WASH

WATER AND SANITATION FOR HEALTH PROJECT

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WORKSHOP ON GUINEA WORM CONTROL AT THE COMMUNITY LEVEL

A TRAINING GUIDE

WASH TECHNICAL REPORT NO. 50

JANUARY 1988

Prepared for
the Office of Health,
Bureau for Science and Technology,
U.S. Agency for International Development
WASH Activity No. 375

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Bureau for Science and Technology,
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under WASH Activity No. 375

by

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The training guide was pilot-tested in two local governments in Nigeria with professional local health staff (health inspectors, public health nurses, pharmacy technicians) as participants. The two sites were Owode town in Obafemi-Owode local government, Ogun State, and Abakaliki town, Abakaliki local government, Anambra State. Both are rural areas where guinea worm is endemic.

Full cooperation and assistance from the Ministry of Health and local government officials in both states was given. In particular, the following ministry staff assisted in the training: Mr. A.O. Ogun, Health Education Unit, Ogun State, Mr. J.O. Nwojiji, Health Education Unit, Anambra State, and Dr. R.O. Nriagu, Medical Officer of Health, Abahaliki Zone, Anambra State. Mr. E.D. Koyejo, Health Superintendent/Health Educator, Ibarapa Community Health program, University of Ibadan, served as an assistant trainer in both pilot workshops.

Introduction to the Training Guide

Needs Addressed by the Workshop

The purpose of this workshop is to improve skills to plan and carry out guinea worm control projects. This training guide has been developed for trainers who will conduct the workshop. It is not a guide for the participants although it contains materials which will be handed out to them.

The workshop is intended for individuals who work in rural community settings and who have responsibility for controlling guinea worm. The workshop is appropriate for health assistants, nurses, health inspectors, and other district-level health workers. It is not intended for village-level primary health care workers.

Overall Workshop Goals

The seven sessions in this workshop are designed for a 2-1/2 day period. In that period of time it is not possible to develop all the skills and knowledge necessary for a guinea worm control project. The focus of the workshop is on increasing understanding of the causes and prevention of guinea worm, learning how to communicate information about the disease to communities, and mobilizing resources for a guinea worm control project. The central purpose is to enable the district-level health worker to get projects going for guinea worm control.

The goals of the workshop are to:

- Describe the causes, prevention, and treatment of guinea worm disease.
- Discuss the appropriateness of water supply as an intervention for guinea worm control and the key factors in achieving that intervention.
- Communicate the causes and prevention of guinea worm disease in a way that is culturally understandable.
- Identify and state how to obtain the resources needed for a guinea worm control project.
- Develop a back home plan to prevent guinea worm.

Trainers

The training guide has been designed for trainers who are experienced in guinea worm control and in running workshops using adult learning methods. The maximum number of participants recommended for the workshop is 20. Because of the participatory training approach used in the workshop, more than

20 participants would limit the workshop's effectiveness. For a group of 11 or more participants, a team of two trainers is suggested. At least one of the two trainers must have experience with guinea worm control. The other trainer must be skilled in facilitating groups and conducting experiential training. One trainer could handle a group of ten or fewer, but this trainer would need both the training and technical skills.

Organization of the Training Guide

The course is divided into seven training sessions. Each session covers a specific topic and takes from two to four hours, depending on the nature of the topic. The times for each session do not include breaks or lunch.

Each session has detailed trainer guidelines which provide instructions on how to conduct each session. Specifically these guidelines include:

- Session objectives
- Overview of the session - what is contained in the session and why it is important
- Procedures - detailed instructions for conducting the training activities (Each session has approximate times which should be adequate to complete the session.)
- Handouts - materials for the participants.

Materials for Participants

The handouts for the participants appear after each session and at the end of the training guide. The handouts are grouped in the last section of the training guide to make it easy for trainers to pull them out and have them duplicated before the workshop. Trainers can distribute the materials in one of two ways: handouts can be distributed at the time they are covered in the training session or the training staff can assemble complete sets of handouts and put them into participant notebooks prior to the workshop.

Workshop Methodology

This training guide is based on several key assumptions:

- Adults learn best when they are actively involved in the learning process -- doing things, discussing, analyzing, experimenting -- rather than passively listening to lectures or observing trainer-centered activities.
- Workshop participants learn from each other as well as from the trainers and therefore the learning process should include small groups of participants working together.

The workshop uses the following training techniques:

- Trainer presentations
- Large group discussions
- Case studies
- Small group tasks
- Individual tasks

Training Site

The workshop can be held in a provincial or district town. The site should have adequate meeting space and, if necessary, room and board facilities for the participants.

Materials needed for the workshop are simple. All that is needed are two flipchart easels, flipchart paper, and markers.

Preparing the Staff to Conduct the Workshop

Where there are two or more trainers, the training staff should meet prior to the workshop to plan and coordinate how the workshop will be conducted. Planning activities should include the following points:

- A concerted effort to build the needed teamwork
- Mutual understanding of how the training program will be conducted
- Decisions about which trainer will do what
- Preparation for specific sessions

Preparation for the Workshop

The following items are the key tasks in preparation for the workshop:

- Obtain official approval for the workshop
- Select the participants
- Identify the training staff
- Select the training site
- Arrange for room and board
- Duplicate participant handouts
- Prepare training staff.

Optional Session - Field Practical

Workshop participants often enjoy practical field experiences. If the trainers feel that the participants would benefit from a field practical, a half-day session could be added to the workshop, thus making a full three-day workshop. The overall purpose of the practical would be to reinforce what the participants learned about the causes and prevention of guinea worm and the elements of a successful water supply project during the first day of the workshop.

The field practical would have certain logistical requirements, including transport and the presence of a nearby site to avoid excessive travel time. The time for the field trip should allow for the participants to return to the workshop site by noon so the afternoon session can begin on time. In general, the community should be no more than 30 minutes travel time from the workshop site.

Although the specific design of the field practical session should be left to the workshop trainers, below are some suggestions for activities that could be included.

1. Filtering pond water to collect cyclops in a jar and then observing the organisms with a hand lens. This activity would require sufficient quantities of buckets, filtering cloth, water jars, and hand lenses.

2. Interviewing community members about a water supply project. This would entail developing a short questionnaire in advance which the participants could use as a basis for interviewing several community members. Typical questions would be how the community was involved in the planning and implementation of the project, what agencies and local groups were involved, what the maintenance system is, and what the benefits of the water supply system are, and what complaints people have about the project. Participants could divide into pairs and each pair could interview two community members.

3. Visiting the actual site of the water project or the intended site if the project has not been completed. The participants should determine if the site is conveniently located, well maintained, and hygienic.

4. Discussing what they learned about community water supply projects and about guinea worm. This discussion could take place back in the workshop setting after the participants have returned.

The best time in the workshop design to insert this optional session would be the morning or afternoon of the second day. The remaining sessions would then have to be shifted so the workshop would end on the afternoon of the third day. This would mean that the workshop schedule for the remaining sessions would have to be adjusted to avoid having a four-hour session in a three-hour time block and vice versa.

If the trainers decide that an optional session would be useful, they need to make an advance visit to the community. During the visit they should check the following:

- Is the visit acceptable to the community leaders?
- Will community members be available for interviews?
- Is there a pond which contains cyclops that the participants could collect?
- Is there an improved water system for the participants to inspect?

SESSION 1

SESSION 1: INTRODUCTION TO THE WORKSHOP

Total Time: 1 hour 30 minutes

OBJECTIVES

By the end of the session, the participants will:

- Be acquainted with one another and with the trainers
- Be able to describe the workshop goals and schedule
- Have discussed and clarified their expectations for the workshop
- Have completed a pre-test of their knowledge about guinea worm.

OVERVIEW

This is an introductory session designed to describe the workshop and help participants get to know each other. The participants will also compare their expectations with the workshop goals and schedule. This session is also appropriate for any official opening ceremonies that may be necessary.

PROCEDURES

1. Welcome — Time: 15 minutes

Introduce yourself and welcome the participants. If there are any official representatives of the agency or government department sponsoring the workshop, this is an appropriate time for opening remarks.

2. Introductions — Time: 10 minutes

Ask workshop participants to introduce themselves, giving the following information:

- name
- what they do
- where they work

3. Expectations — Time: 15 minutes

Each participant will have his/her own expectations of what the workshop will be like and what will be learned from it. This short exercise is designed to determine what those expectations are so the participants will know which expectations are likely to be met and which ones will not.

Write the following question on a flipchart (if flipcharts are not available, use chalkboards) and give participants five minutes for individual reflection.

"What are the two most important things that I hope to get out of this workshop?"

Go around the room and record the participants' responses on the flipchart. If some members have the same expectation, it is necessary to write it only once.

4. Workshop goals — Time: 10 minutes

Post the workshop goals (Handout 1.1) and go over them with the participants. Explain that the workshop will focus on the causes and prevention of guinea worm and on identifying and obtaining the resources needed for a safe water supply. State that the workshop will not aim at developing skills in such areas as surveillance, vector control, and clinical treatment.

After explaining the workshop goals, compare them with the participants' expectations. Look at each item on the list of expectations and identify where it is covered in the goals. This will help to further clarify the goals. Be sure to note any items on the participant's list that will not be covered in the workshop. Participants will accept that some expectations will not be met as long as they are clear about it from the start.

5. Workshop schedule and methodology — Time: 10 minutes

Pass out Handout 1.2 (Workshop Schedule). It is important to have this schedule on flipchart paper and posted so it can be referred to throughout the course.

Go over the schedule and explain how the training activities are arranged to meet the workshop goals.

Briefly explain the methodology to be used. Mention that the course will be a participatory workshop and that the emphasis will be on learning by doing. The methodology will use small groups, a case study, individual planning, and full group discussions.

6. Norms — Time: 10 minutes

Since the group will be working together for 2-1/2 days, it is important to make clear and discuss how everyone will work together and what the trainers and participants expect of each other. Present the following prepared list of workshop norms on a flipchart and add any that the participants have.

- Attendance at all sessions
- Starting all sessions on time
- Active participation in all sessions

- Open environment for questions and comments
- Administrative issues (daily allowances)
- Others?

7. Pre-Test Time: 20 minutes

Distribute Handout 1.3, Guinea Worm Pre-Test, and explain that you want to see what the participants already know about guinea worm. Tell them that you will give the same test at the end of the workshop to measure what they have learned. Allow no more than 15 minutes to complete the pre-test. Score the pre-tests the first evening, but do not give them back to the participants so as not to influence the post-test. The results of Part A should give you an idea of what to emphasize during the workshop. Part B will tell you about the experience level of the participants, which you can draw upon during the workshop.

Below is the answer guide for the pre-test. Only the correct answers are given.

1. b
2. e
3. d
4. c
5. d
6. a,c
7. a
8. b,c
9. a,b,d
10. none
11. b,c
12. e
13. a,e
14. c,d
15. all
16. b,c
17. b,d,e
18. e

Note: You may want to allow some time at the end of this session for administrative arrangements. Participants may need to fill out claims and registration forms. Also, it may be necessary to distribute copies of a Travel Allowance form (Handout 1.4). If it is not necessary, then proceed to Session 2.

MATERIALS NEEDED

Handout 1.1 Workshop Goals
Handout 1.2 Workshop Schedule
Handout 1.3 Guinea Worm Pre-Test
Handout 1.4 Participant's Daily Travel Allowance

Handout 1.1

Workshop Goals

At the end of the workshop, the participants will be able to:

1. Describe the causes, prevention, and treatment of guinea worm disease.

2. Discuss the appropriateness of water supply as an intervention for guinea worm control and the key factors that will influence success.

3. Communicate the causes and prevention of guinea worm disease in a way that is culturally understandable.

4. Identify and state where to obtain the resources needed for guinea worm control.

5. Develop a back home plan to prevent guinea worm.

Handout 1.2

Workshop Schedule

Day One	Day Two	Day Three
8:00 Introduction Opening Remarks Expectations Goals Schedule 9:30 Causes, Prevention, and Treatment of Guinea Worm Disease	8:00 Communicating Effectively with Communities	8:00 Developing a Back Home Plan 11:00 Evaluation 11:30 Closing
12:00 Lunch	12:00 Lunch	12:00 Lunch
1:00 Water Supply as a Guinea Worm Intervention 4:00 End	1:00 Mobilizing Resources 4:00 End	

Guinea Worm Pre-Test

Name_____ Age_____ Sex_____

Position_____ Years in Service_____

Local Government/District_____

PART A

For questions 1-18 check the answer or answers that are most appropriate. Some questions may have more than one answer, while others may have none.

1. Guinea worm disease can be clearly recognized by...

____ (a) any swelling on the body
____ (b) white worms coming out from the skin
____ (c) white worms passed out in stool
____ (d) swollen stomach
____ (e) inability to walk
____ (f) blurring of vision

2. After a person becomes infected with guinea worm larvae, the full signs of the disease will be seen...

____ (a) three or four weeks later
____ (b) nine to twelve weeks later
____ (c) two years later
____ (d) four to five months later
____ (e) nine to twelve months later

3. Someone may become infected with guinea worm by...

____ (a) walking barefoot on the farm
____ (b) wading in pond water
____ (c) eating fruit that has fallen on the ground
____ (d) drinking water from the pond
____ (e) sharing a towel with someone who has the disease

4. A person who has guinea worm may spread the disease by...

____ (a) drinking water from a stagnant pond or stream
____ (b) urinating in or near a pond
____ (c) walking into a pond or stream
____ (d) handling food that will be eaten by others
____ (e) spitting on the ground where others will walk

5. Guinea worm has an intermediate host known as...

____ (a) black fly
____ (b) snail
____ (c) tse tse fly
____ (d) cyclops
____ (e) sandfly

6. The intermediate host of guinea worm can be killed with...

____ (a) temephos
____ (b) alum
____ (c) abate
____ (d) ampicillin
____ (e) sulphur

7. Effective and affordable home methods for preventing guinea worm disease include...

____ (a) filtering water through cloth
____ (b) defecating in a latrine
____ (c) washing hands before eating
____ (d) boiling all drinking water
____ (e) adding alum to water

8. The best long term methods for preventing guinea worm are...

____ (a) wearing shoes whenever on the farm
____ (b) digging a well
____ (c) sinking a borehole
____ (d) putting screen/net on all windows
____ (e) eating from separate plates

9. Medication used in the treatment of guinea worm disease includes...

____ (a) ambilhar
____ (b) aspirin
____ (c) tetracycline
____ (d) niridazole
____ (e) antepar

10. Guinea worm can be cured by using....

____ (a) ampiclox
____ (b) novalgin
____ (c) niridazole
____ (d) mebendazole
____ (e) metronidazole

11. Disabling secondary infection in guinea worm disease can be prevented by...

____ (a) eating nutritious meals
____ (b) dressing the ulcers daily
____ (c) immunizing against tetanus
____ (d) drinking boiled water
____ (e) immunizing against smallpox

12. A successful guinea worm control project must always include...

____ (a) government provision of piped water
____ (b) UNICEF provision of boreholes
____ (c) the ministry provision of medicine for all affected with guinea worm
____ (d) fundraising by the community
____ (e) a partnership between the communities and various agencies/ ministries

13. Appropriate communication methods at the village level include...

____ (a) stories
____ (b) radio announcements
____ (c) films
____ (d) handbills and leaflets
____ (e) group discussion

14. An education/communication method that teaches new skills is...

____ (a) stories
____ (b) radio
____ (c) demonstration
____ (d) songs
____ (e) films

15. Resources for a water supply project for guinea worm control can be found...

____ (a) within the community
____ (b) through voluntary agencies
____ (c) from local government offices
____ (d) from state/national Ministries of Health
____ (e) from state/national Ministries of Works

16. A successful water supply project should always include...

____ (a) handpumps
____ (b) community involvement
____ (c) health education
____ (d) major decision-making by engineer
____ (e) funds from the government

17. Some of the common benefits of a village water supply project are...

____ (a) elimination of all waterborne diseases
____ (b) time savings
____ (c) an adequate quantity of water for agricultural use
____ (d) water for home gardens
____ (e) stimulation of other self-help projects

18. The type of resources that are always needed for a village guinea worm control project are...

____ (a) a geologist
____ (b) a drilling rig
____ (c) a film van
____ (d) a contracting firm
____ (e) a planning committee

PART B

Have you ever done this activity? (For each activity listed below, check yes or no.)

a. Organized a community meeting	____Yes	____No
b. Delivered a health talk	____Yes	____No
c. Helped a community site a well	____Yes	____No
d. Treated a person with guinea worm	____Yes	____No
e. Been chairman at a meeting	____Yes	____No
f. Drawn a poster	____Yes	____No
g. Worked on a project together with people from other agencies	____Yes	____No
h. Talked to a class of school children	____Yes	____No
i. Conducted home visits	____Yes	____No
j. Presented the health needs of your community to government officials	____Yes	____No
k. Conducted government officials on a tour of your community	____Yes	____No
l. Worked on fundraising for a community project	____Yes	____No

m. Served as treasurer or managed project funds	____Yes	____No
n. Discussed community problems with village leaders	____Yes	____No
o. Written out a program plan for a health project	____Yes	____No
p. Requested outside assistance for your community from an agency other than your own	____Yes	____No
q. Organized community mobilization for a health project	____Yes	____No
r. Worked on a guinea worm control project	____Yes	____No

Handout 1.4

Guinea Worm Control Workshop

Participant's Daily Travel Allowance

Name: _____

Venue: _____

Home Base: _____

Dates Covered: _____

Amount Received (spell out) _____

_____

_____

_____

signature of participant

and date

SESSION 2

SESSION 2: CAUSES, PREVENTION, AND TREATMENT OF GUINEA WORM DISEASE

Total Time: 2 hours 30 minutes

OBJECTIVES

By the end of the session the participants will be able to:

- Recognize the symptoms of guinea worm disease
- Describe the causes
- List the different ways guinea worm can be prevented
- Discuss how the disease can be treated.

OVERVIEW

The overall purpose of this session is to make sure that all the participants have a common understanding of the causes, prevention, and treatment of guinea worm disease. Many of them are likely to have misconceptions of the causes and prevention, and it is important to clear these misconceptions up. The session begins with a presentation on the recognition and causes of guinea worm. This is followed by a small group task in which the different ways of preventing guinea worm are discussed. The session concludes with a full group discussion of the methods for treating the disease. Participants do not get any skill practice in the treatment methods since that is not one of the primary objectives of the workshop.

PROCEDURES

1. Introduction — Time: 10 minutes

Ask the participants what they know about guinea worm. The responses are likely to cover the recognition, causes, prevention, and treatment of the disease. At this point, make no attempt to categorize their responses. Their responses, along with the results of the pre-test will give you a good idea about what they already know, which will be helpful in conducting the workshop. Ask them why guinea worm is a serious problem. If the responses do not include the social and economic effects, make sure to add these points:

- The disease affects all age groups except the very young.
- Peak disability often coincides with planting or harvesting seasons and results in lower agricultural productivity.
- Mothers with guinea worm cannot adequately care for their children.
- There is high absenteeism from school.

This discussion should set the stage for the rest of the session.

Present the session objectives, using a flipchart.

2. Recognition and Causes - Lecturette Time: 20 minutes

Using a flipchart, do a presentation on the recognition and causes of guinea worm.

Recognition should include these points:

- There are no signs or symptoms until the female worm matures and is ready to emerge from the skin.
- There is localized swelling at the spot where the worm will emerge. The worm usually emerges on the lower limbs where there is contact with water. It may sometimes emerge on the arms, hands, breast, and other places.
- Swelling is accompanied by intense burning or itching and a blister develops in one or two days. Several days later, the blister ruptures and becomes a superficial ulcer.
- The worm is seen emerging from the ulcer, especially when the person suffering from guinea worm wades in water.
- The tissues near the emergent site become swollen, red, and tender.
- A variety of generalized non-specific and usually mild symptoms, including stomach upset, vomiting, skin rashes, fever, pain, and loss of appetite may occur.

Complications may include:

- Secondary infections are common, with tetanus the most serious.
- Infected joints cause temporary disability and can become fused resulting in permanent crippling.

Guinea worm causes/life cycle should include these points:

- After an incubation period of up to 12 months, the adult female worm moves to a position under the skin of the person suffering. A painful blister appears, often on the lower leg or foot.
- When the person puts the affected part of the body in water, the blister breaks and hundreds of thousands of tiny first-stage larvae are released into the water. The adult female worm then comes out slowly through the sore made by the broken blister.
- Some of the larvae in the water are eaten by the cyclops (water flea) where they live and develop into third-stage larvae. The cyclops are barely visible to the naked eye.
- When people drink water containing the cyclops which carry the larvae, gastric juices in the stomach kill the cyclops and free the larvae. These larvae dig through the digestive tract and live in the abdomen. After mating, the male worm dies and the female grows into an adult worm which moves towards the skin surface.

- The worms do not survive in people for more than one year.
- Guinea worm can only be transmitted through drinking water containing infected cyclops.
- The necessary conditions for transmission are an infected person who introduces the worm larvae into the water, the right type of cyclops, 5 days for the cyclops to ingest the worm larvae, and 14 days for the larvae to remain in the cyclops.

Distribute Handout 2.1 and review the transmission cycle.

3. Prevention - Small Group Task — Time: 60 minutes

Tell the group that now that they have discussed the recognition and causes of guinea worm, the next area to discuss is its prevention. Ask the group to identify the different ways to prevent guinea worm and record their responses on a flipchart. If the group leaves out any important prevention options, then add them to the list. Make sure that the list includes the following prevention methods:

- Protect the water source from people infected with guinea worm
- Chemical treatment (Abate) of the water sources
- Sterilizing contaminated water by boiling
- Use of filters (either cloth or sand/charcoal)
- Improved community water supply (e.g. dug wells, boreholes, rainwater storage)

Note: Adding alum to water does not kill disease organisms. It only settles particulate matter.

Make sure everyone understands each method.

After the group has brainstormed a list of prevention methods, choose the 6 to 8 most important methods with the group. Divide the participants into small groups of 4 or 5 persons (no more than 4 small groups) and assign 1 or 2 prevention methods to each small group. Give each group the following directions (write them on a flipchart).

- List the pros and cons of each prevention method assigned to your group.
- Discuss the pros and cons of using each control technology in your own community according to the following criteria:
  - cost
  - convenience
  - long-term effectiveness

- acceptability to the community
- level of difficulty of implementing this method (obstacles)
- availability of materials.

- Prepare your response on a flipchart and be ready to report to the rest of the group.

- Time: 55 minutes.

Trainer Note

Writing up reports on flipcharts takes some groups up to ten minutes. An alternative is to have the trainer jot notes on a flipchart as the group gives reports verbally. Writing on the charts themselves, however, does help the group internalize what they wrote.

4. Small Group Reports — Time: 40 minutes

Each group should select a spokesperson to report to the full group. The total time allowed for each group presentation is ten minutes, with five minutes for the presentation and five minutes for discussion. It is important to monitor the time carefully so this activity does not take too long. After each report, ask the others if they have any questions or clarifications.

After all four groups have reported, ask the whole group which option is the preferred one. Their opinions should be supported by reasons. Summarize by indicating which are temporary and which are long-term measures. Be sure to make the point that an improved water source is the most long-lasting method for prevention and the one that the workshop will focus on. Emphasize that the other options are useful as temporary measures, but that they have limited effectiveness when the primary water source remains contaminated.

5. Treatment - Full Group Discussion — Time: 15 minutes

Tell the group that the final aspect of this session is the treatment of guinea worm. Tell them that, although the focus of the workshop is on the prevention of guinea worm, some time should be spent on its treatment. There will not be time to practice the skills needed to treat the disease, but at least participants should be aware of the basic treatment methods.

Ask the group to name the different ways to treat guinea worm, including both modern and traditional methods. Record the responses on a flipchart. If the group does not include the following treatment methods, add them to the list.

- Clean and cover the wound tightly to preclude the escaping guinea worm larvae from entering the water source.

- Prevent tetanus by giving an immunization.

- Remove the worm with a small stick.

- Lessen physical discomfort.
- Avoid further contamination of the water source.

Ask the group these questions in order to clarify the major aspects of treatment:

- Are there any diagnostic tests to detect the presence of the parasite before it emerges? (The answer is no.)
- Are there any drugs that have proved to be effective in killing the worm before it emerges? (The answer is no.)
- Can a person develop immunity to guinea worm? (The answer is no.)
- How many worms can infect a person at the same time? (multiple)

As a wrap-up to this session, emphasize the point that there is no medicine that can cure guinea worm once ingested. All that can be done for an afflicted person is to prevent infection and to make him or her more comfortable.

6. Wrap-up Time: 5 minutes

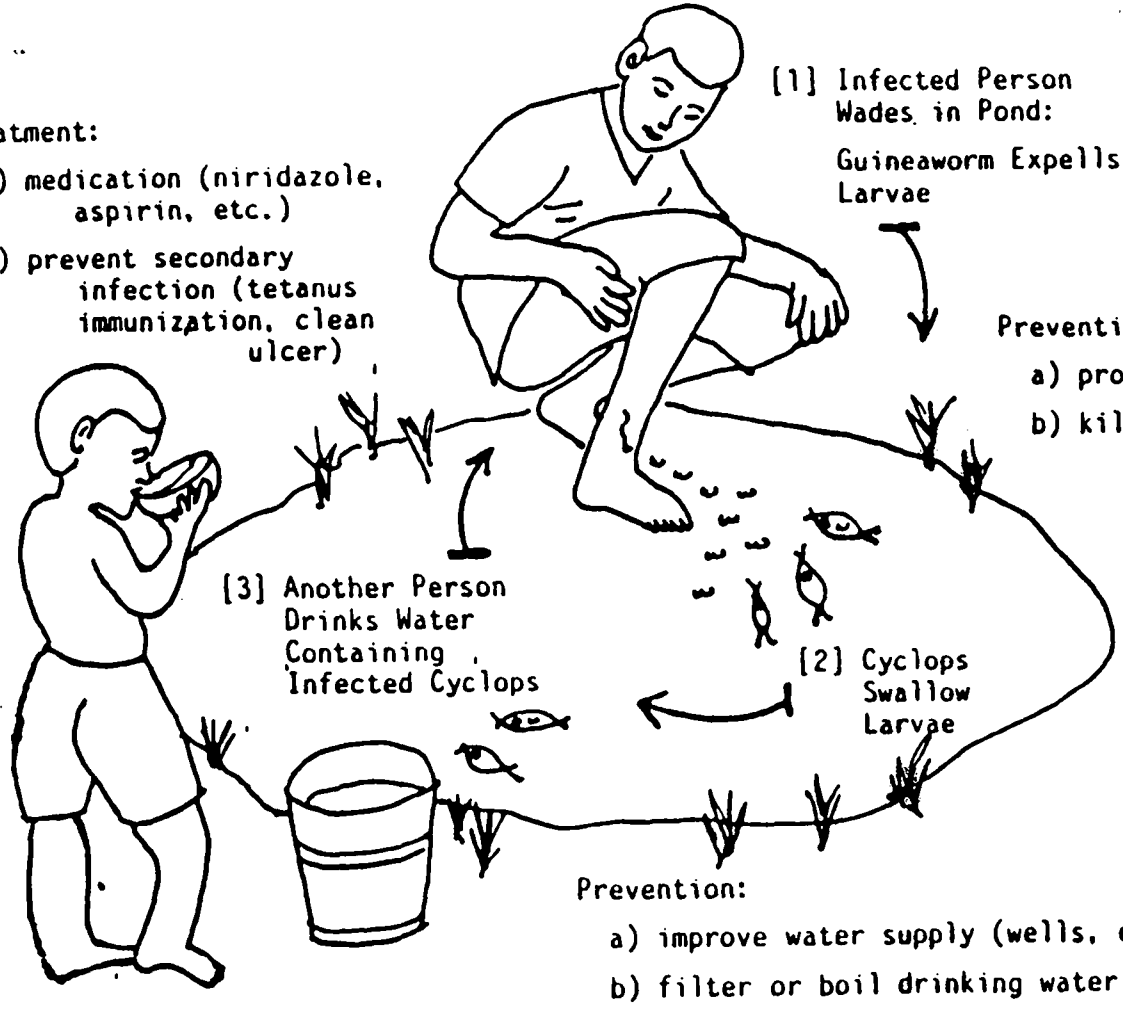
Ask the group whose responsibility it is to control guinea worm. The point to make is that local communities and district-level health workers cannot wait for the government to take action. Ways must be found to do something with the resources that are available. Explain to the group that the rest of the course will focus directly on improving water supply as the best way to control guinea worm and on mobilizing the resources needed to organize guinea worm control projects.

Refer back to the session objectives to see if they were met.

MATERIALS NEEDED

Handout 2.1 Guinea Worm: Cause, Prevention, & Treatment

GUINEAWORM: CAUSE, PREVENTION & TREATMENT



Recognition of Guinea Worm

A true case of guinea worm is recognized by a white, thread-like worm coming out from an ulcer or sore on the skin of the affected person. Guinea worm ulcers appear most commonly on parts of the body that come into contact with water, especially the lower legs and feet. Guinea worms also have been known to emerge from the hands, breasts, and other parts of the body.

Just before the worm comes out, the affected part becomes swollen. The area may itch, and the person may feel feverish. A person may be infected with more than one worm at a time.

Some people believe that any swelling, lump, or nodule on the body is guinea worm. Unless a guinea worm comes out from the swelling within a few days, the person is probably not suffering from guinea worm. Many other diseases cause swelling, lumps, and nodules.

Guinea worm does sometimes get caught in joints, like the knee, causing cysts and abscesses. These can be properly diagnosed by a physician who may have to remove the worm by surgery.

Some people believe that guinea worm causes stomach trouble. This has not been proven scientifically. Of course there are many different types of intestinal worms that cause disease in humans, but these are not related to guinea worm.

If you are conducting a community survey on guinea worm prevalence, you must verify whether a guinea worm actually came out of the person's skin in order to count that person as being a victim of guinea worm disease.

Causes of Guinea Worm

Guinea worm is in fact a worm known as Dracunculus medinensis. The disease is called Dracunculiasis or Dracontiasis. The adult female guinea worm grows up to a meter long and contains thousands of tiny larvae. The worm is usually located right under the skin of an infected person.

When the worm is ready to release its larvae, it causes a blister to form on the skin of the affected person. When this blister comes in contact with water, it bursts open, allowing the guinea worm to release some of its larvae into ponds and streams. This occurs frequently when people wade into ponds to collect water, to bathe, to wash clothes or similar activities. The guinea worm does not release all its larvae at once, but requires many contacts with water over a period of a few weeks. When the worm has finished releasing all its larvae, it will die and will slowly come out from the person's body.

The guinea worm larvae can not live freely in pond water. They will survive only if they are swallowed by a small shrimp-like animal called cyclops. Cyclops can barely be seen with the unaided eye, but can easily be viewed with a hand lens. The cyclops serve as intermediate host to the guinea worm larvae. The larvae grow inside the cyclops, and are mature enough to infect a human being after about two weeks.

Guinea worm disease passes on to other people when they drink pond water that contains cyclops which are infected with guinea worm larvae. The cyclops are dissolved inside the person's stomach. The guinea worm larvae are then freed and quickly pass through the stomach wall where they continue to grow. At some point the male and female guinea worm mate, and the male dies shortly thereafter. The female worm migrates to the person's skin. Within nine to twelve months from the time that the guinea worm larvae were swallowed, a fully grown worm is ready to release its larvae, beginning another round in the life cycle of guinea worm.

Prevention of Guinea Worm

Preventive measures can be aimed at different points in the life cycle of guinea worm. Some are temporary measures, while others are longer lasting. In an endemic area there may be many ponds where people can become infected, especially if people are often moving among the different towns, villages, markets, and farms in the district. A good control strategy must take account of the various sources of infection. Different preventive measures are listed below.

1. An infected person can be kept away from community ponds. Social pressure and support are needed. Non-infected persons must help those with the disease to collect water for their domestic needs. Community members may take turns guarding the pond to keep out those with open guinea worm ulcers or blisters. Ponds can be protected by fences. These are only temporary or partial measures.

2. Chemicals can be used to kill the cyclops. Temephos (Abate) is safe to use if applied correctly by a trained health worker or community volunteer. The water should be acceptable for drinking a few hours after the chemical has been applied. Repeat applications are needed every six weeks. This method will fail unless regular supplies of the chemicals are available to every village and are used properly.

3. Boiling the drinking water kills cyclops and guinea worm larvae, as well as other germs. This is a time-consuming and expensive procedure which is socially unacceptable to most villagers.

4. Filtering water through clean cloth removes cyclops. The mesh size of the cloth must be small and uniform or else some cyclops may pass through. Monofilament nylon or polyester cloth is ideal for making filters, but unless the filter is used every time water is collected, it will not protect. Also, the filter may eventually develop holes and tears and need replacement. Filtering is a good temporary measure and is also useful in villages that are too small to afford a well.

5. The best and most long-lasting solution to guinea worm is a permanent, clean source of water. The choice of a dug well, borehole, protected spring or tap water will depend on local geography, finance, and political realities. The benefit in this method is that it offers protection from many waterborne diseases, not just guinea worm.

6. Treatment is often considered a control measure for many diseases, but this is not very effective for guinea worm.

A comprehensive guinea worm control strategy will probably require a combination of the above methods. Short-term measures may be used temporarily until funds can be raised for long-term projects. Availability of water and the size of population may also mean that different methods are needed in different sections of the district or community.

Treatment of Guinea Worm

There is no real cure for guinea worm. That is why prevention is so important. The drug niridazole (Ambilhar) is sometimes used in the treatment of guinea worm. It helps reduce inflammation and eases the slow, natural removal of the worm. Common aspirin also reduces inflammation and is much cheaper than niridazole. Niridazole also can have dangerous side effects. Other drugs have been tested, but none have been found very effective against guinea worm.

The biggest problem posed by guinea worm is that germs can enter the guinea worm ulcer and cause secondary infections. The most serious of these is tetanus, which can kill. Other infections cause painful disability such that the victim of guinea worm may be bedridden for weeks at a time.

Tetanus can be prevented by immunization. All infections can be prevented by keeping the ulcer site clean. A solution of dettol or another antiseptic lotion can be used to clean the ulcer at least once daily. Daily dressing is helpful for keeping out dirt and germs, but some people find the dressing uncomfortable as long as the guinea worm is still partially inside their bodies. Some people believe that covering the ulcer delays emergence of the worm, but this is not true. Whether dressing is used or not, treatment with antibiotics is very important. If the ulcer does become infected, treatment with antibiotics may be necessary, according to the advice of a physician.

In many societies people traditionally wrap the guinea worm gently around a small stick as it emerges. Care must be taken because if the worm is pulled too fast it will break and serious infection will set in. If the ulcer does not become infected, the worm will emerge naturally over some weeks with less pain and complications.

SESSION 3

SESSION 3: WATER SUPPLY PROJECTS

Total Time: 3 hours

OBJECTIVES

By the end of the session, the participants will be able to:

- Describe the main ingredients of a successful water supply project
- Discuss the potential social, economic, and health benefits of a water supply project.

OVERVIEW

This session will explore what is involved in a successful water supply project. Because an improved water supply is the best way to control guinea worm, the workshop devotes an entire session to giving the participants an increased understanding of water supply projects. One of the main goals of the session is to emphasize that water supply projects are complex interventions that require careful planning and community involvement at all stages. The point is also made that if done correctly, water supply projects also offer the possibility of other benefits besides the control of guinea worm.

The session uses a case study to examine the complexity of a water supply project. After looking at the case study, the trainer leads a full group discussion in which they look at the various benefits that can come from a water supply project.

PROCEDURES

1. Introduction — Time: 10 minutes

Lead a brief discussion on the current water supply situation in the communities where the participants work. Questions to ask include:

- Where do people get their water?
- Is the supply adequate? If not, what kinds of problems result from poor water supply? Do they use a different source in the dry season?
- Has the community ever made an attempt to improve its water supply, i.e., a new drilled well, a capped spring, etc.? How? What happened?
- What has been your own role or contribution in improving the community's water supply?

Give the rationale for the session. Remind the participants that in the morning, it was pointed out said that a safe water supply is the best way to control guinea worm. Therefore, we want to spend some time looking at what makes a water supply project successful.

Present the session objectives on a flipchart.

2. Case Study Time: 60 minutes

Introduce the case study. Tell the participants that the case study tells the story of a water supply project in Lunda, a village in the country of Zania. The case is about a government-sponsored project to improve water supply in two provinces. The case is meant to look at a hypothetical situation to illustrate important factors in organizing a water supply improvement project.

Distribute the case study (Handout 3.1) and give the participants 10 minutes to read it.

Divide the participants into small groups of 4 or 5 persons each. Make sure that there are not more than 4 small groups. Give the groups the following task written on a flipchart.

- What were some of the positive aspects of this project?
- What were some of the problems the project had?
- What would you have done differently? Why?
- Prepare your response on a flipchart and select a spokesperson to report back to the full group.
- Time: 50 minutes.

3. Small Group Reports Time: 55 minutes

Ask each group to report its findings to the full group. Each group should limit its report out to about five minutes, followed by ten minutes of discussion. The trainer should first ask the other groups for comments before asking any questions himself. There are a number of key questions that should be asked during the discussion. The participants may bring the questions up themselves, and, if not, the trainer should ask them. Be careful not to ask all of the questions after the first group's presentation, but to spread them out during the four reports.

Key questions:

- Was the technology selected (handpump) appropriate? Is it wise to pre-select the technology as in the case study? Were hand-dug wells ever considered?
- Did the government involve the community in the selection of the technology? Should the community have been involved in deciding whether to participate in the project in the first place?
- What consideration was given to operations and maintenance? Was it sufficient?
- When should the health education component start? Before or after the drilling?

- How important is coordination between different ministries in a water supply project?

- How can we reconcile community priorities (e.g. school) with government goals (e.g. latrine)?

- Is it a good idea to start a latrine component before constructing the water supply? Did that have any effect on the community's motivation to follow through with the project?

4. Elements of a Successful Water Supply Project Time: 20 minutes

Based on the previous discussion, generate in the full group a list of the key factors in a successful water supply project. Ask participants individually to write four or five ideas quickly. Then call for responses. Record the responses on a flipchart. This list will represent a summary of the learnings from the case study. Distribute Handout 3.2, Factors for a Successful Water Supply Project.

5. Benefits of a Water Supply Project Time: 20 minutes

A successful water supply project will bring other benefits besides the control of guinea worm. Because water is so fundamental to many aspects of everyday life, an effort to improve a community water supply can lead to other benefits. This exercise is intended to raise the participants' awareness of the benefits of a safe water supply to a community.

Write three columns on a flipchart.

Social	Economic	Health

Ask for definitions of each term and clarify. Give an example of a benefit in each of the areas and then ask the participants to take five minutes of individual time to come up with benefits in the three areas. Refer to Handout 3.3, Benefits of a Community Water Supply Project Project, for examples. (Wait to distribute the handout until after this activity.)

Then ask the group what they have written and record the responses on a flipchart. Add items from the sample list if the group doesn't mention them. The result should be a substantial list of benefits. Be sure to make the point that although this workshop is talking about water supply as the most effective measure to control guinea worm, water supply is an intervention that can have a beneficial impact in many other areas of village life. Distribute Handout 3.3.

Trainer Note

Make sure participants realize the difference between "reducing" and "eliminating" diseases. Guinea worm can be eliminated through a safe, regular water supply. Other diseases can be reduced because there are other factors involved in disease spread besides water (such as human waste disposal).

6. Wrap-up Time: 15 minutes

Lead a discussion which focuses on the following questions:

- Who is generally responsible for water improvement projects in the participants' communities? Probe whether it is the government, the community itself, or a private group such as the church or a charitable organization.

- Is water a recognized need in the community? Would people be ready to contribute time and money to a water supply project? What would motivate communities to contribute to a water project?

Point out that tomorrow, the workshop will focus on the kind of resources needed for a water supply project and where the resources can be obtained. We will also consider how to communicate with people to involve them in gathering resources for a successful project.

Refer back to the session objectives.

Give feedback or pre-test results if these have been tallied.

MATERIALS NEEDED

Handout 3.1 Case Study: Rural Water Supply and Sanitation in Zania
Handout 3.2 Factors for a Successful Water Supply Project
Handout 3.3 Benefits of a Community Water Supply Project

Case Study

Rural Water Supply and Sanitation in Zania

In early 1982, the government of Zania decided to improve water supply and sanitation services in two of the southern provinces with high infant mortality rates. A review of Ministry of Health records showed the prevalence of a variety of gastrointestinal diseases. Outbreaks of dracunculiasis (guinea worm) were also common. Several village surveys in the two provinces showed that most people were using surface water supplies for domestic use and for livestock watering. The surface water supplies were typically contaminated from people and animals entering the pond areas. Furthermore, the method of extracting the water (by entering the ponds) exposed the villagers to guinea worm infection. The problems caused from using poor quality water were compounded by poor hygiene practices among the villagers and a lack of sanitation facilities (latrines). Existing dug wells which produced an acceptable water quality were often abandoned because they did not produce enough water in the dry season and because the surface supplies were more convenient.

To address the problem the government organized a program for 60 villages. The government decided to install handpumps in all of the villages in the target area as the best way to provide a clean, safe water supply. A new handpump which seemed to be appropriately designed for Zania was selected for the project. To speed implementation, responsibility was assigned to the Ministry of Works (MOW). Against the wishes of the MOW, the Ministry of Health (MOH) was also given responsibilities in the project--for community selection, health education, and latrine installation.

After the initial period of enthusiasm, the project began to run into problems. Well drilling crews were making good progress in well installation, but the handpumps were difficult to obtain--resulting in delays of up to a year after the well was drilled before the handpump was installed. Because of logistics, the well drilling crews tended to concentrate in the north, and no new wells had yet been installed in the south where the MOH had promised villagers that wells would be installed once they had completed their latrines. Some villages, frustrated with the slow progress of the project, refused to participate any longer. In addition, problems developed at the village level. One example is the village of Lunda.

In Lunda, a village of about 700 people, the project was welcomed enthusiastically. Because of the strong community leadership, Lunda was selected by the MOH as one of the first villages for the project. The village immediately accepted its responsibilities--providing labor for the drilling crew, construction of drainage pads, and construction of latrine pits. The village head appointed one man to coordinate the project for the village. As Lunda was one of the first villages in the project, both the MOH and the MOW moved quickly. Within a month of the start of the project three wells were

drilled and the new handpumps were installed. Villagers were shown (in a half day course) how to repair the pump and what spare parts and tools they would need. At the same time, the latrine materials were delivered to the site and the villagers were encouraged by the MOH to dig pits and construct the new VIP latrines as soon as possible. The MOH representative worked with one family to construct a model latrine that could be used as an example for the rest. Because of the quick start-up of the program, the MOH had not had enough time to prepare a health education program for the village. The MOH decided to move on to other communities to get the program going and to come back to Lunda when the health education program had been developed.

After two years of operation, the project in Lunda has deteriorated. Only one of the three handpumps is functioning. The villagers claim that it is the government's responsibility to provide the spare parts and repair the pumps, since the cost of repairs is beyond their means. Only about a third of the latrines have been constructed--the remaining families claim that there are insufficient materials available to construct the latrines. Most of the materials were used in the construction of a school, which the village had dreamed of for years. Few of those latrines that were constructed are being used and no health education program was ever conducted in Lunda. Because of the handpump failures, most people have returned to using the surface water supplies, and guinea worm outbreaks are again on the increase.

Handout 3.2

Factors for a Successful Water Supply Project

1. The technology selected should be low cost and appropriate.

2. The community should be involved in technology selection, planning, construction, operations and maintenance, and evaluation.

3. Cooperation and maintenance should be fully planned for from the beginning. This includes clarifying responsibilities, insuring spare parts, providing skills.

4. Health education activities should begin before planning and construction to ensure community understanding, acceptance, and involvement.

5. Coordination meetings involving all relevant agencies and ministries should be held throughout the duration of the project.

6. Adequate resources must be provided on schedule to avoid disappointment and rejection of the project by the community.

7. Resources for projects should come from a variety of sources. There should be a balanced input from community, government, voluntary agencies, and others according to what each can reasonably afford.

Handout 3.3

Benefits of a Community Water Supply Project

Social

1. Water supply and sanitation project as a stimulus to community development and organizational skills

2. Water supply and sanitation project as a stimulus to participation in other self help projects

3. Beneficial effects of villagers' working together to achieve a common goal

4. Since people are no longer slowed down by guinea worm and other water-related diseases, they have more time available to work together on community projects, attend school regularly, etc.

5. There is more time for participation of women in community life.

Economic

1. Time saved carrying water over long distances

2. Water for home gardens or livestock

3. Part-time or full-time employment of caretaker

4. Water supply fundamental to cottage industries

5. Time not sick put to productive use

Health

Water supply and sanitation projects can stimulate participation in primary health care projects.

1. Reductions in waterborne diseases
   - guinea worm
   - polio
   - gastroenteritic diseases (paratyphoid, typhoid, cholera, etc.)
   - hepatitis
   - schistosomiasis

2. Reductions in water-washed diseases
   - trachoma
   - diarrheal diseases from fecal-oral contamination
   - scabies
   - yaws

3. Water for home gardens - improved nutrition

4. Water for use in clinics and oral rehydration therapy (ORT)

SESSION 4

SESSION 4: COMMUNICATING EFFECTIVELY WITH COMMUNITIES

Total Time: 3 hours 30 minutes

OBJECTIVES

By the end of the session, the participants will be able to:

- Draw upon local beliefs to communicate effectively with communities about the cause of guinea worm disease and how it can be prevented.
- Describe health education methods that use locally available resources.
- Develop a plan to communicate with a community about controlling guinea worm.

OVERVIEW

Community health education is the key to long-term success of any guinea worm control strategy. The purpose of health education activities is to help the community recognize that guinea worm is a serious health problem, that guinea worm disease is closely linked to water supply, and that by having a safe water source and by changing its behavior with regard to water use the community can control guinea worm. Imparting this message about guinea worm is essential if the community is to recognize the problem and accept responsibility for taking action to resolve it.

This session will explore what is involved in sharing information about guinea worm with a community. The trainers will expose the participants to a variety of techniques to communicate the message. The participants will then develop a plan to approach the community about guinea worm.

PROCEDURES

1. Introduction — Time: 10 minutes

Tell the group that before doing anything about guinea worm, the community must recognize that guinea worm is a serious health problem. It is the role of the health worker to help the community to recognize this and to make the link between water supply and guinea worm. The community is not likely to devote the time, materials, and money if they do not believe that the problem is within their abilities to solve. This session explores various ways to communicate the problem of guinea worm to a community.

Present the session objectives on a flipchart.

2. Assessing Local Knowledge — Time: 30 minutes

Most communities have extensive belief systems about the causes, prevention, and treatment of guinea worm. Ask the full group what their communities generally believe about guinea worm. Record the responses on a flipchart.

Ask the group what they know about guinea worm, including what they have learned in this course. Record these responses on another flipchart. This list represents the key messages to communicate about guinea worm.

Ask the group to compare the two lists and determine where the common ground is and where the gaps are. The result should be an identification of those aspects of guinea worm disease which the community already knows about and which can be built upon in discussions with the community. The comparison should also identify gaps or misbeliefs which will shape the health education messages to be developed.

3. Techniques for Communicating — Time: 40 minutes

Tell the group that now that the main messages have been identified, we want to focus on how to communicate them. Ask the group what techniques they are familiar with. Emphasize that communication methods should be adapted to the financial and educational levels of the community and its residents. Write on a flipchart the following techniques and give a brief explanation and example of each one relevant to guinea worm. Make sure to emphasize how to involve people in each method.

- Group discussion (refer to discussion on beliefs as example)
- Demonstrations (use cloth filter as example)
- Stories (read aloud the story in Handout 4.2)
- Posters (draw a simple poster and preview with group)
- Proverbs (ask group for proverbs they know)
- Songs (identify popular song that can be modified)
- Drama (indicate that stories can be dramatized)
- Health talks (explain how to combine the above techniques into a talk)

Distribute Handout 4.1, Health Education Methods, and Handout 4.2, Educational Story on Guinea Worm.

Emphasize that different methods serve different purposes: sharing information, aiding decision making, providing skills, encouraging healthy values and attitudes. Ask the group to identify the purposes for the different methods listed on the flipchart. Also stress the importance of involvement - involve people in discussing stories, in describing posters, in sharing proverbs, etc.

4. Developing a Plan - Small Group Task — Time: 70 minutes

Now that the group has discussed what to communicate to the community and the techniques available for communicating, we want to to look at what is involved in developing a plan for approaching the community about guinea worm. Divide into small groups of 4 or 5 persons each (no more than a total of 4 small groups) and give the following task written on a flipchart:

- Develop a plan for communicating to the community the seriousness and importance of controlling guinea worm. The plan should generate interest and willingness to participate in the project.

- The plan should address the following issues:

  - making sure the community knows what guinea worm disease is
  - helping the community realize the impact of the disease
  - analyzing the importance of guinea worm relative to other community problems
  - exploring the broader benefits of a control program.

- The plan should have the following components:

  - a step-by-step plan with a time frame
  - the existing communication channels you will use (e.g. town criers, announcements at meetings, traditional signs and symbols)
  - the different community groups such as clubs and schools you will target
  - the educational methods you will employ.

- Use Handout 4.3 for preparing your report.

- Select a spokesperson to present the group's work.

- Time: 60 minutes

5. Small Group Reports — Time: 45 minutes

Ask each group to report, taking about 5 minutes to present and 10 minutes for comments and discussion from the other groups. As a group reports, the trainer should briefly list their main points on a flipchart. Below is a list of questions to ask as the groups report out. Do not ask all of the questions after the first group's report. Also, the other groups may raise some of the same questions themselves when they comment on each report.

- Does the plan make use of resources available in the community, e.g., health workers, health committees, community groups etc.?

- What techniques are used to make the link between guinea worm and contaminated water?

- How long does your approach take? Is the time frame realistic?

- How does your approach deal with the resistance to participating in a guinea worm control project that may be encountered?

- Does the plan pay attention to local beliefs?

- Does your approach require any significant financial resources?

- Are the methods used suitable for audiences with little or no formal education?

6. Wrap-up Time: 15 minutes

Ask the participants what are the most important lessons they have learned about communicating effectively with communities about guinea worm. Record the responses on a flipchart. Ask the group to save their plans for use tomorrow.

Tell the group that the next session will deal with the resources that are needed to carry out a guinea worm control project. The session will require that the participants draw upon all they have learned so far.

Refer back to the session objectives.

MATERIALS NEEDED

Handout 4.1 Health Education Methods
Handout 4.2 Educational Story on Guinea Worm
Handout 4.3 Communication Plan

Health Education Methods

Health education consists of learning activities which help people choose to behave in a healthy manner. These learning activities provide health information, promote understanding, mobilize community resources, teach healthy living skills, and encourage social (family and group) support for healthy life styles. Several health education activities that can be used at the village level with minimum cost are described below. Normally a good health education program uses a mixture of these activities.

1. GROUP DISCUSSION

Group discussions are useful for learning about community beliefs and needs, creating understanding about new ideas, and encouraging decisions for action. Discussions can be held with community leaders, people attending clinics, members of local organizations, and pupils at school.

During a discussion a health worker must be ready to learn from community members as well as providing them with new knowledge. By listening to community beliefs, the health worker can look for similarities between local and scientific ideas of guinea worm cause, prevention, and treatment. Discussion can begin with what is common and then build on this so that community members learn more about the disease from the scientific point of view.

Discussions are also an important part of community involvement. During discussion community members air their own views about what actions against guinea worm are acceptable and affordable. Planning for guinea worm control can grow out of discussion sessions.

2. DEMONSTRATIONS

Demonstrations are valuable for teaching people new skills. Filtering water to prevent guinea worm is one such skill. A demonstration should be realistic, using local water pots and available material for filtering.

The health worker should explain carefully each step as he/she performs the demonstration. Community members should be given an opportunity to repeat the demonstration and receive feedback and correction.

To make the demonstration more believable, it would be good to filter the same pond water that people in the village actually use. Then, turn the filter over into a small glass jar and wash any cyclops caught into the jar with clean water. Everyone can then look at the cyclops. A magnifying glass or hand lens would be helpful but is not absolutely necessary.

3. STORIES

A traditional way of providing knowledge and values in many villages is storytelling. Health workers can also find storytelling useful in health education. By listening to a story, community members should be able to gain insight on which behaviors are healthy and which are harmful.

A story should be realistic and believable. At the same time it should not be about real people, as this may embarrass some people in the village. A sample story is attached to these handouts. It describes two boys who got guinea worm and what was done for prevention.

Stories should always be followed by discussion. The storyteller will ask the listeners questions to determine whether they understood the main points of the story. Questions are attached to the sample story (Handout 4.2).

4. POSTERS

Posters can provide simple pieces of information and make health talks more interesting. Posters should contain no more than one picture and one idea.

Posters on guinea worm may be available from the Ministry of Health, but homemade posters are just as effective. Even school children can be involved in a poster making contest. Not only will the posters be useful in the community, but the children will learn about guinea worm in the process.

Homemade posters can be made on the back of old calendars or other sheets of paper. Pictures can be cut from magazines and pasted on the poster. Pictures can also be traced or hand drawn.

When using a poster during a talk, the health worker should always involve the audience fully. First ask people what they see in the poster. If a poster shows a person collecting water from the pond, ask questions such as the following to encourage people to learn the message contained in the poster:

What is the woman doing?

Why is she collecting water from the pond?

Is there any danger in this practice?

How could the woman make sure that the drinking water is clean?

5. PROVERBS

All cultures have proverbs that remind people of desirable behavior and values. Talks and discussions should use proverbs to emphasize important points. In western Nigeria there is a proverb that says, "Before guinea worm becomes an ulcer, it is oluganbe leaf we call for." This proverb is similar to the English saying, "A stitch in time saves nine." Both emphasize the need to take quick action before a problem becomes worse.

6. SONGS

Songs provide simple information and are a good way to help people remember new ideas. Pick a tune that people already know and add new words about preventing guinea worm. Such songs can be sung several times at the beginning and end of health talks and meetings to help people think about action they can take to avoid the disease.

7. DRAMA

Drama is an exciting and entertaining way to teach new ideas and values. A story like the one on guinea worm described above can form the basis of a drama. School children can be involved in the drama, or a local drama group can be called in to help.

In order to ensure that the points of the drama are understood by the audience, the health worker must talk with the audience after the drama is over. Similar discussion questions to those used after a story can be used. Both the actors and the audience can be involved in the discussion. The actors can ask the audience for advice on what they could do the next time to prevent guinea worm.

8. HEALTH TALKS

Health talks are really group health education presentations. The presentation should include posters, proverbs, songs, etc. The health worker should plan to visit major community organizations, schools, markets, and clinics to talk about guinea worm and rally support for community action.

Educational Story on Guinea Worm

Musa and David are best friends. Both boys are in Form II at the local secondary school. Musa lives in his family compound in town and David lives in a small farm village about two kilometers from town.

One day at the beginning of a new term, Musa came to school and found that his friend David was absent. After school Musa walked to David's village to find out what was the problem. He met David lying on his bed suffering from guinea worm.

Musa said, "David, every year you get this guinea worm, but I do not. Why is this so?" David answered, "Our science teacher says that drinking dirty water causes guinea worm. You know that your family in town has a well, but we here in the farm collect our water from ponds."

Musa said, "I do not believe you. My grandmother says that guinea worm is in the blood and will come out any time a person's blood is weak. I do not get guinea worm because my family's blood is strong."

While the boys were arguing about the cause of guinea worm, David's mother entered the room and asked the boys to take food. Since Musa was hot and tired from his walk to the village, he ate plenty of food and drank plenty of water.

After finishing the food, Musa looked up and saw that the sun was setting. He said, "I better reach home before dark." After thanking David and his mother for the hospitality, Musa walked back to town.

Finally David recovered from guinea worm after some weeks. Musa was glad to see his friend back in school. They started playing and talking and forgot all about the guinea worm. Both boys did well in school that year and passed on to Form III.

Sometime after the new session began, David came to school one day and saw that Musa was absent. David walked to Musa's house and found Musa lying on his bed complaining of guinea worm.

Musa was worried. He asked, "Why do I have guinea worm? I never had it before. You said that if I drank clean water, I would not get the disease. I always drink water from our family well. Maybe someone has cursed me?"

David reminded Musa about last year. "When you visited me in the village that day, you drank plenty of water. Remember that our teacher says that guinea worm takes up to a year to grow. The water you drank last year in the village gave you the guinea worm."

David continued, "After you left our house that day, my mother asked me what we were arguing about. I told her about guinea worm and how it is spread when an infected person wades into the pond. The guinea worm then releases its tiny babies into the pond, and we later drink them and become sick."

"From that day on, my mother started filtering our water with a clean cloth. Fewer people in the family have guinea worm this year. My father has talked to others in the village about digging a well."

Musa praised the efforts of David's family. He also promised that he would never drink dirty water again.

Discussion Questions

1. Why did Musa and David get guinea worm?
2. How does guinea worm spread?
3. What did David's family do to prevent guinea worm?
4. What are some of the different ways we can make sure that our drinking water is safe from guinea worm disease?
5. Which methods of preventing guinea worm are possible for this community?
6. Musa's grandmother believes guinea worm is in the blood. What are some of the things people in this community believe about guinea worm?
7. How can we convince people like Musa's grandmother about the need to take preventive action against guinea worm?

Handout 4.3

Communication Plan

Message to be Conveyed	Educational Activity or Methods	Target Group	By When (Time in Weeks or Months)	Person Responsible

SESSION 5: MOBILIZING RESOURCES

Total Time: 2 hours 30 minutes

OBJECTIVES

By the end of the session, the participants will be able to:

- Identify the resources needed to organize guinea worm control projects
- Determine where the resources might be available
- Select appropriate resources for a community level project

OVERVIEW

Once convinced that guinea worm is a problem which is worth devoting time and money to, the community will be ready to identify and obtain the needed resources. The health worker can be of great help in mobilizing these resources, especially since many of the resources will come from outside the community. This session is aimed at helping participants identify what resources are needed for a guinea worm control project and where to obtain them. This will move them toward developing individual plans for obtaining the resources.

PROCEDURES

1. Introduction — Time: 10 minutes

Lead a discussion with the participants around their previous experience with successful projects. Ask if anyone has ever organized a successful project. Ask for some examples. Ask what made the project successful and record the success factors on a flipchart. (The factors should include such items as having a plan, leadership, having the necessary resources etc.)

Draw a parallel to planning a guinea worm project. Ask which of these success factors would apply to a guinea worm control project.

Present the session objectives on a flipchart.

2. Identifying the Resources Needed — Time: 55 minutes

Explain that in a guinea worm control project a variety of resources are necessary. These resources can be categorized as follows:

- Technical - special skills and equipment, e.g., drilling equipment, hydrogeologist

- Material - required supplies, e.g., cement, sand, shovels
- Labor - direct human input, e.g., well diggers, masons
- Financial - funds needed to purchase materials or hire labor.

Tell the participants that the next activity will be to generate a list of resources which are needed to carry out a guinea worm control project in their communities. The resources should be based on the assumption that the primary control measure will be an improved water supply. Distribute Handout 5.1, Resources Grid for a Guinea Worm Control Project, and write the following task on a flipchart. (Have extra copies of Handout 5.1 if participants need one.)

- In pairs, using Handout 5.1, generate a list of the resources needed for a guinea worm control project. Do not fill out the second column, "Where to obtain."
- Be specific on types and amounts.
- Assume that the primary control measure is an improved water supply.
- Time: 50 minutes.

3. Full Group Discussion — Time: 20 minutes

Have on a flipchart the same grid as in Handout 5.1. Based on the work in pairs, develop a master list from the whole group. You should build a list which represents a composite of the most important items from the lists developed by the pairs. The purpose of this exercise is to elicit those items that certain pairs may have overlooked. The master list is not intended to be the "right" answer but a synthesis of the full group.

4. Obtaining the Resources — Time: 35 minutes

Now that the group has identified the resources needed, the next step is to determine where the resources can be obtained. Distribute Handout 5.2, Resources to Control Guinea Worm, and ask the group to read it.

Ask the participants to pair up again with the same person and fill out the second column of the grid, indicating where they could obtain the resources they identified in Step 2. Give the participants 30 minutes.

They should mention actual names of agencies and organizations where resources could be obtained.

5. Discussion of the Exercise — Time: 20 minutes

Refer back to the master list of resources needed and ask where they can be obtained. Record the responses on a flipchart. Ask if anyone found it difficult to determine where to obtain certain resources. Be sure to clear up these areas.

There are several general questions to ask in concluding this exercise.

- Are most of the resources which are needed available internally or must they be obtained with outside assistance? (Circle all the items that can be obtained internally fully or partly with the community.)
- Which resources are easy to obtain and which are difficult? Why?
- Which resources are costly? Is the control of guinea worm necessarily a costly activity?
- Are the same resources needed for every water project in every community? Why?
- Have you considered alternative places to find resources? For example, is there more than one place to find cement or more than one agency that can help site a well?
- Do your plans have a good balance - drawing on the community, government, voluntary agencies, and others according to what each can reasonably afford?

6. Conclusion Time: 10 minutes

Wrap up the session by asking whose responsibility is it to mobilize these resources? Should we wait for the government to organize a program or can we do something about it immediately. These questions should lead to a general discussion which emphasizes that the participants can do a great deal with the resources available to them and that they should not wait until the government organizes a broad-scale program. If such a government program does happen, then we should take advantage of it, but if it doesn't then we need to act immediately. Finally, make the point that the type of session just held is a good example of how participants can guide people at a community planning meeting to identify needed resources.

Refer back to the session objectives.

If the group is inexperienced in developing program plans, pass out Handout 6.1 for overnight home study.

MATERIALS NEEDED

Handout 5.1 Resources Grid for a Guinea Worm Control Project
Handout 5.2 Resources to Control Guinea Worm

Handout 5.1

Resources Grid for a Guinea Worm Control Project

In the space below list all the resources that you would need for a guinea worm control project.

Type of Resources Needed	Where to Obtain
Technical	
Material	
Labor	
Financial	

Handout 5.2

Resources to Control Guinea Worm

A. TYPES

1. Technical - special skills and equipment, e.g., geologist, borehole drill
2. Labor - direct human input, e.g., well diggers, masons
3. Material - supplies required, e.g., cement, sand, shovels
4. Financial - funds needed to purchase or hire material, labor, etc.

B. SOURCES

1. Government agencies - local, state, and national ministries and parastatals
2. Voluntary organizations - Red Cross, Boy Scouts, etc.
3. International agencies - UNICEF, WHO, World Bank
4. Local social organizations - clubs, religious bodies, service organizations (Rotary, Lions, etc.)
5. Professional associations - public health society, medical association, nurses association, etc.
6. Specialized institutions - universities, health training schools, research institutes
7. Commercial interests - pharmaceutical companies, etc.
8. Philanthropic bodies - foundations, community funds
9. Political groups - chieftancy councils, political parties, local government councils
10. Trade and craft organizations - guilds for carpenters, tailors, masons, etc.
11. Cooperative societies - credit unions, farm cooperatives, etc.

C. LOCATIONS

1. Internal resources

   Some resources can be located right within the community. These could be mobilized so that the community will feel a sense of ownership and participation in the project. The long-term management of the project will depend on the level of personal investment a community makes in guinea worm control.

2. External resources

   Few communities where guinea worm strikes are rich or fortunate enough to have all the resources they need to control the disease. Guinea worm is a disease of poverty and neglect. Therefore, some resources for a control program will have to come from outside the community. A mixture of both internal and outside resources will be needed. The community can attract resources by first showing what it has done for itself.

SESSION 6

SESSION 6: DEVELOPING A BACK HOME PLAN

Total Time: 3 hours

OBJECTIVES

By the end of the session, the participants will be able to:

- Develop a plan to apply the workshop learnings to their local situations.

OVERVIEW

This session is intended to help the participants plan how they will apply what they have learned during the workshop. During the workshop, the participants have reflected on what they have learned on several occasions. They have developed an approach for communicating about guinea worm to communities and a plan for obtaining resources for a guinea worm control project. The next 2-1/2 hours will be spent doing some detailed planning for a guinea worm control project. The participants will develop individual plans (or a joint plan by several participants who work in the same service area) and then have an opportunity to discuss the plans with another participant.

PROCEDURES

1. Introduction — Time: 5 minutes

Introduce the topic of back home planning. Share how difficult and frustrating it can be after a workshop to want to start a project without a clear plan of what needs to be changed and how to go about doing it.

Introduce the idea of using a personal work plan as the mechanism to organize, schedule, and coordinate resources and activities necessary for the development of a project.

Present the session objective on a flipchart.

2. Individual Planning — Time: 100 minutes

Explain that in order to do a back home plan, a planning format is useful. Distribute Handout 6.1, Outline for a Guinea Worm Control Project Plan and ask participants to look it over and ask any questions.

Tell the participants that they will develop individual plans. In some countries, it might make sense for several participants who work in the same service area to develop a joint plan.

Remind participants to incorporate ideas from their communication plans and resource lists developed in Sessions 4 and 5 into their back home plan.

As some participants may not have developed a plan time frame before, put an example on a flipchart. Use the list of tasks for preparing for this workshop found on page 3 of the introduction to this guide (obtain official approval for workshop, etc.) and show participants your own time frame for action leading up to actual implementation of the workshop.

Put on a flipchart and assign the following task:

- Use Handout 6.1 to develop a back home plan.
- Address all eleven points, but be brief.
- Time: 85 minutes.

Trainers should move among the groups to answer questions and ensure that the planning format is well understood.

3. Sharing the Plans — Time: 30 minutes

At the end of the individual planning time, have each participant pick a partner and discuss each other's plan. Urge them to offer comments and suggestions to make the plans as realistic as possible. Each participant has 15 minutes to discuss his or her plan with another person. Trainers should move among the groups to facilitate discussion and ask questions.

Put on a flipchart the following questions as a guide for the paired discussion.

- Are the objectives of the plan clear?
- Are the control strategies appropriate (environmentally and financially)?
- Does the plan allow for the community to be involved in the project?
- Are the resources adequate?
- Is the budget realistic?
- Is the sequence of activities appropriate?
- Is the timing of activities realistic?
- Are the roles and responsibilities of the various parties clear?
- Is there evidence of a partnership between communities and agencies where responsibilities are shared?

4. Modifying Plans — Time: 15 minutes

Give the individuals or groups time to modify their plans, based on the paired discussions.

5. Group Discussion Time: 20 minutes

After the participants have shared their plans lead a discussion around the following questions:

- Did you find it difficult to develop the plan? If so, why?
- What aspects of the plan were difficult to develop?
- Did you find the planning format in Handout 6.1 useful? Would you make any changes?

Continue the discussion around what happens to these plans now.

- Who do you need to share the plan with?
- How will your supervisor react to this plan?
- How will you present it to your supervisor?
- What can you do to help your plan be accepted by the community and by your supervisor?
- Are you prepared to modify your plan after meeting with supervisors and community leaders?

Refer back to the session objective and tell the participants that they should not consider the plans to be in final form. They should modify them as needed to gain the acceptance of their supervisors and the communities.

Trainer Note

You may want to have some or all of the supervisors be present for part of this session. Divide them among the presenting pairs and have them participate in group discussions. The supervisors could play a direct role in reacting to the plans after they have been developed. By involving the supervisors early in the process of developing the plans, they are more likely to be committed and supportive. Of course, it may be impractical to invite the supervisors.

MATERIALS NEEDED

Handout 6.1 Outline for a Guinea Worm Control Project Plan

Outline for a Guinea Worm Control Project Plan

Plans are necessary to help make good use of scarce resources. Plans also help organize action in a step-by-step manner so that we have a clear idea of what we are doing and why we are doing it. Below is a list of the different sections that should be included in a project plan for guinea worm control.

1. Title of the project

2. Location - neighborhood, village, town, district, etc.

3. Population - How many people live in the area? How many will be served by program?

4. Problem - What proportion of the people in the area suffer from guinea worm? How many had it in the past year? What are the effects of the disease on the local people - days lost from school, work, etc.

5. Involvement - How will the local community be involved in solving the guinea worm problem - health community, local council of chiefs, parent-teacher association, etc.?

6. Objectives - State clearly what the program aims to achieve, for example:

   Community members will state the cause of guinea worm, dig one well for each ward in town, use only safe water for drinking, maintain their well in a sanitary manner.

   Also state the reduction in disease: Guinea worm prevalence will be reduced after one or two years. Transmission of guinea worm will be eliminated from village X after two years.

7. Control strategies - wells, boreholes, filters, etc.
   Will there be different strategies for different sections of the district? Will there be different strategies over time? Justify your choice of action.

8. Health education - Describe the type of educational activities needed to promote the control strategies and objectives listed in the plan (group discussions, meetings, demonstrations, talks at schools and clinics, etc.).

9. Resources - Indicate the specific resources needed to complete the program. Also, specify their source. Draw up a simple budget to reflect all costs and resources; even donated material and labor should be noted. Use the sample budget format for this.

10. Timetable - A guinea worm control program at the village level may take one, two or more years. List month by month the specific activities, including health education, that are required to implement the program. Also, list who (person or group) will be responsible for each activity. Use the following grid to do this.

11. Evaluation - It will be necessary to report progress toward meeting objectives. Indicate what information is needed, when it will be gathered and how. One type of evaluation is monitoring the process of carrying out the project. One way to monitor progress is to have all responsible people report at regular meetings. The other information needed for changes in water-related behaviors and reduction in guinea worm prevalence can be gathered through surveys and observation. Community members and health workers can do this together. It is important to be realistic about evaluation. Some behaviors may be difficult to change. It may also take a minimum of two years to see a reduction in guinea worm prevalence, assuming all phases of the project were implemented on schedule.

SAMPLE BUDGET FORMAT

ITEM		AMOUNT	COST PER ITEM	TOTAL COST
I.	Material			
	Cement	20 bags	$ 20.00	$ 400.00
	Gravel	1/2 tipper	donated	------
	Sand	1/2 tipper	100.00	100.00
	Poster paper	20 sheets	1.00	20.00
II.	Equipment			
	Handpump	1	$1200.00	$1200.00
	Ring frame	1	borrowed	------
III.	Manpower			
	Skilled geologist to site well	1 x one day	$50.00 per day	$ 50.00
	Unskilled well diggers	4 x 4 days	$10.00 per day	$ 160.00
IV.	Transportation			
	Site visits by health staff	50 round trip visits	covered by ministry	------
			TOTAL	

Timetable

Action	Person Responsible	By When

SESSION 7: EVALUATION AND CLOSING

Total Time: 1 hour

OBJECTIVES

By the end of this session, the participants will:

- Complete the post-test
- Fill out a written workshop evaluation form.

OVERVIEW

This session is designed to evaluate the workshop and do whatever closing ceremony is locally appropriate. There are two measures for evaluating the workshop. The first is the post-test which measures the knowledge the participants have gained. The second is the written evaluation which measures the participants' feelings and observations about the workshop. The information gained from the evaluation can be used both to improve future workshops and to help the trainer do a better job next time in conducting the workshop. The written evaluation should be done anonymously to ensure more open feedback.

PROCEDURES

1. Introduction — Time: 5 minutes

Introduce the session by explaining that the evaluation is important to the trainers as a way of learning how the training has been received and for future planning purposes.

2. Post-Test — Time: 15 minutes

Distribute the post-test (Handout 7.1) and ask the participants to fill it out. This is Part A of the pre-test.

3. Evaluation — Time: 15 minutes

Distribute Handout 7.2, Evaluation Form, and answer any questions about the instructions on the form. Give the group 15 minutes to fill it out.

4. Closure — Time: 25 minutes

Thank the participants for their participation and hard work during the workshop. Make any concluding remarks that you feel are appropriate.

If there is a local official present for the closing, introduce the person and ask him/her to make any closing remarks. Prepare the certificates (Handout 7.3) by typing in the necessary information and have the official distribute them.)

MATERIALS NEEDED

Handout 7.1 Guinea Worm Post-Test
Handout 7.2 Evaluation Form
Handout 7.3 Certificate of Participation

Guinea Worm Post-Test

Name_____ Age_____ Sex_____

Position_____ Years in Service_____

Local Government/District_____

PART A

For questions 1-18 check the answer or answers that are most appropriate. Some questions may have more than one appropriate answer, while others may have none.

1. Guinea worm disease can be clearly recognized by...

____ (a) any swelling on the body
____ (b) white worms coming out from the skin
____ (c) white worms passed out in stool
____ (d) swollen stomach
____ (e) inability to walk
____ (f) blurring of vision

2. After a person becomes infected with guinea worm larvae, the full signs of the disease will be seen...

____ (a) three or four weeks later
____ (b) nine to twelve weeks later
____ (c) two years later
____ (d) four to five months later
____ (e) nine to twelve months later

3. Someone may become infected with guinea worm by...

____ (a) walking barefoot on the farm
____ (b) wading in pond water
____ (c) eating fruit that has fallen on the ground
____ (d) drinking water from the pond
____ (e) sharing a towel with someone who has the disease

4. A person who has guinea worm may spread the disease by...

____ (a) drinking water from a stagnant pond or stream
____ (b) urinating in or near a pond
____ (c) walking into a pond or stream
____ (d) handling food that will be eaten by others
____ (e) spitting on the ground where others will walk

5. Guinea worm has an intermediate host known as...

____ (a) black fly
____ (b) snail
____ (c) tse tse fly
____ (d) cyclops
____ (e) sandfly

6. The intermediate host of guinea worm can be killed with...

____ (a) temephos
____ (b) alum
____ (c) abate
____ (d) ampicillin
____ (e) sulphur

7. Effective and affordable methods for preventing guinea worm disease include...

____ (a) filtering water through cloth
____ (b) defecating in a latrine
____ (c) washing hands before eating
____ (d) boiling all drinking water
____ (e) adding alum to water

8. The best long-term methods for preventing guinea worm are...

____ (a) wearing shoes whenever on the farm
____ (b) digging a well
____ (c) sinking a borehole
____ (d) putting screen/net on all windows
____ (e) eating from separate plates

9. Medication used in the treatment of guinea worm disease includes...

____ (a) ambilhar
____ (b) aspirin
____ (c) tetracycline
____ (d) niridazole
____ (e) antepar

10. Guinea worm can be cured by using....

____ (a) ampiclox
____ (b) novalgin
____ (c) niridazole
____ (d) mebendazole
____ (e) metronidazole

11. Disabling secondary infection in guinea worm disease can be prevented by...

____ (a) eating nutritious meals
____ (b) dressing the ulcers daily
____ (c) immunizing against tetanus
____ (d) drinking boiled water
____ (e) immunizing against smallpox

12. A successful guinea worm control project must always include...

____ (a) government provision of piped water
____ (b) UNICEF provision of boreholes
____ (c) the ministry provision of medicine for all affected with guinea worm
____ (d) fundraising by the community
____ (e) a partnership between the communities and various agencies/ ministries

13. Appropriate communication methods at the village level include...

____ (a) stories
____ (b) radio announcements
____ (c) films
____ (d) handbills and leaflets
____ (e) group discussion

14. An education/communication method that teaches new skills is...

____ (a) stories
____ (b) radio
____ (c) demonstrations
____ (d) songs
____ (e) films

15. Resources for a water supply project for guinea worm control can be found...

____ (a) within the community
____ (b) through voluntary agencies
____ (c) from local government offices
____ (d) from state/national Ministries of Health
____ (e) from state/national Ministries of Works

16. A successful water supply project should always include...

____ (a) handpumps
____ (b) community involvement
____ (c) health education
____ (d) major decision-making by engineer
____ (e) funds from the government

17. Some of the common benefits of a village water supply project are...

____ (a) elimination of all waterborne diseases
____ (b) time savings
____ (c) an adequate quantity of water for agricultural use
____ (d) water for home gardens
____ (e) stimulation of other self-help projects

18. The type of resources that are always needed for a village guinea worm control project are...

____ (a) a geologist
____ (b) a drilling rig
____ (c) a film van
____ (d) a contracting firm
____ (e) a planning committee

Evaluation Form

I. Goal Attainment

Please circle the appropriate number to indicate the degree to which the workshop goals have been achieved.

I can now:	Not at All	Some-what	Moderately Well	Well	Extremely Well
A. Describe the causes, prevention, and treatment of guinea worm.	1	2	3	4	5
B. Discuss the appropriateness of water supply as an intervention for guinea worm control and the key factors that will influence success.	1	2	3	4	5
C. Explain the causes and prevention of guinea worm in a way that is culturally understandable.	1	2	3	4	5
D. Identify and state where to obtain the resources needed for guinea worm control.	1	2	3	4	5
E. Develop a back home plan to prevent guinea worm.	1	2	3	4	5

II. Workshop Feedback

A. What have been the most positive things about the workshop?

B. What have been the most negative things about the workshop?

C. Please make specific suggestions for improving the design and implementation of this workshop.

1. Workshop length

2. Workshop site

3. Quality of trainer

4. Handouts

5. Workshop content

6. Workshop methodology

E. Do you have any other comments about the workshop?

Certificate of Participation

_____

Participant

WORKSHOP ON GUINEA WORM CONTROL

AT THE COMMUNITY LEVEL

_____

Dates

_____

Venue

_____

Trainer

_____

Sponsoring Agency

PARTICIPANT HANDOUTS

Handout 1.1

Workshop Goals

At the end of the workshop, the participants will be able to:

1. Describe the causes, prevention, and treatment of guinea worm disease.

2. Discuss the appropriateness of water supply as an intervention for guinea worm control and the key factors that will influence success.

3. Communicate the causes and prevention of guinea worm disease in a way that is culturally understandable.

4. Identify and state where to obtain the resources needed for guinea worm control.

5. Develop a back home plan to prevent guinea worm.

Handout 1.2

Workshop Schedule

Day One	Day Two	Day Three
8:00 Introduction Opening Remarks Expectations Goals Schedule 9:30 Causes, Prevention, and Treatment of Guinea Worm Disease	8:00 Communicating Effectively with Communities	8:00 Developing a Back Home Plan 11:00 Evaluation 11:30 Closing
12:00 Lunch	12:00 Lunch	12:00 Lunch
1:00 Water Supply as a Guinea Worm Intervention 4:00 End	1:00 Mobilizing Resources 4:00 End	

Guinea Worm Pre-Test

Name_____ Age_____ Sex_____

Position_____ Years in Service_____

Local Government/District_____

PART A

For questions 1-18 check the answer or answers that are most appropriate. Some questions may have more than one answer, while others may have none.

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____ (c) eating fruit that has fallen on the ground
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4. A person who has guinea worm may spread the disease by...

____ (a) drinking water from a stagnant pond or stream
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____ (c) walking into a pond or stream
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____ (e) spitting on the ground where others will walk

5. Guinea worm has an intermediate host known as...

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____ (d) cyclops
____ (e) sandfly

6. The intermediate host of guinea worm can be killed with...

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____ (b) alum
____ (c) abate
____ (d) ampicillin
____ (e) sulphur

7. Effective and affordable home methods for preventing guinea worm disease include...

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____ (b) defecating in a latrine
____ (c) washing hands before eating
____ (d) boiling all drinking water
____ (e) adding alum to water

8. The best long term methods for preventing guinea worm are...

____ (a) wearing shoes whenever on the farm
____ (b) digging a well
____ (c) sinking a borehole
____ (d) putting screen/net on all windows
____ (e) eating from separate plates

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____ (a) stories
____ (b) radio announcements
____ (c) films
____ (d) handbills and leaflets
____ (e) group discussion

14. An education/communication method that teaches new skills is...

____ (a) stories
____ (b) radio
____ (c) demonstration
____ (d) songs
____ (e) films

15. Resources for a water supply project for guinea worm control can be found...

____ (a) within the community
____ (b) through voluntary agencies
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____ (e) from state/national Ministries of Works

16. A successful water supply project should always include...

____ (a) handpumps
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____ (c) health education
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____ (e) funds from the government

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____ (a) elimination of all waterborne diseases
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____ (e) stimulation of other self-help projects

18. The type of resources that are always needed for a village guinea worm control project are...

____ (a) a geologist
____ (b) a drilling rig
____ (c) a film van
____ (d) a contracting firm
____ (e) a planning committee

PART B

Have you ever done this activity? (For each activity listed below, check yes or no.)

a. Organized a community meeting	____Yes	____No
b. Delivered a health talk	____Yes	____No
c. Helped a community site a well	____Yes	____No
d. Treated a person with guinea worm	____Yes	____No
e. Been chairman at a meeting	____Yes	____No
f. Drawn a poster	____Yes	____No
g. Worked on a project together with people from other agencies	____Yes	____No
h. Talked to a class of school children	____Yes	____No
i. Conducted home visits	____Yes	____No
j. Presented the health needs of your community to government officials	____Yes	____No
k. Conducted government officials on a tour of your community	____Yes	____No
l. Worked on fundraising for a community project	____Yes	____No

m. Served as treasurer or managed project funds	____Yes	____No
n. Discussed community problems with village leaders	____Yes	____No
o. Written out a program plan for a health project	____Yes	____No
p. Requested outside assistance for your community from an agency other than your own	____Yes	____No
q. Organized community mobilization for a health project	____Yes	____No
r. Worked on a guinea worm control project	____Yes	____No

Handout 1.4

Guinea Worm Control Workshop

Participant's Daily Travel Allowance

Name: _____

Venue: _____

Home Base: _____

Dates Covered: _____

Amount Received (spell out) _____

_____

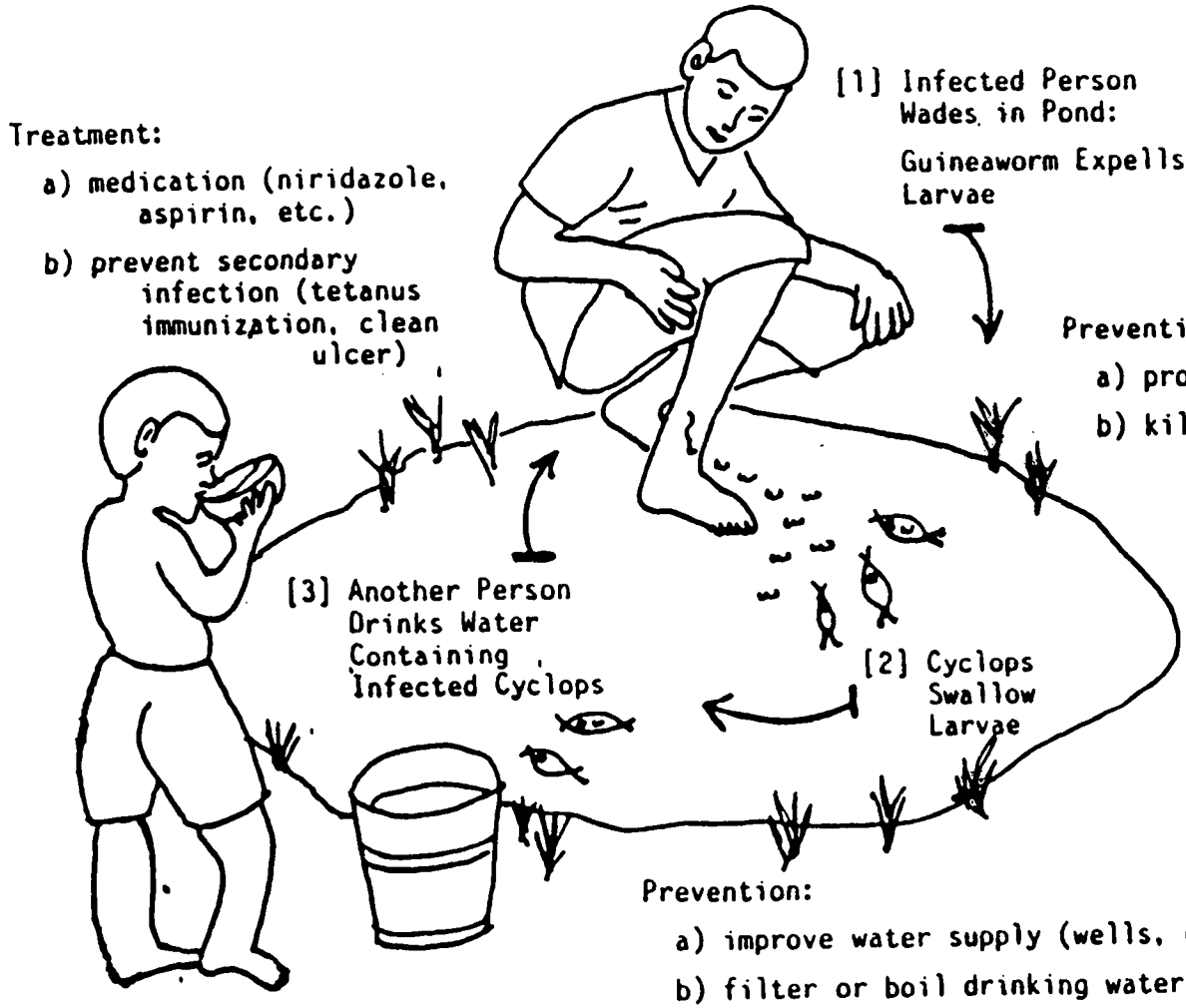
_____

_____

signature of participant

and date

GUINEAWORM: CAUSE, PREVENTION & TREATMENT



Treatment:

a) medication (niridazole, aspirin, etc.)

b) prevent secondary infection (tetanus immunization, clean ulcer)

Prevention:

a) protect pond (fence, etc.)

b) kill cyclops (abate, temephos)

Prevention:

a) improve water supply (wells, etc.)

b) filter or boil drinking water

Recognition of Guinea Worm

A true case of guinea worm is recognized by a white, thread-like worm coming out from an ulcer or sore on the skin of the affected person. Guinea worm ulcers appear most commonly on parts of the body that come into contact with water, especially the lower legs and feet. Guinea worms also have been known to emerge from the hands, breasts, and other parts of the body.

Just before the worm comes out, the affected part becomes swollen. The area may itch, and the person may feel feverish. A person may be infected with more than one worm at a time.

Some people believe that any swelling, lump, or nodule on the body is guinea worm. Unless a guinea worm comes out from the swelling within a few days, the person is probably not suffering from guinea worm. Many other diseases cause swelling, lumps, and nodules.

Guinea worm does sometimes get caught in joints, like the knee, causing cysts and abscesses. These can be properly diagnosed by a physician who may have to remove the worm by surgery.

Some people believe that guinea worm causes stomach trouble. This has not been proven scientifically. Of course there are many different types of intestinal worms that cause disease in humans, but these are not related to guinea worm.

If you are conducting a community survey on guinea worm prevalence, you must verify whether a guinea worm actually came out of the person's skin in order to count that person as being a victim of guinea worm disease.

Causes of Guinea Worm

Guinea worm is in fact a worm known as Dracunculus medinensis. The disease is called Dracunculiasis or Dracontiasis. The adult female guinea worm grows up to a meter long and contains thousands of tiny larvae. The worm is usually located right under the skin of an infected person.

When the worm is ready to release its larvae, it causes a blister to form on the skin of the affected person. When this blister comes in contact with water, it bursts open, allowing the guinea worm to release some of its larvae into ponds and streams. This occurs frequently when people wade into ponds to collect water, to bathe, to wash clothes or similar activities. The guinea worm does not release all its larvae at once, but requires many contacts with water over a period of a few weeks. When the worm has finished releasing all its larvae, it will die and will slowly come out from the person's body.

The guinea worm larvae can not live freely in pond water. They will survive only if they are swallowed by a small shrimp-like animal called cyclops. Cyclops can barely be seen with the unaided eye, but can easily be viewed with a hand lens. The cyclops serve as intermediate host to the guinea worm larvae. The larvae grow inside the cyclops, and are mature enough to infect a human being after about two weeks.

Guinea worm disease passes on to other people when they drink pond water that contains cyclops which are infected with guinea worm larvae. The cyclops are dissolved inside the person's stomach. The guinea worm larvae are then freed and quickly pass through the stomach wall where they continue to grow. At some point the male and female guinea worm mate, and the male dies shortly thereafter. The female worm migrates to the person's skin. Within nine to twelve months from the time that the guinea worm larvae were swallowed, a fully grown worm is ready to release its larvae, beginning another round in the life cycle of guinea worm.

Prevention of Guinea Worm

Preventive measures can be aimed at different points in the life cycle of guinea worm. Some are temporary measures, while others are longer lasting. In an endemic area there may be many ponds where people can become infected, especially if people are often moving among the different towns, villages, markets, and farms in the district. A good control strategy must take account of the various sources of infection. Different preventive measures are listed below.

1. An infected person can be kept away from community ponds. Social pressure and support are needed. Non-infected persons must help those with the disease to collect water for their domestic needs. Community members may take turns guarding the pond to keep out those with open guinea worm ulcers or blisters. Ponds can be protected by fences. These are only temporary or partial measures.

2. Chemicals can be used to kill the cyclops. Temephos (Abate) is safe to use if applied correctly by a trained health worker or community volunteer. The water should be acceptable for drinking a few hours after the chemical has been applied. Repeat applications are needed every six weeks. This method will fail unless regular supplies of the chemicals are available to every village and are used properly.

3. Boiling the drinking water kills cyclops and guinea worm larvae, as well as other germs. This is a time-consuming and expensive procedure which is socially unacceptable to most villagers.

4. Filtering water through clean cloth removes cyclops. The mesh size of the cloth must be small and uniform or else some cyclops may pass through. Monofilament nylon or polyester cloth is ideal for making filters, but unless the filter is used every time water is collected, it will not protect. Also, the filter may eventually develop holes and tears and need replacement. Filtering is a good temporary measure and is also useful in villages that are too small to afford a well.

5. The best and most long-lasting solution to guinea worm is a permanent, clean source of water. The choice of a dug well, borehole, protected spring or tap water will depend on local geography, finance, and political realities. The benefit in this method is that it offers protection from many waterborne diseases, not just guinea worm.

6. Treatment is often considered a control measure for many diseases, but this is not very effective for guinea worm.

A comprehensive guinea worm control strategy will probably require a combination of the above methods. Short-term measures may be used temporarily until funds can be raised for long-term projects. Availability of water and the size of population may also mean that different methods are needed in different sections of the district or community.

Treatment of Guinea Worm

There is no real cure for guinea worm. That is why prevention is so important. The drug niridazole (Ambilhar) is sometimes used in the treatment of guinea worm. It helps reduce inflammation and eases the slow, natural removal of the worm. Common aspirin also reduces inflammation and is much cheaper than niridazole. Niridazole also can have dangerous side effects. Other drugs have been tested, but none have been found very effective against guinea worm.

The biggest problem posed by guinea worm is that germs can enter the guinea worm ulcer and cause secondary infections. The most serious of these is tetanus, which can kill. Other infections cause painful disability such that the victim of guinea worm may be bedridden for weeks at a time.

Tetanus can be prevented by immunization. All infections can be prevented by keeping the ulcer site clean. A solution of dettol or another antiseptic lotion can be used to clean the ulcer at least once daily. Daily dressing is helpful for keeping out dirt and germs, but some people find the dressing uncomfortable as long as the guinea worm is still partially inside their bodies. Some people believe that covering the ulcer delays emergence of the worm, but this is not true. Whether dressing is used or not, treatment with antibiotics is very important. If the ulcer does become infected, treatment with antibiotics may be necessary, according to the advice of a physician.

In many societies people traditionally wrap the guinea worm gently around a small stick as it emerges. Care must be taken because if the worm is pulled too fast it will break and serious infection will set in. If the ulcer does not become infected, the worm will emerge naturally over some weeks with less pain and complications.

Case Study

Rural Water Supply and Sanitation in Zania

In early 1982, the government of Zania decided to improve water supply and sanitation services in two of the southern provinces with high infant mortality rates. A review of Ministry of Health records showed the prevalence of a variety of gastrointestinal diseases. Outbreaks of dracunculiasis (guinea worm) were also common. Several village surveys in the two provinces showed that most people were using surface water supplies for domestic use and for livestock watering. The surface water supplies were typically contaminated from people and animals entering the pond areas. Furthermore, the method of extracting the water (by entering the ponds) exposed the villagers to guinea worm infection. The problems caused from using poor quality water were compounded by poor hygiene practices among the villagers and a lack of sanitation facilities (latrines). Existing dug wells which produced an acceptable water quality were often abandoned because they did not produce enough water in the dry season and because the surface supplies were more convenient.

To address the problem the government organized a program for 60 villages. The government decided to install handpumps in all of the villages in the target area as the best way to provide a clean, safe water supply. A new handpump which seemed to be appropriately designed for Zania was selected for the project. To speed implementation, responsibility was assigned to the Ministry of Works (MOW). Against the wishes of the MOW, the Ministry of Health (MOH) was also given responsibilities in the project--for community selection, health education, and latrine installation.

After the initial period of enthusiasm, the project began to run into problems. Well drilling crews were making good progress in well installation, but the handpumps were difficult to obtain--resulting in delays of up to a year after the well was drilled before the handpump was installed. Because of logistics, the well drilling crews tended to concentrate in the north, and no new wells had yet been installed in the south where the MOH had promised villagers that wells would be installed once they had completed their latrines. Some villages, frustrated with the slow progress of the project, refused to participate any longer. In addition, problems developed at the village level. One example is the village of Lunda.

In Lunda, a village of about 700 people, the project was welcomed enthusiastically. Because of the strong community leadership, Lunda was selected by the MOH as one of the first villages for the project. The village immediately accepted its responsibilities--providing labor for the drilling crew, construction of drainage pads, and construction of latrine pits. The village head appointed one man to coordinate the project for the village. As Lunda was one of the first villages in the project, both the MOH and the MOW moved quickly. Within a month of the start of the project three wells were

drilled and the new handpumps were installed. Villagers were shown (in a half day course) how to repair the pump and what spare parts and tools they would need. At the same time, the latrine materials were delivered to the site and the villagers were encouraged by the MOH to dig pits and construct the new VIP latrines as soon as possible. The MOH representative worked with one family to construct a model latrine that could be used as an example for the rest. Because of the quick start-up of the program, the MOH had not had enough time to prepare a health education program for the village. The MOH decided to move on to other communities to get the program going and to come back to Lunda when the health education program had been developed.

After two years of operation, the project in Lunda has deteriorated. Only one of the three handpumps is functioning. The villagers claim that it is the government's responsibility to provide the spare parts and repair the pumps, since the cost of repairs is beyond their means. Only about a third of the latrines have been constructed--the remaining families claim that there are insufficient materials available to construct the latrines. Most of the materials were used in the construction of a school, which the village had dreamed of for years. Few of those latrines that were constructed are being used and no health education program was ever conducted in Lunda. Because of the handpump failures, most people have returned to using the surface water supplies, and guinea worm outbreaks are again on the increase.

Handout 3.2

Factors for a Successful Water Supply Project

1. The technology selected should be low cost and appropriate.

2. The community should be involved in technology selection, planning, construction, operations and maintenance, and evaluation.

3. Cooperation and maintenance should be fully planned for from the beginning. This includes clarifying responsibilities, insuring spare parts, providing skills.

4. Health education activities should begin before planning and construction to ensure community understanding, acceptance, and involvement.

5. Coordination meetings involving all relevant agencies and ministries should be held throughout the duration of the project.

6. Adequate resources must be provided on schedule to avoid disappointment and rejection of the project by the community.

7. Resources for projects should come from a variety of sources. There should be a balanced input from community, government, voluntary agencies, and others according to what each can reasonably afford.

Handout 3.3

Benefits of a Community Water Supply Project

Social

1. Water supply and sanitation project as a stimulus to community development and organizational skills

2. Water supply and sanitation project as a stimulus to participation in other self help projects

3. Beneficial effects of villagers' working together to achieve a common goal

4. Since people are no longer slowed down by guinea worm and other water-related diseases, they have more time available to work together on community projects, attend school regularly, etc.

5. There is more time for participation of women in community life.

Economic

1. Time saved carrying water over long distances

2. Water for home gardens or livestock

3. Part-time or full-time employment of caretaker

4. Water supply fundamental to cottage industries

5. Time not sick put to productive use

Health

Water supply and sanitation projects can stimulate participation in primary health care projects.

1. Reductions in waterborne diseases
   - guinea worm
   - polio
   - gastroenteritic diseases (paratyphoid, typhoid, cholera, etc.)
   - hepatitis
   - schistosomiasis

2. Reductions in water-washed diseases
   - trachoma
   - diarrheal diseases from fecal-oral contamination
   - scabies
   - yaws

3. Water for home gardens - improved nutrition

4. Water for use in clinics and oral rehydration therapy (ORT)

Health Education Methods

Health education consists of learning activities which help people choose to behave in a healthy manner. These learning activities provide health information, promote understanding, mobilize community resources, teach healthy living skills, and encourage social (family and group) support for healthy life styles. Several health education activities that can be used at the village level with minimum cost are described below. Normally a good health education program uses a mixture of these activities.

1. GROUP DISCUSSION

Group discussions are useful for learning about community beliefs and needs, creating understanding about new ideas, and encouraging decisions for action. Discussions can be held with community leaders, people attending clinics, members of local organizations, and pupils at school.

During a discussion a health worker must be ready to learn from community members as well as providing them with new knowledge. By listening to community beliefs, the health worker can look for similarities between local and scientific ideas of guinea worm cause, prevention, and treatment. Discussion can begin with what is common and then build on this so that community members learn more about the disease from the scientific point of view.

Discussions are also an important part of community involvement. During discussion community members air their own views about what actions against guinea worm are acceptable and affordable. Planning for guinea worm control can grow out of discussion sessions.

2. DEMONSTRATIONS

Demonstrations are valuable for teaching people new skills. Filtering water to prevent guinea worm is one such skill. A demonstration should be realistic, using local water pots and available material for filtering.

The health worker should explain carefully each step as he/she performs the demonstration. Community members should be given an opportunity to repeat the demonstration and receive feedback and correction.

To make the demonstration more believable, it would be good to filter the same pond water that people in the village actually use. Then, turn the filter over into a small glass jar and wash any cyclops caught into the jar with clean water. Everyone can then look at the cyclops. A magnifying glass or hand lens would be helpful but is not absolutely necessary.

3. STORIES

A traditional way of providing knowledge and values in many villages is storytelling. Health workers can also find storytelling useful in health education. By listening to a story, community members should be able to gain insight on which behaviors are healthy and which are harmful.

A story should be realistic and believable. At the same time it should not be about real people, as this may embarrass some people in the village. A sample story is attached to these handouts. It describes two boys who got guinea worm and what was done for prevention.

Stories should always be followed by discussion. The storyteller will ask the listeners questions to determine whether they understood the main points of the story. Questions are attached to the sample story (Handout 4.2).

4. POSTERS

Posters can provide simple pieces of information and make health talks more interesting. Posters should contain no more than one picture and one idea.

Posters on guinea worm may be available from the Ministry of Health, but homemade posters are just as effective. Even school children can be involved in a poster making contest. Not only will the posters be useful in the community, but the children will learn about guinea worm in the process.

Homemade posters can be made on the back of old calendars or other sheets of paper. Pictures can be cut from magazines and pasted on the poster. Pictures can also be traced or hand drawn.

When using a poster during a talk, the health worker should always involve the audience fully. First ask people what they see in the poster. If a poster shows a person collecting water from the pond, ask questions such as the following to encourage people to learn the message contained in the poster:

What is the woman doing?

Why is she collecting water from the pond?

Is there any danger in this practice?

How could the woman make sure that the drinking water is clean?

5. PROVERBS

All cultures have proverbs that remind people of desirable behavior and values. Talks and discussions should use proverbs to emphasize important points. In western Nigeria there is a proverb that says, "Before guinea worm becomes an ulcer, it is oluganbe leaf we call for." This proverb is similar to the English saying, "A stitch in time saves nine." Both emphasize the need to take quick action before a problem becomes worse.

6. SONGS

Songs provide simple information and are a good way to help people remember new ideas. Pick a tune that people already know and add new words about preventing guinea worm. Such songs can be sung several times at the beginning and end of health talks and meetings to help people think about action they can take to avoid the disease.

7. DRAMA

Drama is an exciting and entertaining way to teach new ideas and values. A story like the one on guinea worm described above can form the basis of a drama. School children can be involved in the drama, or a local drama group can be called in to help.

In order to ensure that the points of the drama are understood by the audience, the health worker must talk with the audience after the drama is over. Similar discussion questions to those used after a story can be used. Both the actors and the audience can be involved in the discussion. The actors can ask the audience for advice on what they could do the next time to prevent guinea worm.

8. HEALTH TALKS

Health talks are really group health education presentations. The presentation should include posters, proverbs, songs, etc. The health worker should plan to visit major community organizations, schools, markets, and clinics to talk about guinea worm and rally support for community action.

Educational Story on Guinea Worm

Musa and David are best friends. Both boys are in Form II at the local secondary school. Musa lives in his family compound in town and David lives in a small farm village about two kilometers from town.

One day at the beginning of a new term, Musa came to school and found that his friend David was absent. After school Musa walked to David's village to find out what was the problem. He met David lying on his bed suffering from guinea worm.

Musa said, "David, every year you get this guinea worm, but I do not. Why is this so?" David answered, "Our science teacher says that drinking dirty water causes guinea worm. You know that your family in town has a well, but we here in the farm collect our water from ponds."

Musa said, "I do not believe you. My grandmother says that guinea worm is in the blood and will come out any time a person's blood is weak. I do not get guinea worm because my family's blood is strong."

While the boys were arguing about the cause of guinea worm, David's mother entered the room and asked the boys to take food. Since Musa was hot and tired from his walk to the village, he ate plenty of food and drank plenty of water.

After finishing the food, Musa looked up and saw that the sun was setting. He said, "I better reach home before dark." After thanking David and his mother for the hospitality, Musa walked back to town.

Finally David recovered from guinea worm after some weeks. Musa was glad to see his friend back in school. They started playing and talking and forgot all about the guinea worm. Both boys did well in school that year and passed on to Form III.

Sometime after the new session began, David came to school one day and saw that Musa was absent. David walked to Musa's house and found Musa lying on his bed complaining of guinea worm.

Musa was worried. He asked, "Why do I have guinea worm? I never had it before. You said that if I drank clean water, I would not get the disease. I always drink water from our family well. Maybe someone has cursed me?"

David reminded Musa about last year. "When you visited me in the village that day, you drank plenty of water. Remember that our teacher says that guinea worm takes up to a year to grow. The water you drank last year in the village gave you the guinea worm."

David continued, "After you left our house that day, my mother asked me what we were arguing about. I told her about guinea worm and how it is spread when an infected person wades into the pond. The guinea worm then releases its tiny babies into the pond, and we later drink them and become sick."

"From that day on, my mother started filtering our water with a clean cloth. Fewer people in the family have guinea worm this year. My father has talked to others in the village about digging a well."

Musa praised the efforts of David's family. He also promised that he would never drink dirty water again.

Discussion Questions

1. Why did Musa and David get guinea worm?

2. How does guinea worm spread?

3. What did David's family do to prevent guinea worm?

4. What are some of the different ways we can make sure that our drinking water is safe from guinea worm disease?

5. Which methods of preventing guinea worm are possible for this community?

6. Musa's grandmother believes guinea worm is in the blood. What are some of the things people in this community believe about guinea worm?

7. How can we convince people like Musa's grandmother about the need to take preventive action against guinea worm?

Handout 4.3

Communication Plan

Message to be Conveyed	Educational Activity or Methods	Target Group	By When (Time in Weeks or Months)	Person Responsible

Handout 5.1

Resources Grid for a Guinea Worm Control Project

In the space below list all the resources that you would need for a guinea worm control project.

Type of Resources Needed	Where to Obtain
Technical	
Material	
Labor	
Financial	

Handout 5.2

Resources to Control Guinea Worm

A. TYPES

1. Technical - special skills and equipment, e.g., geologist, borehole drill
2. Labor - direct human input, e.g., well diggers, masons
3. Material - supplies required, e.g., cement, sand, shovels
4. Financial - funds needed to purchase or hire material, labor, etc.

B. SOURCES

1. Government agencies - local, state, and national ministries and para-statals
2. Voluntary organizations - Red Cross, Boy Scouts, etc.
3. International agencies - UNICEF, WHO, World Bank
4. Local social organizations - clubs, religious bodies, service organizations (Rotary, Lions, etc.)
5. Professional associations - public health society, medical association, nurses association, etc.
6. Specialized institutions - universities, health training schools, research institutes
7. Commercial interests - pharmaceutical companies, etc.
8. Philanthropic bodies - foundations, community funds
9. Political groups - chieftancy councils, political parties, local government councils
10. Trade and craft organizations - guilds for carpenters, tailors, masons, etc.
11. Cooperative societies - credit unions, farm cooperatives, etc.

C. LOCATIONS

1. Internal resources

   Some resources can be located right within the community. These could be mobilized so that the community will feel a sense of ownership and participation in the project. The long-term management of the project will depend on the level of personal investment a community makes in guinea worm control.

2. External resources

   Few communities where guinea worm strikes are rich or fortunate enough to have all the resources they need to control the disease. Guinea worm is a disease of poverty and neglect. Therefore, some resources for a control program will have to come from outside the community. A mixture of both internal and outside resources will be needed. The community can attract resources by first showing what it has done for itself.

Outline for a Guinea Worm Control Project Plan

Plans are necessary to help make good use of scarce resources. Plans also help organize action in a step-by-step manner so that we have a clear idea of what we are doing and why we are doing it. Below is a list of the different sections that should be included in a project plan for guinea worm control.

1. Title of the project

2. Location - neighborhood, village, town, district, etc.

3. Population - How many people live in the area? How many will be served by program?

4. Problem - What proportion of the people in the area suffer from guinea worm? How many had it in the past year? What are the effects of the disease on the local people - days lost from school, work, etc.

5. Involvement - How will the local community be involved in solving the guinea worm problem - health community, local council of chiefs, parent-teacher association, etc.?

6. Objectives - State clearly what the program aims to achieve, for example:

   Community members will state the cause of guinea worm, dig one well for each ward in town, use only safe water for drinking, maintain their well in a sanitary manner.

   Also state the reduction in disease: Guinea worm prevalence will be reduced after one or two years. Transmission of guinea worm will be eliminated from village X after two years.

7. Control strategies - wells, boreholes, filters, etc.
   Will there be different strategies for different sections of the district? Will there be different strategies over time? Justify your choice of action.

8. Health education - Describe the type of educational activities needed to promote the control strategies and objectives listed in the plan (group discussions, meetings, demonstrations, talks at schools and clinics, etc.).

9. Resources - Indicate the specific resources needed to complete the program. Also, specify their source. Draw up a simple budget to reflect all costs and resources; even donated material and labor should be noted. Use the sample budget format for this.

10. Timetable - A guinea worm control program at the village level may take one, two or more years. List month by month the specific activities, including health education, that are required to implement the program. Also, list who (person or group) will be responsible for each activity. Use the following grid to do this.

11. Evaluation - It will be necessary to report progress toward meeting objectives. Indicate what information is needed, when it will be gathered and how. One type of evaluation is monitoring the process of carrying out the project. One way to monitor progress is to have all responsible people report at regular meetings. The other information needed for changes in water-related behaviors and reduction in guinea worm prevalence can be gathered through surveys and observation. Community members and health workers can do this together. It is important to be realistic about evaluation. Some behaviors may be difficult to change. It may also take a minimum of two years to see a reduction in guinea worm prevalence, assuming all phases of the project were implemented on schedule.

SAMPLE BUDGET FORMAT

ITEM		AMOUNT	COST PER ITEM	TOTAL COST
I.	Material			
	Cement	20 bags	$ 20.00	$ 400.00
	Gravel	1/2 tipper	donated	------
	Sand	1/2 tipper	100.00	100.00
	Poster paper	20 sheets	1.00	20.00
II.	Equipment			
	Handpump	1	$1200.00	$1200.00
	Ring frame	1	borrowed	------
III.	Manpower			
	Skilled geologist to site well	1 x one day	$50.00 per day	$ 50.00
	Unskilled well diggers	4 x 4 days	$10.00 per day	$ 160.00
IV.	Transportation			
	Site visits by health staff	50 round trip visits	covered by ministry	------
			TOTAL	

Timetable

Action	Person Responsible	By When

Guinea Worm Post-Test

Name_____ Age_____ Sex_____

Position_____ Years in Service_____

Local Government/District_____

PART A

For questions 1-18 check the answer or answers that are most appropriate. Some questions may have more than one appropriate answer, while others may have none.

1. Guinea worm disease can be clearly recognized by...

   ____ (a) any swelling on the body
   ____ (b) white worms coming out from the skin
   ____ (c) white worms passed out in stool
   ____ (d) swollen stomach
   ____ (e) inability to walk
   ____ (f) blurring of vision

2. After a person becomes infected with guinea worm larvae, the full signs of the disease will be seen...

   ____ (a) three or four weeks later
   ____ (b) nine to twelve weeks later
   ____ (c) two years later
   ____ (d) four to five months later
   ____ (e) nine to twelve months later

3. Someone may become infected with guinea worm by...

   ____ (a) walking barefoot on the farm
   ____ (b) wading in pond water
   ____ (c) eating fruit that has fallen on the ground
   ____ (d) drinking water from the pond
   ____ (e) sharing a towel with someone who has the disease

4. A person who has guinea worm may spread the disease by...

   ____ (a) drinking water from a stagnant pond or stream
   ____ (b) urinating in or near a pond
   ____ (c) walking into a pond or stream
   ____ (d) handling food that will be eaten by others
   ____ (e) spitting on the ground where others will walk

5. Guinea worm has an intermediate host known as...

____ (a) black fly
____ (b) snail
____ (c) tse tse fly
____ (d) cyclops
____ (e) sandfly

6. The intermediate host of guinea worm can be killed with...

____ (a) temephos
____ (b) alum
____ (c) abate
____ (d) ampicillin
____ (e) sulphur

7. Effective and affordable methods for preventing guinea worm disease include...

____ (a) filtering water through cloth
____ (b) defecating in a latrine
____ (c) washing hands before eating
____ (d) boiling all drinking water
____ (e) adding alum to water

8. The best long-term methods for preventing guinea worm are...

____ (a) wearing shoes whenever on the farm
____ (b) digging a well
____ (c) sinking a borehole
____ (d) putting screen/net on all windows
____ (e) eating from separate plates

9. Medication used in the treatment of guinea worm disease includes...

____ (a) ambilhar
____ (b) aspirin
____ (c) tetracycline
____ (d) niridazole
____ (e) antepar

10. Guinea worm can be cured by using....

____ (a) ampiclox
____ (b) novalgin
____ (c) niridazole
____ (d) mebendazole
____ (e) metronidazole

11. Disabling secondary infection in guinea worm disease can be prevented by...

____ (a) eating nutritious meals
____ (b) dressing the ulcers daily
____ (c) immunizing against tetanus
____ (d) drinking boiled water
____ (e) immunizing against smallpox

12. A successful guinea worm control project must always include...

____ (a) government provision of piped water
____ (b) UNICEF provision of boreholes
____ (c) the ministry provision of medicine for all affected with guinea worm
____ (d) fundraising by the community
____ (e) a partnership between the communities and various agencies/ ministries

13. Appropriate communication methods at the village level include...

____ (a) stories
____ (b) radio announcements
____ (c) films
____ (d) handbills and leaflets
____ (e) group discussion

14. An education/communication method that teaches new skills is...

____ (a) stories
____ (b) radio
____ (c) demonstrations
____ (d) songs
____ (e) films

15. Resources for a water supply project for guinea worm control can be found...

____ (a) within the community
____ (b) through voluntary agencies
____ (c) from local government offices
____ (d) from state/national Ministries of Health
____ (e) from state/national Ministries of Works

16. A successful water supply project should always include...

____ (a) handpumps
____ (b) community involvement
____ (c) health education
____ (d) major decision-making by engineer
____ (e) funds from the government

17. Some of the common benefits of a village water supply project are...

____ (a) elimination of all waterborne diseases
____ (b) time savings
____ (c) an adequate quantity of water for agricultural use
____ (d) water for home gardens
____ (e) stimulation of other self-help projects

18. The type of resources that are always needed for a village guinea worm control project are...

____ (a) a geologist
____ (b) a drilling rig
____ (c) a film van
____ (d) a contracting firm
____ (e) a planning committee

Evaluation Form

I. Goal Attainment

Please circle the appropriate number to indicate the degree to which the workshop goals have been achieved.

I can now:	Not at All	Some-what	Moderately Well	Well	Extremely Well
A. Describe the causes, prevention, and treatment of guinea worm.	1	2	3	4	5
B. Discuss the appropriateness of water supply as an intervention for guinea worm control and the key factors that will influence success.	1	2	3	4	5
C. Explain the causes and prevention of guinea worm in a way that is culturally understandable.	1	2	3	4	5
D. Identify and state where to obtain the resources needed for guinea worm control.	1	2	3	4	5
E. Develop a back home plan to prevent guinea worm.	1	2	3	4	5

II. Workshop Feedback

A. What have been the most positive things about the workshop?

B. What have been the most negative things about the workshop?

C. Please make specific suggestions for improving the design and implementation of this workshop.

1. Workshop length

2. Workshop site

3. Quality of trainer

4. Handouts

5. Workshop content

6. Workshop methodology

E. Do you have any other comments about the workshop?

Certificate of Participation

_____

Participant

WORKSHOP ON GUINEA WORM CONTROL

AT THE COMMUNITY LEVEL

_____

Dates

_____

Venue

_____

Trainer

_____

Sponsoring Agency