from making lots of different materials. For example, the same script can be used on the radio as in community meetings. A visual handout can be used by a roadshow as well as by a religious leader after his sermon.

▷ VOLUNTEERS

Often incentives such as per diem drive up a program cost quickly. For this reason, NALA has had luck in recruiting college volunteers to support its hygiene program in schools and communities. The incentive for these volunteers is experience, and they receiving training and support in exchange for their work. Similarly, volunteers from colleges and secondary schools can be recruited to support the social mobilization activities of the MDA. If there is funding for it, volunteers could receive t-shirts as an incentive that also helps to advertise the event.

10. Conclusion
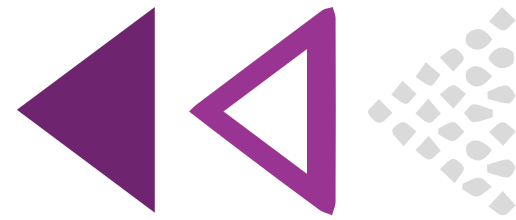
Since 2015, Ethiopia has made impressive progress in deworming school-age children, delivering more than 106 million treatments for STH and 27 million treatments for SCH. However, a school-only approach is not enough to break transmission in areas with higher prevalence of STH and SCH, as adults are also reservoirs for parasites. Women in particular are at high risk of contracting STH and SCH, as they are often the caregivers of children. In addition, WRA have unique vulnerabilities to these infections, as they are more susceptible to anemia and have more nutritive needs during pregnancy and breastfeeding. For these reasons, the Ethiopian MoH is seeking to expand its school-based deworming program to reach WRA and other groups.

This report was written to assess and evaluate gaps, barriers, and opportunities in current MDA programs. The team identified the following **major gaps:**

> not reaching enough non-enrolled students;

> not preventing side effects through proper messaging before and during campaigns;

> lack of emphasis placed on social mobilization/ messaging during training;

> lack of practice and participatory approaches in training;

> no consistent and focused social mobilization or messaging strategy;

> lack of knowledge by community about diseases and hygiene prevention methods; and

> irregular engagement of community leaders and other influencers in MDA campaigns.

Ethiopia is a diverse country, and barriers to MDA will vary by local context. However, the following **barriers** seemed universal:

> lack of awareness/ concern;

> cultural practices and religious beliefs, such as putting faith in God to heal;

> misinformation and rumors, which were especially rampant during the COVID-19 pandemic and due to security situations;

> fear of side effects;

> gender, and

> timing/ schedule, such as occurring during the rainy season, harvest, wedding season, Ramadan, etc.

The review team identified several opportunities to address these gaps and surmount the barriers. To achieve coverage goals during a community-wide MDA, a hybrid approach may be needed that combines school-based deworming with a community-based approach. In addition, social mobilization efforts should be strengthened. The following pages include specific and actionable **recommendations for MDA expansion and enhancement**.
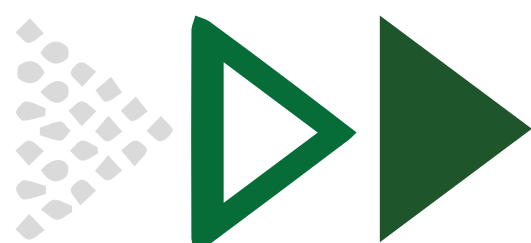
11. RECOMMENDATIONS: MDA IMPLEMENTATION & EXPANSION

The NALA review team identified the following recommendations related to MDA implementation and expansion:

1. Work with stakeholders to **map out all target groups and special groups** in the community.

Leave no sub-group behind to achieve universal coverage and reach the most vulnerable groups. Are there large numbers of non-enrolled children, refugees, disabled people, pastoralists, or migrant workers in the community? How can the program be adapted to reach them?

2. Improve administration of deworming medicines by providing additional practice during the training, as well as visual tools to use during the event.

In order to reduce side effects, ensure that the deworming team has had enough practice on the steps for deworming and how to monitor people during and after drug administration. A visual guide can support them in ensuring they do not forget any important steps.

3. Expand school-based deworming to include secondary schools, as a way to reach more adolescent females.

Alternatively, if there is already a health outreach program that routinely reaches a significant number of adolescent girls (such as HPV vaccination or iron supplementation), deworming can be added to that program.

4. Choose convenient locations for community distribution, but plan also for house-to-house distribution to reach coverage goals.

We recommend a hybrid approach in order to achieve greater coverage at lower cost. In this approach, plan to reach the larger proportion (for example >70%) of the community through centralized distribution. However, in order to achieve coverage goals, a smaller proportion of the community will receive household distribution.

5. Schedule deworming days on dates that will maximize attendance.

Be aware of cultural and geographic realities when planning the date. Does it include fasting days, or is it the rainy season or near a festival? Also, is there another event that deworming can integrate with and expand its reach? For example, a mother & child health week or other large campaign.

12. RECOMMENDATIONS: SOCIAL MOBILIZATION & MESSAGING

The following recommendations related to social mobilization and messaging were identified:

6. Enlist and train respected community members to lead on messaging and mobilization efforts.

Trust is key to ensuring community participation.

7. Enhance deworming training by improving section on social mobilization and including local leaders in that session.

This section can be an expanded, enhanced part of the current training, or it can be created as a separate training.

8. Hold a launching ceremony for the MDA campaign wherein respected leaders and officials take the deworming medicine.

This ceremony will help advertise the upcoming MDA, as well as build trust and fight rumors.

9. Customize messaging for each target group and to address specific barriers to MDA participation, such as including information on how to reduce side effects.

For example, WRA have many specific barriers and concerns that may not be covered in current MDA messaging. How can we best motivate their participation?

10. Use a combination of traditional and modern communication channels, tailored to the community and with consistent messaging between all channels.

For example, the same script for community radio can be performed during community meetings.

11. Employ interactive approaches to messaging that inspire community participation.

Develop responsive programs for radio and community meetings. A town crier or truck can have a "roadshow" where they stop to answer questions about treatment and speak to people directly.

12. Reinforce hygiene and disease prevention messaging in the schools.

College volunteers can work with the school WASH and health clubs to reinforce hygiene messages before the MDA in order to generate more demand for it. In the long term, hygiene and disease prevention messages can be added and strengthened in the school curriculum.

13. RECOMMENDATIONS: RESOURCE OPTIMIZATION

The following recommendations were identified for maximizing reach without too much added cost:

13. Coordinate with stakeholders and other sectors to expand reach and optimize resources.
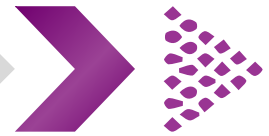
Other sectors and local stakeholders may be able to provide and share resources. Resources are not only financial and may include tangible support such as supplying fuel for the roadshow, taking part in the radio program, publicizing the MDA, and recruiting volunteers.

14. Integrate activities into existing programs, when possible.

For adolescent girls, MDA be added to a program that already reaches them, such as iron supplementation or HPV vaccination. Health workers can recommend deworming to pregnant and lactating women in their health visits, after the first trimester.

15. Recruit volunteers for social mobilization from local colleges and secondary schools.

Community drug distributors often cite a lack of incentives as a reason for not reaching goals. From NALA's work, we have seen that volunteers from colleges and secondary schools are often eager to volunteer without financial incentives in order to gain valuable experience in the field. However, it is important to note that volunteers need to be well-trained and prepared for work in the field, and they should not be used in areas with security concerns.

14. SUGGESTED TOOLS

The NALA review team identified the following tools as potential supports for the upcoming MDA:

1. Community Mapping Tool for MDA planners

This tool will be used to identify and map all relevant target groups, as well as special groups who may be at high risk, such as displaced populations, disabled people, pastoralist groups, etc. The tool will include a section for how to best access this community with limited cost (i.e. through NGOs or agencies that already work with them).

2. Deworming Steps Poster for the Deworming Team

To reduce side effects and ensure compliance with all guidelines, the steps will be visually depicted on a poster that is set up on deworming day. This poster will serve as a visual reminder and reference for the team. MDA participants can also see the poster, which will help prepare them for taking the medicine.

3. Social Mobilization Training for Deworming Team and Local Leaders

Depending on resources, this training can be an enhanced session during the standard MDA training for HEWs and school representatives, with the addition of local leaders in attendance. Alternatively, it can be a separate standalone training that targets all social mobilization actors for the MDA.

4. Sample Messaging Tools, such as FAQs/scripts for radio /community meetings for social mobilizers

Example tools include FAQs and scripts to be used for radio and community meetings. Also, for religious leaders, a flyer can be made that refers to religious verses related to hygiene and health.

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