

FINDING GUINEA WORM:

**GUIDELINES
FOR DEVELOPING AND UTILIZING
MARKET BASED SURVEILLANCE
IN RURAL AFRICA**

by

William R. Brieger

AFRICAN REGIONAL HEALTH EDUCATION CENTRE
Department of Preventive and Social Medicine
College of Medicine, University College Hospital
Ibadan, Nigeria

for

United Nations Children's Fund
3 United Nations Plaza
New York, New York 10017

LIBRARY
INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)

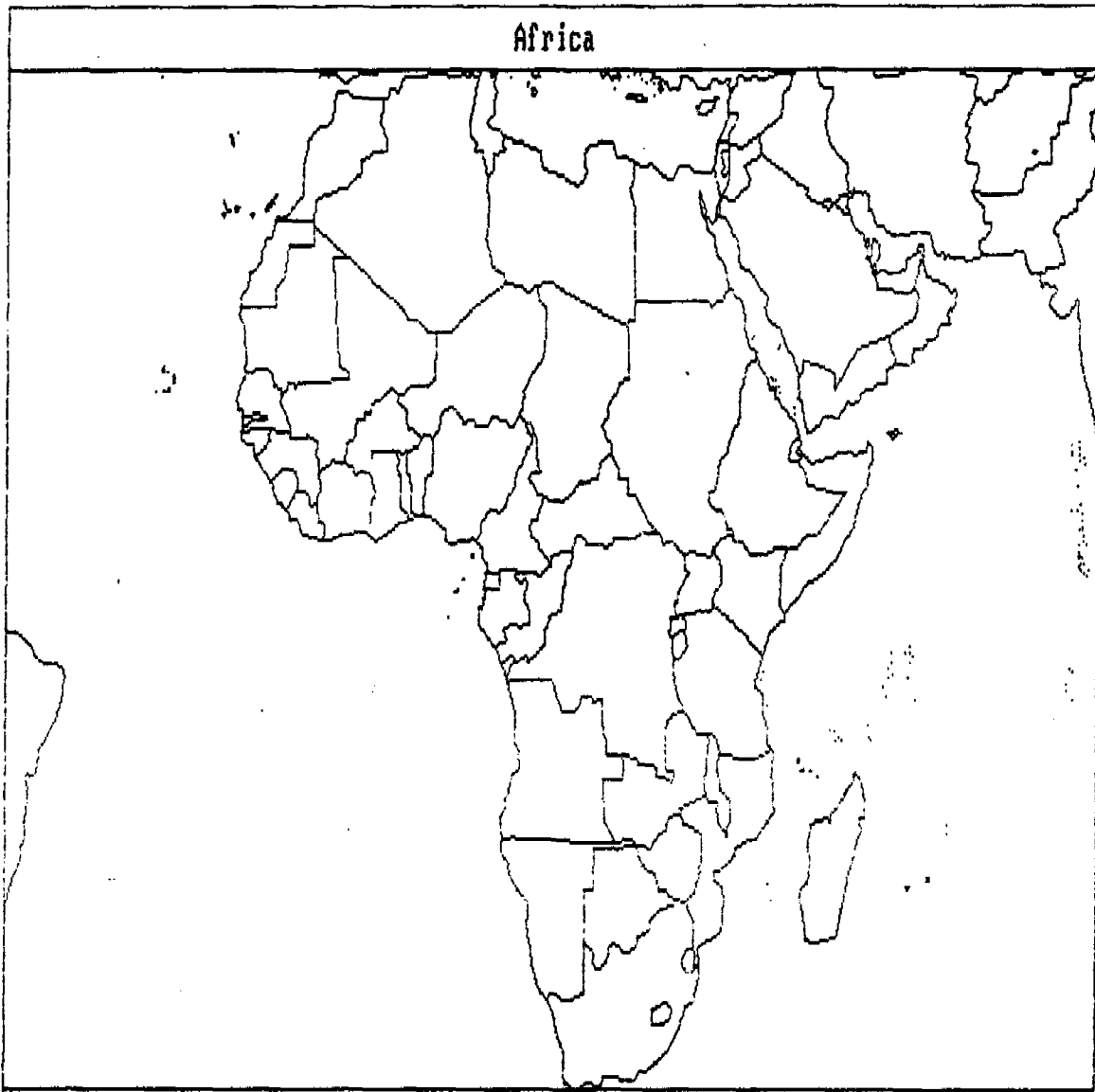
CONTENTS

| | |
|---|----|
| 1. Organization and Use of This Guide | 1 |
| 2. Understanding the Problem | 2 |
| 2.1 The Search for Guinea Worm Disease | 2 |
| 2.2 Approaches to Surveillance | 3 |
| 2.3 The Market Place | 3 |
| 2.4 Learning from Local Knowledge | 5 |
| 2.5 A Pilot Project in Nigeria | 6 |
| 2.6 Special Concerns in East Central Africa | 8 |
| 3. Groundwork | 11 |
| 3.1 Determining The Market Structure | 11 |
| 3.2 Defining Catchment Areas | 14 |
| 3.3 Local Knowledge about Guinea Worm | 17 |
| 4. Preparation | 20 |
| 4.1 Field Staff | 20 |
| 4.2 Choosing Markets | 21 |
| 4.3 Recruiting Volunteer Village Reporters | 22 |
| 4.4 Training Volunteers | 23 |
| 5. Implementation | 26 |
| 5.1 Administration & Logistics | 26 |
| 5.2 Collecting Reports | 27 |
| 5.3 Observing the Market | 29 |
| 5.4 Compiling Reports | 30 |
| 6. Verification & Response | 30 |
| 6.1 Planning & Logistics | 30 |
| 6.2 Checking Accuracy | 31 |

ii

| | |
|--------------------------------------|----|
| LIBRARY OF INTERNATIONAL REFERENCE | 31 |
| DEPARTMENT OF INTERNATIONAL SUPPLY | |
| AND TRADE DEVELOPMENT | |
| UNITED STATES DEPARTMENT OF COMMERCE | |
| WASHINGTON, D. C. 20540 | |
| NOV 15 1974 | |
| NO: 9247 | |
| LO: 245.3 91FI | |

| | |
|---|----|
| 6.3 Programme Response | 33 |
| 6.4 Programme Monitoring | 35 |
| 7. Refugee Issues | 36 |
| 7.1 Community Structure | 36 |
| 7.2 Baseline Information | 37 |
| 7.3 Disease Experience and Perceptions | 37 |
| 7.4 Surveillance within Settlements | 38 |
| 7.5 Nearby Markets | 38 |
| 7.6 Appropriate Programme Response | 39 |
| 8. Applications of the Market Based System | 39 |
| 8.1 Variations in Market Systems | 39 |
| 8.2 Other Applications | 44 |
| 8.3 Links with Primary Health Care | 45 |
| 8.4 Use in Baseline Searches | 46 |
| Selected Bibliography | |
| Appendix A: Training Guidelines for Volunteer Village Reporters | |
| Appendix B: Orientation Guidelines for Local Health Staff | |
| Appendix C: Sample Report and Verification Forms | |
| Appendix D: List of Interviews | |
| Appendix E: Estimated Programme Costs | |



(c) PCGLOBE, 1990

1. ORGANIZATION AND USE OF THIS GUIDE

Guinea worm (Dracunculiasis) is targeted for eradication before the end of the 1990s. A major tool in the eradication effort is active surveillance that detects and reports all new cases. Considering the widespread and multi-ethnic area over which guinea worm occurs, low cost and culturally relevant methods of case detection are needed. These guidelines describe how to develop and implement one such method, a rural market based approach to finding villages with guinea worm.

These guidelines focus on the active surveillance needed to monitor progress of eradication programmes during implementation or the action phase when regular, frequent (e.g monthly) reports are needed as soon as a new case of guinea worm appears in a village.

These 'guidelines' are not a rigid set of rules. The emphasis is on adaptation to make programmes relevant to local culture. These particular guidelines should help local planners open their eyes to the local culture so they can design a workable and acceptable programme. The results of using these guidelines should be two-fold. First planners should gain a better look at how the community sees guineaworm, thus improving the process of case definition. Secondly they should come to an understanding of how the community, particularly its market system, is organized, so that surveillance activities and eradication programme interventions will fit naturally into community life.

These guidelines are intended for both national and district guinea worm eradication programme managers, first as a basis for training staff in innovative surveillance and village detection methods. Secondly, the district (county, parish, etc.) guinea worm coordinator can use these guidelines as a work planning guide.

Section Two briefly outlines some background material on the disease, the surveillance process and a pilot market surveillance project in Nigeria. The special problems posed to eradication efforts in east central Africa (remote settlements, poor roads and war) are considered.

Sections Three through Five look at the practical steps in setting up and running a guinea worm village detection system in the farm markets of rural Africa. The importance of building the programme on local knowledge is stressed. Preparations for community involvement, including the training of volunteer village reporters are outlined. The procedures for collecting village reports in the market are explained. The process of verifying positive reports and the need to tie surveillance into programme response round up the steps of market based search.

Because many people in the east central area of Africa are refugees, both internal and external, eradication planners need to

consider how their movements may influence disease transmission. Section Seven suggests some measures for adapting process of surveillance to this segment of the population. Finally, section Eight examines how the market based system might be applied to the study and detection of other health and related problems, and thus be integrated into broader primary health care activities.

A brief bibliography of some publications found helpful in preparing these guidelines is attached. Appendices give sample suggestions for training activities and report forms.

2. UNDERSTANDING THE PROBLEM

2.1 The Search for Guinea Worm Disease

Guinea worm is a disabling water borne disease endemic in rural south Asia and Africa. Although the disease does not kill, the resulting disability reduces agricultural productivity, school attendance and access to health care.

Successful eradication depends on strong disease surveillance systems to target and monitor programme implementation. Initial surveillance includes rapid searches (e.g. brief questionnaires to health facility staff) followed by national case search surveys to identify endemic communities. Information derived from this baseline inquiry is used to plan short term intervention (nylon cloth water filters, chemical treatment of ponds) and long term solutions (improved safe water supply).

Monitoring programme implementation requires regular, active surveillance. This is made difficult by the nature of guinea worm disease. Guinea worm is called a forgotten disease of neglected people because it is endemic in rural and remote regions of Africa and south Asia. This remoteness hinders search and control efforts. Remoteness also means that basic amenities, particularly water supply (which could prevent the disease), and infrastructure, especially roads (which would facilitate service provision) have not reached those who suffer from guinea worm. Guinea worm is therefore a symptom of underdevelopment in the rural areas.

Since the process of national development has not reached the people who suffer from guinea worm, new approaches are needed to locate those who suffer and to help them overcome this problem. One possible place to learn about the extent of the guinea worm problem is to visit the rural African markets where farmers from scattered villages come to sell their crops.

One can be sure that wherever guinea worm lurks, one will find other typical problems of poverty such as childhood killer diseases (measles, diarrhoea), high maternal mortality and illiteracy. Efforts to find and attack guinea worm should also contribute to the fight against these other health and social problems.

2.2 Approaches to Surveillance

Surveillance is the process of finding and reporting health and/or disease conditions. It provides a basic understanding of a problem and a basis for action. Passive surveillance involves gathering and reviewing existing information such as monthly returns from clinics. With diseases like guinea worm where local people rarely seek modern health care, such records can not tell the full extent of the problem, but at least point to areas where the disease has been seen.

Active surveillance includes conducting surveys and making special effort to find people where they live and work. Active surveillance for guinea worm has begun in many countries by using national annual surveys that reach every household. This not only gives a picture of where guinea worm is found, but also the extent of the problem.

Active surveillance must continue throughout intervention up until the time that a country can be certified as free from guinea worm. Regular information, on a monthly basis, is needed to monitor programme progress. While funds and time may be found for an annual search in all villages, it is unlikely that monthly village visits and household interviews are feasible. Existing health staff are few and overburdened with numerous other programmes, the distances are far, the hamlets many, the roads poor and the transportation inadequate. A half-way meeting point between health service and community is needed for frequent surveillance to work.

During smallpox eradication, markets were found to be a valuable point for gathering information in Ethiopia and Bangladesh. At that time no systematic study was done of the market as an institution in order to learn how to use this setting as a forum for information exchange between villagers and health workers. A recent pilot study in rural Nigeria, which combined anthropological and epidemiological approaches, tested a market based guinea worm surveillance system that was able to provide timely information at minimal cost. The lessons learned from that study form the basis of these guidelines.

2.3 The Market Place

Markets are a central feature of the economic and social life of Africa. From the beginning it is important to distinguish between the market and the market place. The former (also called the market principle or market mechanism) is a sum total of economic exchanges that occur within a region or country. It involves the broader issues of pricing, supply and demand regardless of site of transaction. The market place is a physical (and temporal) location where numerous economic transactions may occur. Economic activities are by no means limited to the market

place, and neither are all activities that occur within the market place economic in nature.

Wage labor and property transactions are examples of economic exchanges that usually do not occur in the market place. Information exchange and development of social liaisons are examples of non-economic activities that converge on the market place. For convenience, the term 'market' will be used here to refer to the rural African market place.

Not every community or tribe has a similar system of markets, or even clearly developed market places. Three of the forms seen in the rural environment are -

No Formal Market:

In some rural communities there are no visible market institutions. The primary exchanges that occur among members are based on social obligations - gifts, treasure exchange, tributes, status allocations - that neither operate on the market principle nor require a market place to transpire.

Subsistence Communities:

Some rural populations are self-sufficient for most of their basic needs, but utilize the market place to obtain special or imported goods and to sell small amounts of local produce to get pocket money to buy the imports.

The Peasant Economy:

When the market economy is of the peasant type, characteristic of much of the rural countryside in Africa, cash crops dominate the market. Technology is still mainly traditional, and the local economy is not fully integrated with urban and national economies.

As noted all three forms may occur at the same time in a region. Therefore one of the important steps spelled out in these guidelines is the need to find out what type of market system is available locally. An example of a group that suffers from guinea worm but does not have its own market place system is the pastoral or nomadic Fulani. Their cattle represent wealth, but they do not necessarily consider market principles when selling the cows. The Fulani do participate in the markets of other tribes such as the Hausa and Yoruba to obtain certain food and consumer items. Generally, the market as an institution is a central part of economic and social life throughout most of Africa.

Where markets exist, different types are found. These differences may influence who attends and whether the market would

be a useful place for gathering information about guinea worm status of rural settlements. There are daily and periodic markets. Periodic markets occur on fixed days within the local week, and within a geographic region, market day may rotate from place to place. There are also town and farm (or bush) markets. Town markets meet the consumer needs of urban residents, while farm markets are primarily a point for evacuating food crops from the rural areas. Some markets are regular while others are seasonal. The former hold throughout the year, while the latter are based on crops that are available at certain times of the year (e.g. tomatoes in the rainy season).

Since the markets are central places, they serve more than economic functions. They provide opportunity for friends and family members to meet and exchange news. They offer opportunity for important political announcements and meetings. Traditional and religious ceremonies are often set on market day. Tax collection takes place. Entertainment occurs, and people seek traditional and modern solutions to their health problems. Markets provide a forum for learning new ideas from outside the region, and for gathering information about local conditions.

2.4 Learning from Local Knowledge

Many primary health care and disease control programmes have run into difficulties because they appear strange and unacceptable to the local population. Oral rehydration solutions are rejected because people do not understand medical definitions of dehydration and its relation to diarrhoea. Immunization is not sought because people believe certain diseases can not be prevented with western medicine. New water systems to control schistosomiasis are abandoned because people prefer the social interaction at the pond and believe that the disease is only a phase in the process of maturity. Examples are many, but the main point is that so many programmes fail because they are not built on a full understanding of the beliefs and organizational structure of the community.

Many health staff and programme planners criticize or neglect traditional culture because they believe it is superstitious and irrational. In fact traditional life evolved in a very logical way. Local people have learned over the generations how to survive in their own environment. Planners would do well to learn from the people so that programmes can be adapted to local survival wisdom. In fact learning from the people and using this knowledge is the first step in creating meaningful community participation, which is supposed to be the foundation of primary health care. Attention to local knowledge shows respect, and on this respect a strong relationship between planners and community members can be built. The value of respecting local knowledge is demonstrated in the market based surveillance project in Nigeria.

2.5 A Pilot Project in Nigeria

During September 1990 through February 1991 a pilot project was developed and tested in southwestern Nigeria to involve local villagers in guinea worm surveillance by reporting cases at the local farm markets. This system was found effective for gathering information over a wide area. A brief description follows.

2.5.1 Setting

Ifelaju Local Government Area (LGA), a rural district in southwest Oyo State, Nigeria, with a population of 150,000, has the most annual guinea worm cases in the state. Most victims live in farm hamlets scattered outward 5-30 km. from the five major towns.

While there are health facilities in each town, hamlet residents depend on traditional medicine and patent medicine vendors for daily health care needs. Farmers sell their produce through a system of rural markets that meet at four day intervals (the traditional week of the Yoruba people).

The four largest markets, chosen for this study, serve 164 of 300 hamlets in the LGA during the dry season (October-April), the time of guinea worm transmission. Hamlets averaged 12 huts and 90 residents each.

2.5.2 Market Organization

Participant observation was used to learn market structure and catchment area. Each market had a chief and council who were able to list attending hamlets. Pick-up truck drivers who bring villagers to market assisted in locating hamlets. Each hamlet also had a stall in the market. This information made it easy to find villagers and ask about the guinea worm situation in their hamlets.

It was found that villagers who visited market most often were those who had a specific trade (eg selling cooked food) or who were agents that coordinated sales of certain crops (eg tomatoes). These agents, known as alagbata, were selected by co-villagers and presented a united bargaining front to outside buyers, thus preventing prices from dropping too low. During village meetings, people were asked to select volunteer reporters, such as their alagbata, who would attend market regularly and thereby be reliable. The aim was to make the system fit naturally into the normal marketing activities of the people and not be a burden.

2.5.3 Case Definition

The case definition used by the national eradication staff was the emergence of a white, thread-like worm from an ulcer during a set period of time (eg the past year). But this was a narrow view that did not fit into the ideas of most local people. Qualitative

methods (hamlet meetings and informal discussion at market) were therefore used to highlight the cultural definition of guinea worm.

People believed that the worm was a natural part of the body, and hence could cause systemic symptoms like body aches, rashes and fever. Any localized swelling was thought to be guinea worm. Surveys that did not consider these local ideas could result in over-reporting. Therefore a training session was held at markets to help the volunteers distinguish traditional and modern definitions.

2.5.4 Report Accuracy

The volunteers gave reports at every second market (every 8 days) for 16 times from October 1990 and February 1991. The goal was to see if they could correctly identify the first case of guinea worm in their hamlet and thus label it endemic for the season. Most (79%) of the positive hamlets were correctly reported by their volunteers as were 96% of the negative hamlets. The chance of a positive report being true was 93%. Accuracy of reporting was not affected by educational level of reporter, that is illiterate volunteers did just as well as those with some education.

The annual case search done by local health staff during this period was slightly, but not significantly, better in identifying true positive hamlets (88%), but had significantly higher percentage of false negatives (23% vs only 4%). The likelihood of a positive local health staff report being true was only 67%.

2.5.5 Volunteer Attendance

Reporter attendance was scored, 2 points for reports given in person, 1 for messages sent through co-villagers and none for absence/no message, thus a maximum score of 32 for 16 report markets. Volunteers who had a specific role in the market (traders and agents) had significantly higher scores than those who came only to sell their produce. Attendance also was lower for those living more than 5 km. from market and dropped off as the dry season progressed.

2.5.6 Conclusions

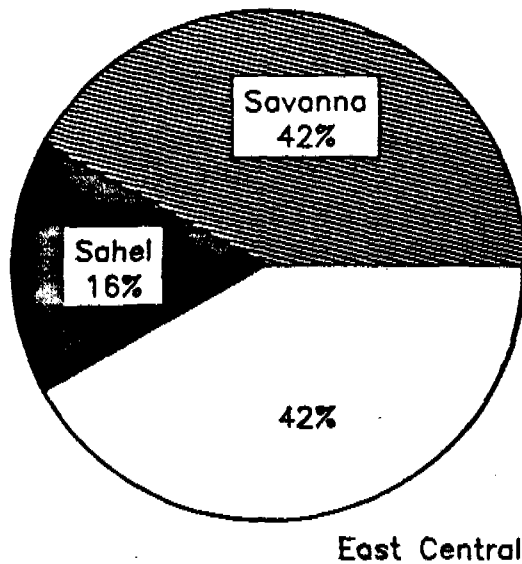
This project has shown that villagers, even those without formal education, can give accurate reports on guinea worm in their hamlets. The positive performance of the reporters can be attributed to three factors. First, the anthropological methods used to collect information respected local knowledge and culture. Secondly, the participatory and interactive training for village reporters encouraged involvement in the learning process. Thirdly, the whole village was involved in the surveillance process. Ideally this system can be adapted to other health issues.

2.6 Special Concerns for East Central Africa

2.6.1 Population At Risk

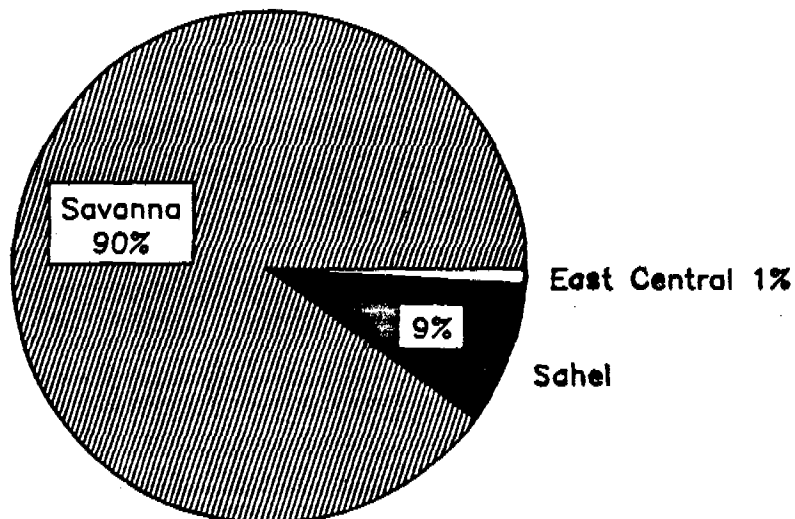
An estimated 120 million people are at risk of guinea worm disease in Africa because they live in communities where the disease is common but where water supply is unsafe. Upwards to 3 million cases may occur annually in 19 countries. Three general regions of guinea worm endemicity exist - 1) the West African savannah with 42% of the at-risk population, 2) the West African Sahel with approximately 16% of the at-risk population and 3) east central Africa with 42% also. This is shown in Figure 2.1.

Figure 2.1
Population at Risk for Guinea Worm
in Africa



The distribution of recently reported cases is quite different, i.e. 90% in the West African savannah, 9% in the sahel, and only 1% in east central Africa. These official reports, summarized in Figure 2.2, are unlikely to reflect the true prevalence of the problem in the African east central region because only one country (Kenya) has conducted a search, and then only in the districts where the disease was suspected from previous health records.

Figure 2.2
Reported Cases of Guinea Worm
in Africa



2.6.2 Eradication Efforts

The east central region consists of Sudan, Ethiopia, Central African Republic, Uganda, Kenya and Zaire. The Table 2.1 outlines the guinea worm situation in this region. Only two countries (Kenya and Uganda) have formulated national eradication plans, and only one (Kenya) has conducted active detection in the suspected endemic areas. Overall 12 African countries have plans and 10 have conducted active searches. Zaire has not been formally mentioned in previous studies and reports on the guinea worm situation in

| TABLE 2.1 GUINEA WORM SITUATION IN EAST CENTRAL AFRICA | | | | |
|--|---------------------|----------------|-------------|---------------|
| Country | At Risk Population* | Annual Cases** | Action Plan | Active Search |
| Central African Republic | [6 districts] | 10 [a] | no | no |
| Ethiopia | 30.4 m | 3,565 [b] | no | no |
| Kenya | 0.18 m | 6 [a] | yes | yes |
| Sudan | 17.0 m | 542 [c] | no | no |
| Uganda | 4.83 m | 1,309 [b] | yes | no |
| Zaire | ? | ? | no | no |

* Watts SJ (1987) Am J Trop Med Hyg

** WHO Collaborating Center for Research, Training and Eradication of Dracunculiasis:
a = estimates for 1990; b = 1989; c = 1988.

Africa, but recent unofficial reports from neighbouring countries indicate that the current Sudanese refugee problem may have resulted in disease occurrences in northeast Zaire. Previously Zaire has not been mentioned in reports listing guinea worm endemic African countries.

The lack of much concrete action in this region may be due to the unsettled nature of life at the heart of the region, i.e. southern Sudan, political disturbances in surrounding nations, notable Ethiopia and Uganda, and the fact that in all countries, the endemic areas are quite remote and inaccessible. As noted section eight will offer some suggestions for addressing surveillance needs in light of these problems.

3. GROUNDWORK

Before market based village detection (or in fact any health programme) begins, planners must acquaint themselves fully with the local definitions of the target disease (guinea worm) and the local social structure (in this case the market). Keep a small notebook or exercise book in which you can record information from interviews and make rough sketch maps.

3.1 Determining the Market Structure

It is important to have a full understanding of how the local markets work so that village detection can fit in easily people's normal activities in the market. The information mentioned below will help give a good picture of how the market works.

a. Locating Markets

- Learn the names and locations of all markets within the district. Ask district leaders, various local government and extension staff, traders and transporters. Write these in your notebook.
- Distinguish which are farm and which are town markets.
- Find out which markets are most frequently attended by villagers in areas where guinea worm is known or suspected to be endemic.
- Determine the day and time of each market and plan a visit. Make a schedule of visits in your notebook.
- After visiting all markets and determining that they are active and that villagers do attend regularly, draw a sketch map of the district showing all markets, roads, rivers and major towns.

b. Market Leadership

- Ask people at market to direct you to the market leaders. These may be special market chiefs, local government clerks, or village heads. Outline the structure of market organization in your notebook.
- Explain to market leaders the nature of the guinea worm eradication and surveillance activities. Indicate that because the market is a place where many people gather from throughout the area, it is a good place to learn about new occurrences of guinea worm.
- Request approval and assistance of market leaders for regular information gathering about guinea worm in the market.

- Find out from the market leaders more about how the market is set up. In particular is there a council of local leaders who assist the market chief or clerk? Are their heads of different trade sections? Which villages do these leaders and heads come from? Such leaders not only can provide more information about the market, but they themselves may make good reporters/representatives for their villages since their leadership duties require them to attend market regularly.

- Ask about the history and development of the market. Listen for any stories about problems or disputes that may affect the number of villages that attend or the area where they come from. Make brief notes in your notebook.

c. Market Layout

- Market based guinea worm detection is made easier if we know where to find people at market. Are there special areas in the market for people who sell the same crop? Is there a tomato section, a maize section, etc.? On the other hand, do people from the same village have a shed, tree or space where they all stay together to sell their crops?

- Draw a sketch map of the market layout that shows the chief's/clerk's hut or office, and the stalls or locations of sellers from the local villages. See example in Figure 3.1.

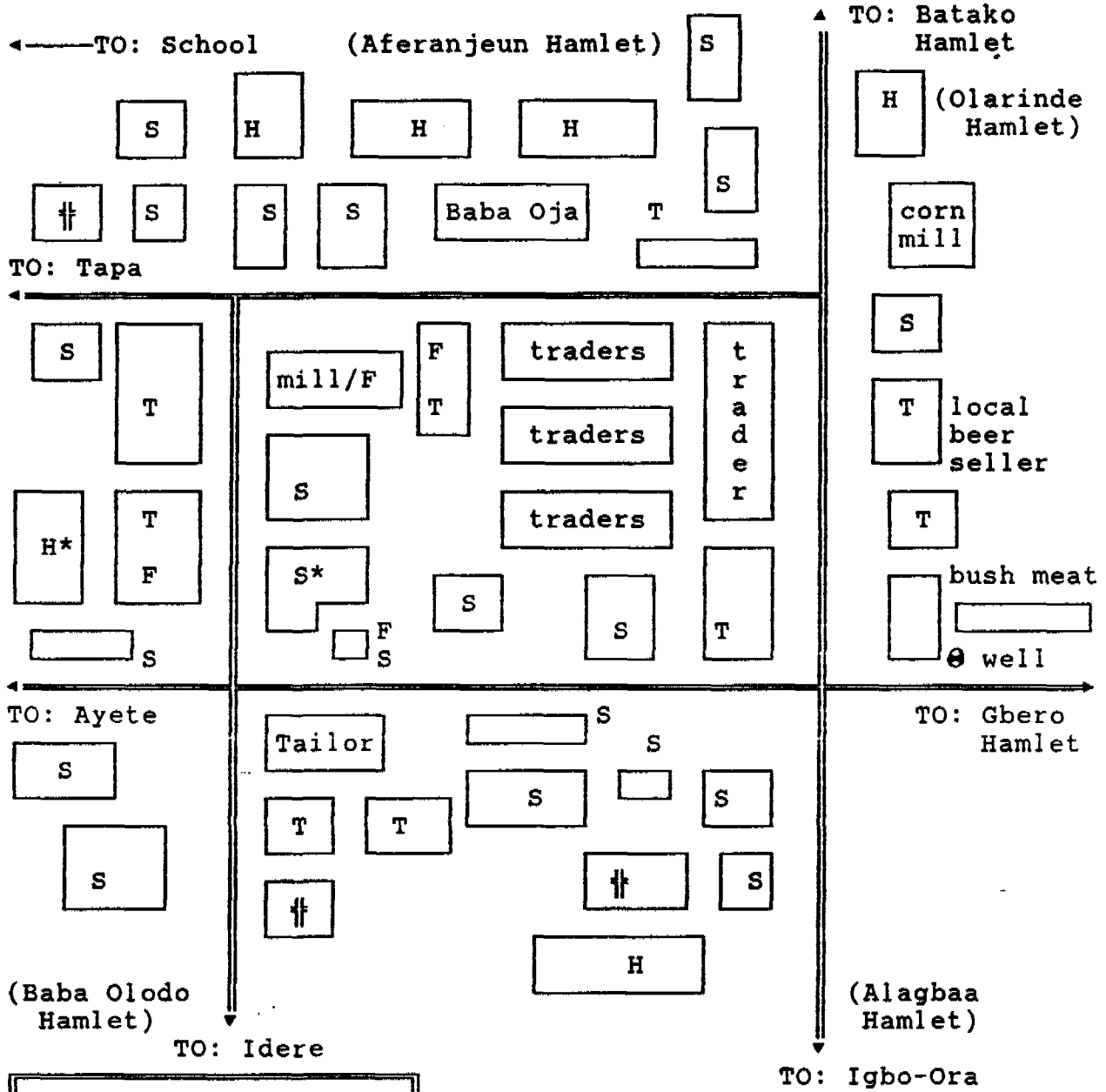
d. Market Schedule & Timing

- Confirm with the market leaders which day(s) of the week that each market holds. Do markets rotate according to seven-day or traditional weeks (e.g. four-day week as in southern Nigeria)?

- What time of day does the market start and by when does it close? When is the best time of day to find villagers in the market? Write basic information about each market on a separate page in your notebook.

- Is the market regular throughout the year? Some markets are seasonal and are most active when certain crops are in season. For example, markets that specialize in tomatoes, peppers and green vegetables may only be active in the rainy season.

FIGURE 3.1
LAYOUT OF ALABI MARKET



- T = Traders
- † = Drug/Medicine Shop
- F = Food/Canteen
- H = House (Hamlet)
- H* = Arekemase Hamlet
- S = Sellers (farmers)
- S* = Osun Seller Group

- Draw up a market schedule so that it will be easy to plan visits when the surveillance programme begins. See example in Table 3.1.

| MARKET DAY | ZONE | | |
|---------------|--|---------------------------|---------------------------|
| | North | Central | South |
| One | - | Obada [t] | Towobowo [t] |
| Two | Elekokan [f] | Oyee [f] Kajola [f] | Ajgunle [t] |
| Three | Ominigbo [f] | Alabi [f] Alagba [f] | Isale [t] |
| Four | Asunnara [t] Konko [f] Oke Ola [t] | Obanisun [t] Idere [t] | Onilado [t] Sekere [f] |

t = town market, f = farm market

3.2 Defining Catchment Areas

It is necessary to have a clear and full list of all villages that attend a particular market so that village detection activities can be systematic and regular.

a. Develop a List of Villages

- Ask market leaders, chiefs, clerks, and trade group heads to list all village names they can remember that attend this market regularly. Write down every name in your notebook, even if there are repetitions.
- Visit each stall, shed or tree where sellers congregate. Ask which villages they come from, and add these to the list.
- Find out how people get to market. If they come in trucks or vehicles, ask the drivers to list the different villages they visit to collect passengers and produce.

- Make one full list of all villages mentioned.

b. Determine Directions

- Markets are usually located at crossroads. Take your full list of villages to the market leaders and transporters. Point to each road leading out from market one-by-one, and ask which villages lie in that direction. Mark the direction next to the name on your list.

- If you have a district map with villages on it, use this to double check. Note that the map may have mistakes. This is a good opportunity to make corrections and additions. Also note that some villages have more than one name and sometimes two or three different villages share the same name.

c. Visit & Verify

- Unless the villages are already well known through previous primary health care or disease control activities, it is always best to visit the villages on the list and confirm from the residents whether they really are regular market attenders.

- Introduce yourself to the village leader(s). Explain the need to learn about guinea worm disease so that it can be eradicated. Ask the village leader kindly to call together the residents for a brief discussion about marketing and guineaworm.

- At the village meeting find out if villagers do attend market regularly. Which market is their most frequent choice? What other nearby markets do they attend?

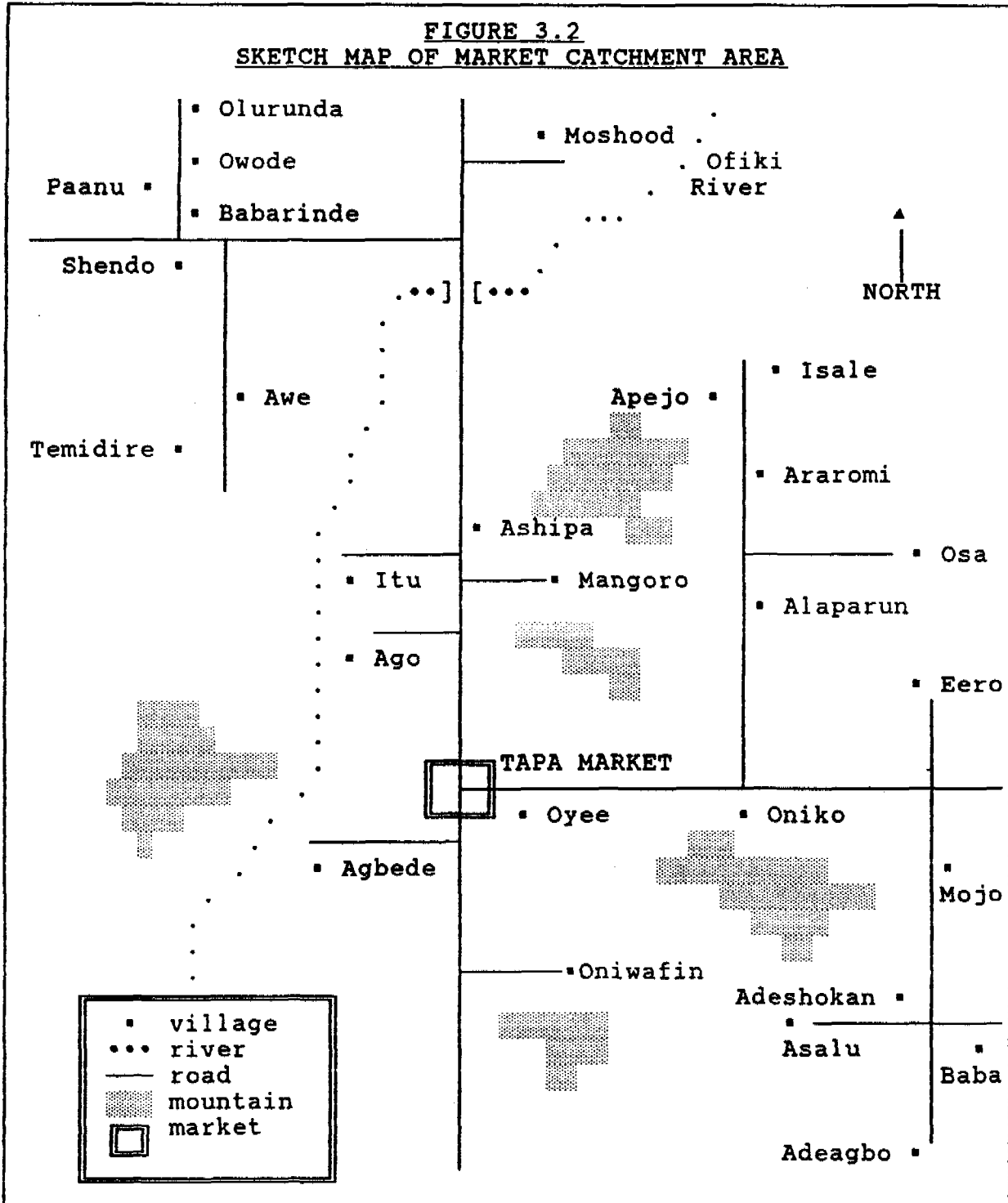
- Visits to the villages now will help later when it comes time to find a village for checking up on case reports.

d. A Master List

- After having received verbal confirmation from the villagers themselves, draw up a master list of all attending for each market. Next to the name of each village indicate whether the particular market is their main market or a secondary choice. For easy follow-up group the village names according to direction from market or area (i.e. those villages east of the market, or those smaller villages clustered around one of the bigger villages).

- Post your master lists on the wall of the local guinea worm eradication office/health office. Make copies of the appropriate list for staff assigned to each market.

• Finally make sure you have a good map for planning and work. Draw a sketch map of the surrounding villages that attend each market. See sample map in Figure 3.2. Make your own maps and post these along with the catchment area lists for quick reference.



3.3 Local Knowledge about Guinea Worm

Generally try to learn how local people view guinea worm. How do local ideas resemble the clinical case definition and how are they different? When there are major differences, it is possible that surveillance and village detection can result in false reports, such that follow-up wastes time and energy. If we understand what local people mean by guinea worm, we can become more careful in how we ask for information about guinea worm cases and also can train local people to be better reporters about the disease.

Recall that the standard clinical definition of a case used in surveillance is - a person who currently has (or reports that he did have within a specified period of time, e.g. the last year, the past month) a skin lesion/ulcer with a clearly visible white, thread-like guinea worm emerging. Remember it is only when the worm emerges that it can spread its larvae in pond water. That is why the standard case definition emphasizes the emergence of the worm.

We know from reading clinical reports in scientific journals that patients complain of fever, rashes and nausea before the guinea worm comes out. We also have seen reports that doctors find guinea worm cysts and guinea worms entwined in joints, causing painful rheumatism. While all these problems are known clinically and expressed by the patient, they do not contribute directly to the spread and control of the disease.

Still we can not ignore these symptoms if villagers talk about them, because these experiences will influence how they define and report guinea worm themselves. The accuracy of our detection efforts will be affected, if we are unaware of these ideas. Guidelines below suggest how to learn about local ideas of guinea worm case definition.

a. Indepth Interviews

• During discussions with market leaders, market attenders, transporters and others ask the following:

- What are the local name or names for guinea worm?
- How do we know if someone has guinea worm?
- What are the different ways guinea worm can present?
- Describe your own experience with guinea worm?

• Listen carefully to each explanation and story. Record what the person says in his own words, ideally in the local language, in your notebook.

- Try to get views from different types of people - young, old, men, women, people of different religions, educational levels and tribes. Not everyone or group may view guinea worm in the same way.

- Continue to talk to different people at market until you do not hear any new or different ideas about guinea worm. By this time you should have a fairly good picture of how the community views guineaworm.

b. Village Group Interviews

- When make village visits and hold village meetings to verify whether members of a village attend a particular market, you may also gather information on views about guinea worm.

- Ask the same questions as above to the whole group. In the group setting, people will stimulate each other's ideas. Make sure that different people have a chance to air their views.

c. Analyzing the Information

- Read through all interviews, individual and group, in your notebook(s).

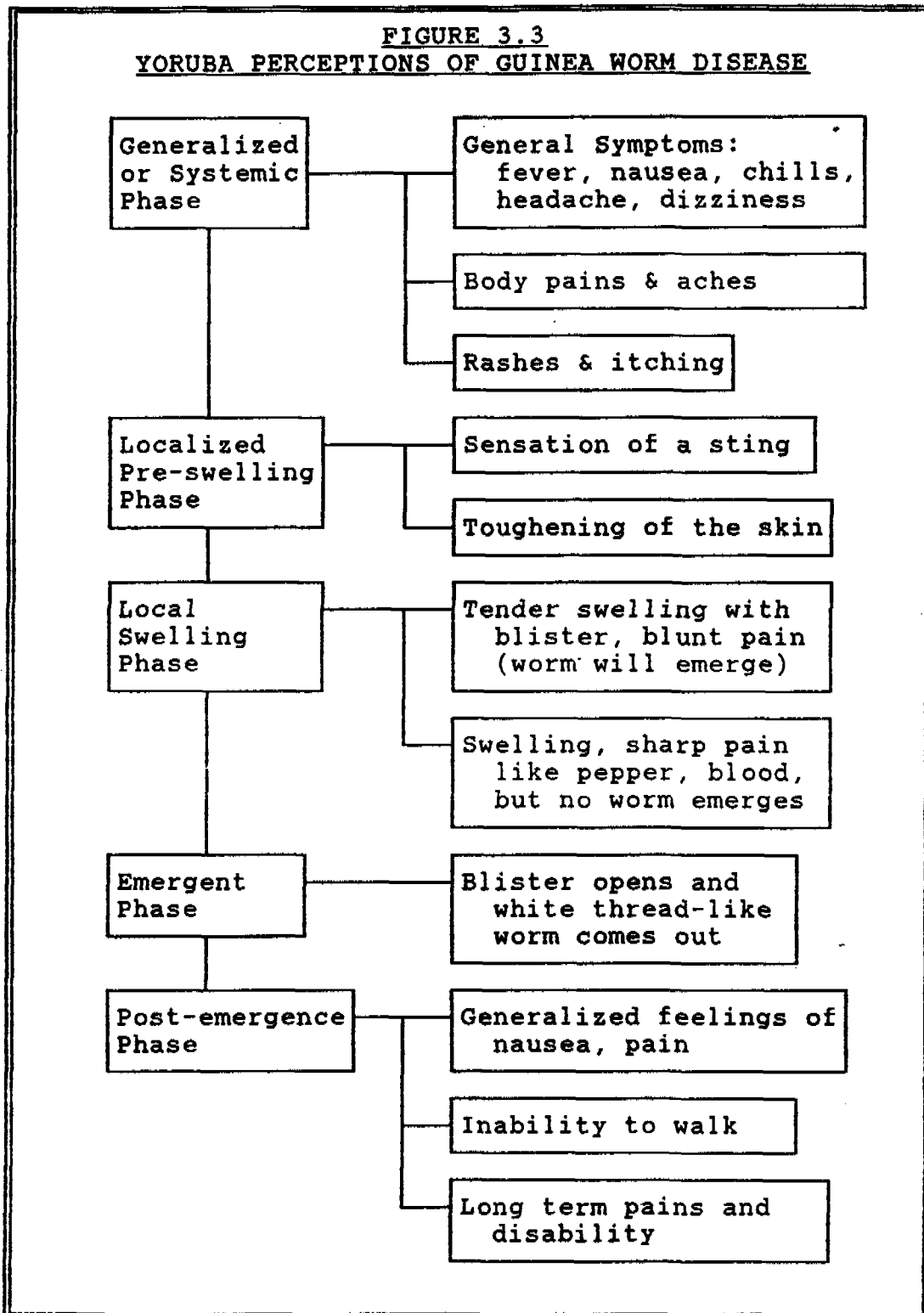
- Make a list of the most common things people say about guinea worm.

- See if there is an order or sequence in which the various symptoms come.

- From the above develop a description of the local case definition of guinea worm. See an example from the Yoruba people in Nigeria in Figure 3.3.

- Mark on your own definition those aspects that resemble the clinical case definition, and those that are different. Save this information for planning the orientation of local staff and volunteers.

FIGURE 3.3
YORUBA PERCEPTIONS OF GUINEA WORM DISEASE



4. PREPARATION

Monthly surveillance will be most effective if it can be planned to begin at the start of the normal guinea worm transmission season in an area. In that way case detection and reporting can be linked in a timely manner with programme response. Preparations described in this section should begin at least two months before the start of that season. If, for example, the first cases of guinea worm in a region usually appear in October, the preparations should begin in August.

4.1 Field Staff

Market based endemic village detection is designed to be managed by local government staff. They may come from health, agriculture, education or other agencies. Therefore they will be called by the general term 'field staff' in these guidelines.

a. Choice of Staff

- Identify all local government staff who have any duties that bring them to market regularly. Public Health Inspectors may visit to check on market sanitation. Community nurses may attend to give immunization. A school may be located at the market, so teachers are nearby every market day. Agriculture extension agents may visit market to advise farmers and check on problems of pests and production.
- Choose one or two staff who attend a particular market regularly to be responsible for covering that market and making follow-up verification visits to surrounding villages.

b. Job Description

- Develop in writing a brief outline of what field staff are expected to do during market based endemic village detection. This will form the basis of orientation now and supervision later. Some items on the list may include -
 - Visit your market on the first market day of the month.
 - Locate and check each village reporter at market, and record information he/she provides on a form.
 - Check market chief (leader, clerk) each visit to learn about any special problems.
 - Compile summary of all reports received on market day and submit to local guinea worm coordinator.
 - Visit each village with reports of a case of guinea worm within three days of receiving the market report.

- Verify by sight whether reported cases are true.
- Provide first aid for true cases.
- Educate villagers about preventive measures.
- Submit report on all verified true cases to local government guinea worm coordinator.
- Maintain your motorcycle on good condition.

b. Orientation

- Organize an orientation for field staff early so that they may participate in some of the groundwork activities described above. A detailed outline for an orientation session is found in Appendix B, and some important issues are outlined below.
- Cover the basics. Although some of the local staff may have already participated in guinea worm search activities before, it will still be useful for all staff to review the goals and organization of the eradication programme, the life-cycle of guinea worm, the correct case definition and available control measures. Involve experienced staff actively in sharing what they know with newer team members.
- Stress during orientation the need for a positive, respectful relationship between staff and the community. When staff display a poor attitude toward the public, community members may become suspicious and refuse to cooperate.
- Review the job description. Ask for suggestions to simplify the procedures or better adapt them to local conditions.
- Plan a field activity in which the staff will visit their assigned market. At market they should meet market leaders, practice conducting general interviews about guinea worm, learn about market structure and layout.

4.2 Choosing Markets

During groundwork programme staff may have identified many markets in the district. Not all markets may be appropriate choices for market based village detection activities. Here are reasons for leaving out some during the pilot project in Nigeria -

- One market was located in town, and few people from the villages where guinea worm was suspected attended.
- Another market was seasonal and attendance dropped off very much after certain crops were harvested.

- Market 'B' was located between markets 'A' and 'C'. All villages that attended 'B' also went to either 'A' or 'C' so that visiting 'B' was a waste of energy.

Careful consideration must be given to choice of market in any district. If resources are limited, it may be necessary to limit the programme to the markets with the largest number of villages attending. It will still be necessary to monitor the progress of guinea worm eradication in all villages. Other methods like school or village visits may be needed to compliment the market searches.

Also there may be some villages that do not attend any market regularly. Possibly they are too far from market, or they prefer to sell their crops on the roadside and not haul them to market. Again, other methods must be found to reach these villages.

4.3 Recruiting Volunteer Village Reporters

Prevention of endemic diseases, like guinea worm, is one of the eight essential elements of primary health care. Therefore efforts to eradicate guinea worm, including case and village detection, should be based on principles of primary health care. The most important of these is community participation. Ideally each village surrounding the target markets should be visited in advance by field staff to hold discussions about guinea worm and attendance at market.

a. Village Participation

- Explain the goals of guinea worm eradication at a village meeting and describe how village detection and reporting is used to plan action to eliminate the disease.
- Request the villagers to help in accurate case reporting.
- Ask villagers to share their own ideas about how guinea worm disease presents. Encourage contributions from many people.
- Thank people for their contributions. From among the different ideas, point out that it is when we see the white thread-like worm coming out of an ulcer that guinea worm is most dangerous. When the worm is out it can spread its babies to other people. Ask villagers to be vigilant in looking for and reporting such cases.
- Ask villagers to select one of their members to be responsible for checking for guinea worm cases and reporting his/her findings at market to the field worker. Stress the need for everyone to cooperate with the reporter they select.
- Arrange a time when the villagers will submit the name of their reporter. They may bring the information to the next

market, or the field worker may make another village visit.

b. Criteria for Selection

• Involve villagers in discussion about the type of person who would make the best reporter. Some things to consider are -

- Someone who is respected and responsible.
- A person who cares about and is aware of the welfare of co-villagers.
- Someone who has reason to attend market regularly.

• Explain that the role of reporter is voluntary. The person selected will receive some training, and knowledge is valuable, but there are no financial rewards. Therefore the person selected must have high interest in improving the health and welfare of the village.

• Note that the village may already have a volunteer primary health worker. This person might also serve as reporter. At the same time the primary health worker may not have reason to attend market regularly. If another person is selected for reporter, that person should work closely as an assistant to the primary health worker. Also if there are no primary health workers in the village, the guinea worm reporter, if interested, could eventually be given more training to become a primary health worker.

4.4 Training Volunteers

a. List of Trainees

• Gather the names of all selected reporters before the training starts. This will be used to mark attendance during the training session.

• Invite market leaders to attend the training so that they will understand and feel part of the programme.

b. Time and Place

• Plan the training to take place no more than one or two weeks before the reporting should begin. If the training is done too far in advance, people may forget.

• Find out from the trainees a convenient time and day to hold the training. Market day itself may be a good opportunity to get everyone together. The sample training session in Appendix A should take no more than one hour. Let people know that the training is short because, they may be worried that

it will keep them away from their normal market activities.

- Talk to market leaders for ideas about a good venue for the training session and for permission to use it. A school located next to the market would be ideal. Otherwise use a large shed or tree. If the training takes place at a school, invite the teachers to attend.

- Announce the time and place for training a week in advance. Tell villagers at market and make village visits if necessary.

c. Trainers

- Two or three district level staff should be put in charge of all the training. This training team will ensure that the programme is standard at each market.

- A local school teacher would be a good member of the training team.

- The trainers should be able to speak clearly and have a friendly manner and tone. They should be able to express themselves very well in the local language.

- The field workers assigned to a particular market should attend and help conduct the training session in that market. In this way the reporters will come to know the staff with whom they will be working.

d. Materials Needed

- An attendance list should be prepared in advance with names of all villages and the name of their reporters if these have been chosen in advance.

- A simple pamphlet as handout should help the trainees understand the programme and serve as a reminder of their tasks once they return to the village. A sample that can be adapted to local conditions is found in Appendix A, along with the village reporter training guidelines. Make enough copies for the reporters and any other people who may attend (market leaders, school teachers, etc.).

- If the training takes place in a school, be sure to bring chalk for writing ideas and responses. Flipchart paper (news print) and markers could be used instead, but these may be expensive and difficult to find.

- Bring materials for demonstrating first aid. Disinfectant, cotton wool and clean water are needed to show how to clean the guinea worm ulcer.

- Visual aids may also include samples of control measures such as cloth filters and posters showing wells.

- Paper is needed to record minutes of the training. Minutes help when reviewing the session and serve as a record of trainees' ideas about guinea worm and problems they may face.

e. General Principles

- Participation should be the basic approach to conducting the training. Encourage trainees to share their own ideas. There are points in the suggested outline (Appendix A) where the trainers will ask participants to tell their own experiences with guinea worm and suggest how to solve problems during report gathering. During these times, encourage everyone to contribute. In this way participants will feel part of the learning process and value the session more.

- Show respect for the participants. Listen carefully to their suggestions, because many of the ideas will be useful for improving the programme.

- During practical sessions, e.g. the demonstration of first aid, ask trainees to take part and also to repeat the demonstrated skills themselves.

f. Non-Attendees

- Some village reporters may not be able to attend the group training session. Maybe the village never chose their representative, or the reporter did not hear about the time of the training, or something came up at the last minute.

- Review the attendance list to identify those villages that did not participate in the training. The field worker for that market should find the absent reporters at the next market or visit the village before actual reporting starts.

- The field workers should review the pamphlet with these reporters on a page-by-page basis to provide individual orientation. It is very important for all reporters to understand the system before reporting starts

5. IMPLEMENTATION

Monthly market visits should not be too costly or difficult for local government staff. Hopefully staff would have been visiting markets as part of their normal duties, so that market based surveillance would not pose an extra burden.

5.1 Administration & Logistics

a. Transport

- Ideally the field workers should have access to official transportation to make the market visit.
- The field worker should be responsible for requesting or booking the transport in advance and make sure that there is fuel and that the vehicle is in good condition.
- If there is no special transport for the guinea worm eradication programme, the field worker should link his/her market visits with travel by other staff such as the immunization team.
- Usually there is commercial transport, trucks, lorries, mini-vans, going to market on market day. If there is no official transport or if official transport breaks down, field workers should be ready to use the commercial vehicles.
- The guinea worm programme coordinator should make sure that funds are always available for fueling official vehicles or paying for commercial transport.
- The guinea worm programme coordinator should always make sure that back up transportation plans are in place. He should guard against missing any appointments made with village reporters in market in order to maintain the reputation and credibility of the programme and staff.

b. Schedule

- Select a day for the monthly market visit that will be convenient and easy to remember by both village reporters and field workers, for example the first or last market day in the month that falls on a work day for local government staff.
- Be sure to consult villagers to find out what day is convenient, otherwise they will not be able to attend, and the surveillance process will fail. This issue can be discussed during training of the reporters.
- For the convenience of field workers, make sure that report day is also a day when transportation will be available. If transportation is limited, stagger the schedule of market visits so that all do not occur in the same week.
- If public holidays arise on report day, make advance arrangement for reporters to attend on the next convenient market day. Except for such occasions, do not change the market report schedule as this may confuse the reporters.

- Field workers must arrive at market as early as villagers usually arrive (Note that there are morning, afternoon and evening markets in different areas). Because villagers arrive at different times, it will be necessary for the field workers to stay at market for three to four hours. The field workers should not plan any other major activity on report day.

5.2 Collecting Reports

a. Finding Reporters

- During the groundwork phase, field staff should have drawn sketch maps of the market layout. From this and their continued observations, they should have a very good idea where people from each attending village can usually be found in the market. Go directly to the stall or spot where the reporter usually stays and ask for him/her.
- If the market is large, that is if more than 30 villages attend regularly, it will be useful to have two field staff assigned to that market for report gathering. In this case divide up the village list in advance so that each staff member knows his area of responsibility.

b. Obtaining Information

- Report forms should be prepared in advance. See sample in Appendix C. Before going to market, the field workers should write the name of each village on a form. This will save much time, and guarantee that each village is checked at market.
- After finding the reporter, ask him directly whether he has seen any cases of guinea worm in his village, and mark the appropriate place on the form. Thank him for the report.
- If the reporter gives a positive answer, ask for the name, age and sex of the patient so that he/she can be found easily on follow-up verification visit.
- Ask the reporter if he had any problems in gathering the information (e.g. people away from home, refused to talk, etc.). Note these problems on the form and discuss immediately with the reporter how he might solve the problems next time. If the village leader is also present at market, discuss these problems together with him and the reporter.

c. Clarifying Information

- Remember the standard guinea worm case definition of a worm coming out of the ulcer, and that the best way to be sure a person has the disease is to see it in person.

- If the reporter says that someone in the village has guinea worm, ask him to describe what he saw. If what he says does not include mention of a white worm, ask again directly whether a worm actually came out of an ulcer. If no worm was seen, note the mistake on the form. Take time to explain the case definition to the reporter and the reason why we are concerned about the emergent worm.

d. Messages Sent Through Others

- If the reporter's is not seen after checking his usual place in the market two or three times, ask if anyone else from the village is present.

- Among those present from the village, ask if the reporter sent a message with them about guinea worm.

- If someone volunteers that he/she has been sent with a message, note on the form who the person is and why the reporter is absent. Then take the information. Thank the person for helping.

- If he/she reports a case, clarify the information as above.

- If no one claims to have been sent with a message, ask if anyone knows the whereabouts of the reporter. Also ask if anyone has observed guinea worm cases in the village. If yes, clarify the information and write it on the form, but make clear note of the fact that the report was not 'official.'

e. Special Situations

- Patient Comes to Market - It may happen that the reporter or another villager brings the guinea worm patient directly to the market. The field workers should carry with them their first aid kits to respond to that patient. Even though the patient comes to the market, it is still necessary for the field worker to verify if that person is really from the reporter's village, and whether other people who have guinea worm are back in the village.

- Reporter Absences - If the reporter sends messages many times in a row, or is absent two or more times without sending a message, it will be necessary to find out whether there is a problem. The village leaders should be found at market or a village visit may be needed. Find out if the reporter is still serious about his duties. If not encourage the village to select another person and provide him full orientation.

- Village Absences - Sometimes no one from the entire village is found at market. Ask from neighbours what is wrong. They may simply have nothing to sell that week. On the other hand

many people may be sick, and even knocked down with guinea worm. It may be necessary to plan a return visit on the next market day or make a village visit.

■ Disputed Cases - It may happen that the reporter says there are no cases, but another villager says that in fact there is a guinea worm victim in the village. Question the reporter to see if he really checked the person in question. Also question the villager to clarify if what he suspects to be a case is really guinea worm. If the issue can not be resolved at market, a follow-up village visit will be needed.

■ Nomads and Migrants - When the normal catchment area of a market is defined, some groups in the area may be left out. Nomadic cattle rearers may have temporary settlements in the district. Migrant farm labourers from other regions may live in the district during planting and harvesting. Even groups of refugees may be nearby (as will be discussed in Section Seven). Field workers should look for such people in the market, because they may bring guinea worm to the district or carry it away to other parts of the country. If such groups plan to stay in the area for a season, they may wish to select their own reporters. If not the field worker should still ask them about guinea worm, and fill out a separate report form to record their responses.

5.3 Observing the Market

a. Identifying Problems

• It is important for the field workers to be observant of events in the market that may affect reporter attendance. Here are some examples.

- The field staff may hear about a special local festival which will cause many people to be away from market on the next report day.
- They may observe that attendance is dropping as harvesting of certain crops is over.
- The appearance of tax collectors in market may frighten away attenders or make reporters reluctant to talk to the field staff who also work for government.

b. Solving Problems

• These problems should be discussed with both the market leaders and with the guinea worm programme coordinator so that solutions can be found.

5.4 Compiling Reports

- Before leaving market the field workers should complete a summary report form as found in Appendix C. This will be valuable in planning follow-up activities.
- Reports should be submitted to the guinea worm coordinator no later than the day after the market visit.
- All villages where guinea worm cases were reported should be listed by name.
- All villages where no 'official' report was received through the reporter or a messenger should be listed by name
- Brief comments on market should be written on the form.
- A schedule for follow-up village visits should be drawn so that all cases can be found within a week from report day.

6. VERIFICATION VISITS

The purpose of surveillance, in this case market based detection of villages with guinea worm, is to learn where the problem is so that control measures can be started quickly. First it is necessary to verify whether the report is true before time and effort are expended on control activities. Therefore verification visits to the villages are needed.

6.1 Planning & Logistics

a. Timing

- As noted, verification visits should be made to villages from which positive reports were received within a week from market report day. Otherwise the patient may not be easily found, making verification difficult.
- Field workers should normally set aside two or three days right after the market report day to make their follow-up visits.

b. Transportation

- Again the local government guinea worm programme coordinator should make sure that transportation is available to the field workers.
- Just as market report days may be staggered, so too would follow-up visits. This will spread surveillance activities over the month and make it easier to assign scarce transportation resources.

- It may be more difficult to link follow-up visit transportation needs with other health worker activities in the villages, and often commercial transportation to the villages is not available on non-market days. In such cases, the guinea worm programme coordinator must try very hard to secure adequate transport for his programme.

c. Materials and Supplies

- Report Forms - The individual village report forms should be printed with the follow-up verification report form on the back. The field workers should separate out all those forms that require a village visit either because of positive guinea worm reports or due to continued absence of village reporters.
- First Aid Kit - Each field worker or field worker team should have a first aid kit with disinfectant, cotton wool, and analgesics to treat any people found to suffer from guinea worm. Aspirin may be appropriate for adults and paracetamol for children. Link should be made with any essential primary health care drugs programme in the district.
- Educational Materials - For health education of individual patients and groups of villagers, as well as for revising the training lesson with the villager reporter, the field workers should always carry copies of the training pamphlet with them. If a case identification card (with a picture of a guinea worm ulcer) was used during national case search activities, field workers should also have a copy. Field workers should also have any other simple, easy to carry visual aids developed for the guinea worm eradication programme.
- Motorcycle Repair Kit - If the field worker is assigned the use of a motorcycle, he should carry a simple repair kit that includes a hand pump, cold patches, a screw driver, a wrench and a torch light.
- Disease Control - If filters are part of the local or national eradication programme, the field workers should carry a supply adequate to serve the number of households in villages where cases have been reported.

6.2 Checking Accuracy

On reaching the village where guinea worm cases have been reported, the field workers should follow the steps listed below.

a. Locate the Reporter

- The field workers should ask to see the reporter as soon as they arrive at the village. The reporter should show the

field workers around the village and participate in any provision of first aid.

- By working together with the reporter, the field workers are showing the villagers that they respect the person chosen to represent the village. Also the reporter can learn from the field workers when they work side-by-side.

- If the reporter is not available the village leader or another villager can show the field worker around.

b. See the Village Head

- As a courtesy, always greet the village head.

- Ask him if he has any observations about the reporter's performance, or any general concerns about the health of the village.

- If problems or mistakes are seen during the verification visit, involve the village head in solving them.

c. Locate the Patient(s)

- It is absolutely necessary for the field workers to see the people who were reported to have guinea worm. The field workers should look for themselves at the guinea worm ulcer to make sure that it is truly a case of the disease.

- If there is any confusion, field workers should question the patient about whether a worm actually did emerge from the lesion. Visual aids may help clarify whether a case occurred.

- The field workers should visit all other houses in the village in case other persons have guinea worm now, but were not reported.

- The verification forms should be completed indicating whether the reported cases are true and whether additional cases were found.

d. Immediate Response

- First aid and health education should be given to the patient and his/her family about care of the ulcer and prevention of disease spread.

- Filters can be distributed and villagers educated on proper filter use as a short term preventive measure

- Village meetings should be held to make sure everyone is

aware of the problem and that villagers work together to help collect water for the affected persons so that they will not infect the pond water with their open guinea worm ulcers.

- Record of any of the above actions should be made on the verification report form. More information about programme response is provided in a later section.

e. Problems and Mistakes

- If mistakes were made - false cases or non-reported cases - the field worker should discuss with both patient and reporter to find out why the problem occurred. Reasons for mistakes should be written on the verification report form. Some of the common reasons may include -

- The reporter did not check all houses.
- The reporter was away and asked someone else to do the checking, and this person did not understand the correct case definition.
- The patient himself refused to let the reporter check his house.
- The reporter himself was confused about case definition.

- The field workers should immediately use the training pamphlet to revise relevant parts of the lesson with the reporter when mistakes occur.

- There may also be complaints that the reporter is not performing up to expectation.

- The field worker should try to solve these problem immediately by reviewing the training pamphlet with the reporter or providing counseling.

- Reporting difficulties may have arisen because of some general problem in the village. Quarrels and poor communication may also affect villagers' willingness to cooperate with the reporter.

- It may be necessary to hold a village meeting to resolve these problems so that guinea worm detection and general village improvement village can proceed.

6.3 Programme Response

Villagers will be encouraged to report cases of guinea worm if they know that the eradication programme staff will respond to the

problem promptly. Both short term and long term response is needed so that the disease can truly be eliminated.

a. Verification Report

- Field workers should summarize their findings from verification visits and report these to the district guinea worm programme coordinator.
- Field workers together with the coordinator should plan quick interventions to help the villagers prevent guinea worm. There are some immediate responses that the field workers can make when they find cases in the villages, and these are described below.

b. The Role of First Aid

- First aid for those suffering from guinea worm is both a humanitarian and practical first response to a positive report from the village. The basic supplies have been listed above.
- The villagers will have greater trust in the field worker if he can relieve their immediate suffering somewhat.
- The field worker should provide basic patient health education and explain clearly to the victim that there is no drug that can cure guineaworm. Pain relievers help. Cleaning the ulcer prevents dangerous secondary infections like tetanus. Ultimately the best solution is prevention.
- The village reporter and/or village health worker should work together with the field worker in administering the first aid. In that way they can learn through experience how to do the daily cleaning of the ulcer themselves.

c. Short Term Prevention and Health Education

- Ideally the guinea worm programme should have a supply of short term control materials like cloth filters. The field workers should then carry an adequate number of filters to the village when making a verification visit.
- A quick response will have several benefits -
 - Disease control will begin immediately.
 - Villager acceptance of the programme will be high.
 - Programme resources will be saved as extra visits to the village will not be needed.

- If filters are given out in a village, the field worker must demonstrate proper use and explain how the filters work. He should teach the village reporter how to check regularly whether people are using their filters correctly.

- If filters are not available, the field worker should call a village meeting. The danger of infected people walking in the pond should be explained. Villagers should be encouraged to think of ways by which those who are not infected can help sick neighbours and family members collect water and thereby prevent further spread of the disease.

- The use of abate as a short term control measure is not emphasized here. Guidelines for its use may exist as part of national strategy and could be incorporated into field worker duties.

d. Community Mobilization for the Long Term

- The ultimate solution for the guinea worm problem is provision of safe and reliable water supplies.

- This solution is often expensive and takes time to implement. Often programme resources are not adequate to provide even a simple dug well in each endemic village.

- Again, the programme coordinator should remember that programme acceptance and staff credibility rest on the ability of the programme to meet people's needs.

- The programme coordinator should make sure that all agencies involved in provision of water in the district work together to target guinea worm endemic villages.

- Field workers should also begin in the villages by holding meetings where community participation in well construction can be discussed and planned.

6.4 Programme Monitoring

- The district guinea worm programme coordinator should compile the above reports from all field staff on a weekly basis.

- Maps and village lists should be marked and updated to denote where guinea worm has been found, what interventions have taken place and what plans have been made.

7. REFUGEE ISSUES

Eradication of guinea worm disease will require its elimination from each endemic country. At present a large portion of the population at risk of guinea worm in east central Africa live in countries that have recently or are currently experiencing civil wars. As a result many of the people potentially or actually affected by guinea worm are refugees dispersed within and beyond their national borders.

Guinea worm may not appear to be a major priority to refugees who must cope with basic survival, but the fact that refugee populations are at risk of the disease poses a three-fold challenge to planners in the global eradication effort. First refugees from endemic communities may help spread the disease to previously unaffected areas.

On the other hand, refugees who had not known the disease before, may seek safety from war in communities where guinea worm is prevalent. They may then carry the disease back home when they eventually return. Thirdly, the makeshift nature of many refugee settlements may include unsafe water supplies, thus adding the transmission of guinea worm to the immediate suffering already experienced by the refugees.

Refugees require assistance from host countries and the international community. In the process it may not always be clear who is responsible for health and public services. Any effort at guinea worm surveillance and control with refugee populations must begin by identifying who is responsible for refugee health care and then working together with that agency. At the same time surveillance and control efforts with refugee populations must be coordinated with any eradication programme in the local government where the refugees reside, since interaction between refugee and local populations is inevitable.

7.1 Community Structure

Even though refugee settlements or camps may be 'temporary,' they will have their own internal organization. Social structure and leadership patterns from home areas may be transplanted to the refugee community. New patterns may form when diverse groups are mixed together. But whatever the situation, people always have a way of ordering their social life.

The anthropological methods used to learn about the market place and described in Section 3.1 are also applicable for understanding the social organization of refugee communities. It is only through such understanding that meaningful information about guinea worm and other health problems can be obtained. Methods such as in-depth interviews of leaders, observation of general community life, interviews with service providers and

residents and mapping of the settlement all contribute to an understanding of the community.

It is not possible to define the structure of or even reach all refugee groups. For example, refugee populations still within their own countries poses a special dilemma. They are often very close to and often overrun by the front line of current confrontations, and are frequently on the move. These 'internal refugees' are attacked for revenge and are suspicious of local agency staff. They are denied access to international assistance because their flight away from danger has not taken them across national borders. No real solution to reaching these people is possible until they can be offered a safe haven.

7.2 Baseline Information

Initial baseline information can be obtained in refugee camps about recent or current cases that occurred among the residents and about the guinea worm status of communities back home.

Just as market leaders and attenders can help planners develop a list of villages within the catchment area of a market, leaders and residents of refugee camps can identify the villages and communities from which the refugees fled. They can also indicate whether guinea worm had occurred in those home communities in recent years. Procedures used for clarifying village volunteer reports at market (Section 5.2.c) should be followed.

The information about guinea worm cases that occurred many hundreds of miles from the refugee camp may not seem useful to planners in the district where the camp is now located, but it should alert them to watch for possible avenues for introducing new infection into the district. Also a system is needed so that information about guinea worm prevalence in other districts, regions and countries can be sent to guinea worm eradication planners there. The international network for providing assistance to refugees should be of help.

7.3 Disease Experience and Perceptions

Refugee populations, just like people in other guinea worm endemic areas, have their own experiences and views about the disease. The same general procedures of in-depth individual and group interviews described in Section 3.3 apply to finding out how people in a refugee settlement or camp recognize a case of guinea worm.

The special challenge of refugee settlements is that they often include people of many tribal and ethnic groups. Each may have a distinct word for guinea worm, believe in different causes and recognize different symptoms. Interviews and subsequent development of a local case definition (e.g. Figure 3.3) should

therefore cover people from all the different groups present in a camp.

7.4 Surveillance within the Settlements

The process of identifying possible areas of guinea worm transmission in back home communities was addressed briefly above. There is also need to conduct regular surveillance right within the refugee settlement to control the disease inside the camp and prevent its spread into or out from the settlement.

As noted, village or tribal groups may have kept their local community identity, organization and leadership intact inside the camp. These existing units or groups can be approached in the same way villages were in Section 4 concerning the selection of a volunteer reporter.

Because of the great immediate health needs of the refugees, one should plan to organize a general volunteer primary health worker programme, not just a special guinea worm project. This will encourage the refugees to participate actively in meeting their own health and social needs, and reduce their sense of dependence on outsiders for help. One of the lessons taught during the primary worker training would focus on detection and control of guinea worm.

A system of regular disease reporting by the primary health worker can be integrated into the overall health service design for the refugee settlement.

7.5 Nearby Markets

As a refugee population becomes more settled in an area, the refugees begin to farm, work and take up some semblance of normal life. These activities may bring them to local markets. If this occurs within a district, plans can be made to train volunteer reporters from among the refugees to report about their guinea worm experience when they come to market.

As was done for regular villages that attend the market, refugee camp residents should be involved in selecting their own reporters. Since the camps may represent people from several home villages or tribes, it will likely be necessary for each sub-group to select its own reporter.

Training and follow-up verification activities should be coordinated with the agencies responsible for maintaining the camps.

7.6 Appropriate Programme Response

Guinea worm cases identified through surveillance in refugee settlements should trigger a programme response. Responsibility for responding should be clearly delineated. For example, it should be decided who will provide cloth filters and who will construct wells. Control efforts must be integrated so that the entire resident population of the district, both native and refugee, can be protected from the spread of the disease. Coordination is also needed so that one segment of the population does not receive substantially better benefits than another, thus causing jealousy and fights.

8. APPLICATIONS OF THE MARKET SYSTEM

This section reviews two issues. First is the relevance of market based detection for guinea worm in other parts of rural Africa. Secondly, the broader application of health information gathering in the market place is considered. Literature and interviews provide examples from Sudan, Uganda, Kenya, Ethiopia, Ghana, Zaire, Philippines, India, Turkey, and Malawi. (See Appendix D for list of interviews)

8.1 Variations in Market Systems

Successful application of the market based system for detecting guinea worm endemic villages depends on willingness to learn from local knowledge. Some examples of market systems from rural Africa and other countries show the need to find out how the local markets and their catchment areas are structured.

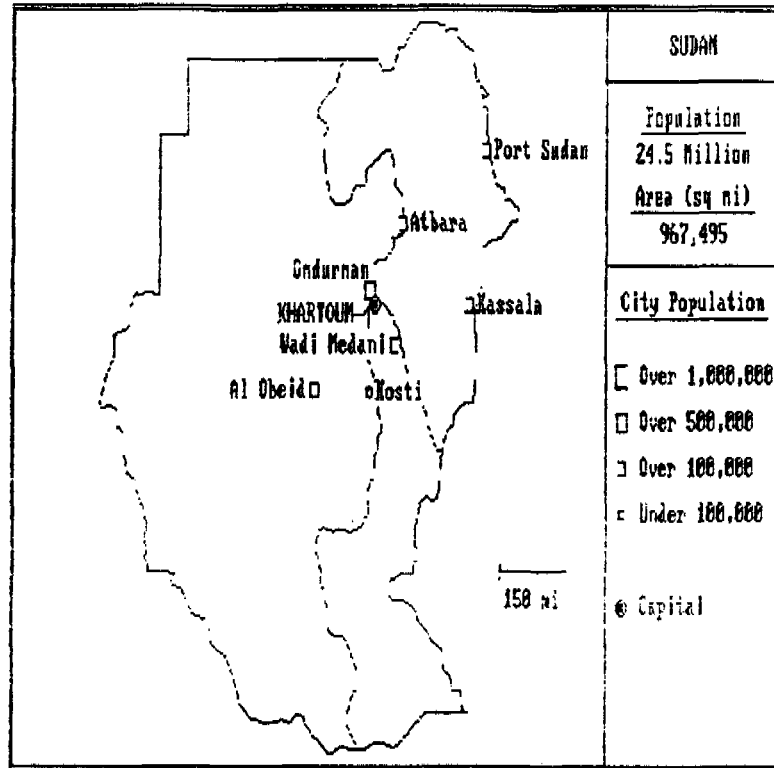
a. Southern and Central Sudan

In a report by King (1984) on the Kerekeka District of southern Sudan, communities are described where the market principle is often peripheral to the culture. Cattle given for marriage is an example of important exchanges that occur outside the market system. Some groups were being drawn more into the cash economy.

Shifting cultivation was being practiced in some areas, and when there were small surpluses of beans, groundnuts and sorghum, these were sold in small market centers under trees. Some traders traveled to markets in large towns to sell groundnuts, cattle and dried fish. These town markets and administrative centers were creations of modern government. Most marketing took place during the time of harvest between August and December. Groups living closer to the river were more involved in marketing than those farther away.

In this Kerekeka District, the traditional settlement pattern, which could loosely be called a "village," consisted of chains of scattered homesteads belonging to one clan. In addition to homesteads, there were also cattle camps where men spent much of their time. Although the homestead was relatively more permanent than the cattle camp, it too could be moved several miles when better quality land was needed for cultivation.

Farther north in the Kordofan Province, guinea worm infection was found to be associated with use of hafir, artificial ponds (Tayeh & Cairncross, 1989). Rainfall patterns in the area suggest a rainy season transmission for guinea worm, but variations may occur depending on water source (e.g. hafir). The population in the area is quite dispersed. Villagers do visit markets to sell sorghum, but the journey may take up to three hours on foot. Male villagers carry crops to market on donkeys (UNICEF, undated).



(c) PCGLOBE, 1990

General problems in the country include famine, war, drought and lack of infrastructure. An estimated 500 miles of roads are paved. Unpaved roads can be impassable in the rainy season (Bonner 1989).

Implications of the above for market based village detection are several. For example, the small "markets under the trees" may be more representative of local settlements, but the modern trading centers in towns may be more accessible to district health staff. Because villagers may not attend the town markets regularly, health staff would need to come to market more often to increase their chances of finding people from different settlements.

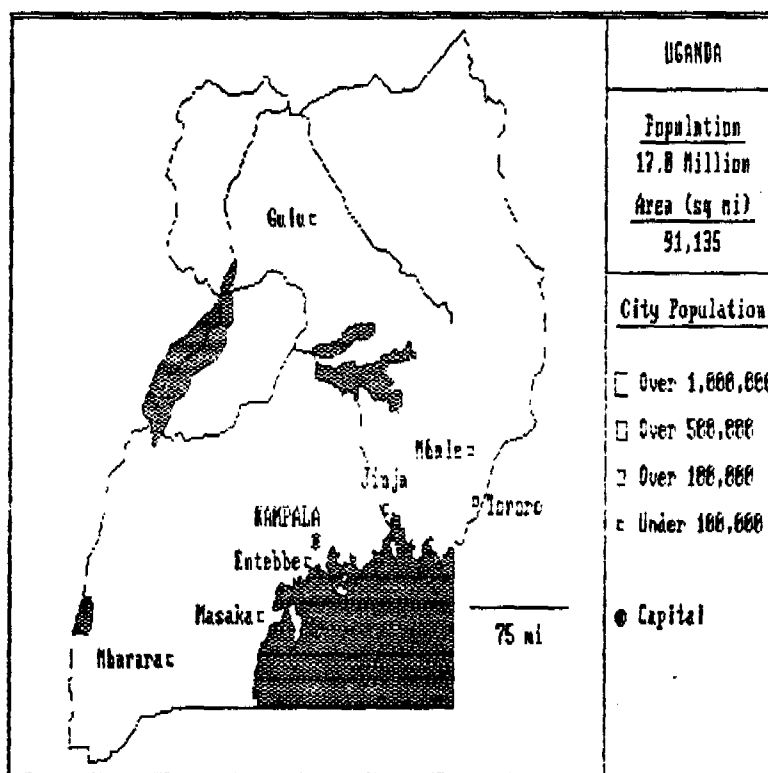
Another concern would be whether the guinea worm transmission season coincides with the marketing season. If guinea worm is found to be more common during the rainy season, but market

activity is not high until harvest season, there may be only a few months of overlap when markets could be useful for surveillance. Verification visits would likely be more difficult when individual village layout is scattered. All of the above implications would need to be field tested to determine if they are appropriate.

b. Northern Uganda

Up to 20% of residents in some sub-counties of northern Uganda were found to suffer from guinea worm (Henderson, Fontaine, Kyeyune 1988). Guinea worm transmission was found to occur throughout much of the year with peaks in August (the height of the rainy season) and February-March (the end of the dry season).

Markets in Uganda are closely integrated with the system of local government.¹ Districts are divided into counties, divisions, parishes and sub-parishes. Individual villages or communities comprise the sub-parish. Local market authority includes a market supervisor at the district level, a sub-accountant at the county level and market clerks at the divisional level. The market clerks work closely with local chiefs and political leaders. Each parish has minor markets, with major markets located at the division level.



(c) PCGLOBE, 1990

Markets operate from Monday to Saturday. Although both men and women attend market, women are more common because they come to sell what they grow. Public health inspectors visit the markets to check on general sanitation, food hygiene and food seller licenses.

People from Sudan frequently attend markets near the border when there is peace. Sudanese refugees have been in the area since at least 1989.

¹Adiga Ajika, personal communication, 25 May 1991.

One implication of the northern Ugandan information is that guinea worm village detection may need to be a year round activity. Local planners would have to investigate the relative difference in catchment area (village attendance) between major and minor markets. The latter may be closer to the villagers, and more different villages may attend minor markets overall, but since there are many more minor markets, it might not be possible for field workers to be attached to all.

There is a choice of local government staff to undertake the field work, as both market clerks and health inspectors are available. One would need to determine their relationship with the sellers and traders to learn who would make the best field workers. The fact that market clerks are expected to interact with local leaders, might put them in a favourable position to obtain information on guinea worm.

Because people from Sudan come to the markets in northern Uganda and Sudanese refugees live in the northern districts, guinea worm eradication activities there may be able to gather valuable surveillance information that would be difficult for Sudanese authorities to get. This implies a need for regional cooperation among the various national guinea worm task forces. Also cross border verification would not be likely. Therefore the Ugandan guinea worm staff need to plan appropriate response to cases detected that originate from Sudan to prevent the importation and spread of cases.

c. Other Examples

Women predominate at markets in western Ghana. They do most of the planting and harvesting, so naturally sell most of the surplus produce at market. Also they must come to market to buy salt and fish needed for the family meal. Among the women sellers there are "queen mothers" who are in charge of certain commodities like fish and tomatoes. This implies that women may make the best village reporters, especially if they are in charge of certain crops and must attend regularly.

In Kenya, women also grow most of the crops and sell them at market, but men are also involved when certain crops, like maize, are also grown as cash crops. The markets are usually organized by section according to commodity. As in Uganda, the local government authority manages the markets. Since the markets are organized by crop, not by village, one could not locate a volunteer reporter by his/her village shed, as in southwestern Nigeria. It would be necessary to know what crops the reporter sold and look for her in that section. If more than one field worker was assigned to a market, they could divide up the task of finding reporters according to commodity section.

In southwestern Ethiopia markets are found in district headquarters and some smaller towns. Refugees from southern Sudan are commonly found in villages and markets. Sometimes inter-ethnic fights have been observed in market. There may be need to have field workers from the different tribes to ensure friendly communication.

d. Non-Guinea Worm Areas

In Philippine villages one finds the sari sari store. These are the local convenience stores that sell everything in small quantities. The women who run them travel to the district markets to buy bulk supplies on a regular basis (Interview with L. Casimiro). These business women might make ideal village reporters in a market based surveillance programme.

Tribal areas in India pose a challenge because their subsistence economy means that the market principle is not active. The little excess they have is occasionally sold in town markets to get money to buy salt and cooking oil (Interview with I. Valkharia). Regular volunteer village reporters may not be possible in such a setup. Field workers in town markets near such areas may have to develop an informal information gathering system that identifies whoever may come to market from the remote settlements.

Rural settlements in Turkey were also felt to be inactive in the market because residents do not grow more than they need. People do take the bus on occasion to town markets. It was suggested that schools would make a better point for health information gathering than markets (Interview with U. Kartoglu).

Markets are a popular place to exchange information in rural Zaire. Village chiefs organize and oversee the markets. Local people often trade by barter (Interview with N. Bebe). The local involvement in market management and the natural social use (information sharing) of the market implies that a volunteer village reporter system would fit in well.

In the northern part of Oyo State, Nigeria, a two stage system of local markets is found. In small periodic farm markets the first level of bulking of crops is carried out by buyers from the main towns in the district. They in turn sell their commodities to bigger traders at the large periodic market held every four days in the towns (Interview with J. Adeniyi). Therefore, although the volume of activity may appear large in the town markets, attendance from the hamlets is poor. Surveillance activities would need to focus on the first level farm markets.

These various examples demonstrate what was said at the beginning of these guidelines. There can be no rigid rules about how a market based surveillance system should be designed. The

market set up in each country, region and district may be different. Even the feasibility of using the market for surveillance will vary. Careful study of each different situation should result in a different set of implications and a different approach to adapting surveillance to the market place.

8.2 Other Applications

a. Appropriate Diseases

The use of markets for surveillance during smallpox eradication has been documented in Ethiopia (de Quadros, Weithaller, Siemon 1973) and Bangladesh (Foster et al 1980). A study on the prevalence of goiter was conducted in the markets in western Ghana because markets were found to be the place where one could find the most women together at one time (interview with E. Kumbatazie).

Although not organized as a formal survey, search for onchocerciasis nodules was also conducted in the markets in western Ghana. While cholera control and educational activities have been based in the markets of Malawi, it was thought that the market could have easily been used to inquire about actual cases in the villages (interview with M. Nyamathanga).

In theory the volunteer reporter who was chosen by the residents of his/her village should be the kind of person who is generally respected and aware of the health of others. This should put the reporter in a good position to know about births, deaths and marriages. This information could also be gathered during market based surveillance. A note of caution is that vital events are sometimes sensitive subjects. People may not want to report the death of a child, or the reporter, if he is aware, might be embarrassed to talk about someone else's misfortune.

b. Health Care in the Market

The link between health and the market place can be seen in some Indian markets (Interview with J. Ramakrishna). In recent years medical doctors in need of employment have set up temporary offices to coincide with market day. Although they are not conducting surveillance for particular diseases, the convenience of these services implies that the doctors' records might reflect the health and disease pattern of the surrounding community. Also a survey of the produce available at market could serve as an indicator of community nutritional problems.

Another health activity reported in the market place was the community based distribution of family planning services in Zaire (Interview with N. Bebe). This of course is information/service going out to the village, not information coming in to the market,

but if the services are popular, the distributor herself could function as a field worker and gather information about health conditions in the villages from her clients.

c. Lessons for Application

From the specific diseases mentioned above, one can conclude something about choice of conditions that may be most appropriate for market based surveillance. Smallpox, guinea worm, cholera, nodules and goiter are problems that are easily visible to the layman. Although there are likely to be additional local beliefs about the presentation of these conditions, the visible physical manifestation can be easily described and noted. Diseases with a more ambiguous symptomatology (AIDS, certain nutritional disorders, tuberculosis in children, certain disabilities) may be less easily recognized by villagers. This points toward the choice of conditions where the presenting symptoms can be detected with a high degree of specificity.

Another issue to consider is how difficult it would be for a volunteer reporter to gather information from co-villagers. Measuring arm circumference would require extra time that may be resisted by reporters who are also sellers and do not want to waste time that could be spent on earning a living. Other information may be difficult to gather because it is sensitive in nature (family planning practices). It is possible that some information would be more appropriately gathered as part of ongoing primary health care activities.

8.3 Links with Primary Health Care

There is concern that guinea worm eradication, control of malaria and diarrhoeal diseases and immunization programmes be integrated into primary health care services. These guidelines provide a methodology for doing just that.

Primary health care should be built on local needs, local knowledge and local community participation. Although these guidelines look at only one disease, the process follows the primary health care approach. Study of market and community structure will help programmes fit into local social and political realities. Understanding of local disease perceptions, and the use of this information in training will make programmes culturally acceptable.

In addition to the similarities between the general to this form of market based surveillance and primary health care, there are concrete contributions that a market based surveillance effort can make toward the establishment of primary health care services. The groundwork of defining market catchment areas and mapping villages will be of great value to primary health care organizers.

The process of recruiting volunteer reporters can be followed when setting up primary health care, and many of the reporters themselves, with further training could become village health workers. The training plan used to orient the volunteer reporters could form the basis of one lesson, and also offers a model for development of other lessons.

8.4 Use in Baseline Searches

The emphasis in this guide has been on regular or monthly surveillance activities to accompany eradication programme implementation. At the time of this writing (Mid 1991) not all guinea worm endemic countries in the African region have conducted national case searches or begun full scale implementation of national eradication programmes. A question therefore arises as to whether the market place could be useful in conducting preliminary case search operations.

Preliminary investigation can serve two purposes. First it can estimate the general prevalence or extent of the guinea worm problem in a country. Secondly it can pinpoint likely areas where guinea worm is endemic. Cluster surveys were used to accomplish the former in Uganda. Mailed questionnaires to health facilities and national workshops were used to determine the latter in Nigeria. Markets could be useful in the second area, finding endemic areas.

Adaptation of these guidelines to baseline searches would not be difficult. All of the procedures outlines under Section 2 (Groundwork) would be applicable. Once field workers obtain a fairly accurate list of the villages attending market from market leaders, transporters and attenders, they should be able to locate people from most if not all of the villages in the market catchment area.

The next step would be to ask attenders from each village whether they have seen cases of guinea worm within the past two years. The information may not be as reliable as that obtained from trained village reporters, but if the process of clarification described in Section 5.2.c is followed, a good general picture of guinea worm distribution can be drawn for the villages surrounding a market. Also accuracy could be improved by questioning more than one person from each village as time allows.

Finally, if markets are used as part of baseline searches, planners will not need to repeat efforts for setting up market based village detection during programme implementation and monitoring.

SELECTED BIBLIOGRAPHY

GUINEA WORM

- Henderson PL, Fontain RE, Kyekune G. Guinea worm disease in northern Uganda: a major public health problem controllable through an effective water programme. *International Journal of Epidemiology* 1988; 17(2): 434-440.
- Hopkins DR, Ruiz-Tiben E. Dracunculiasis eradication: target 1995. *Am J Trop Med Hyg* 1990; 43(3): 296-300.
- Taych A, Cairncross S. Aggregation of *Dracunculus medinensis* in communities using different types of water source in Sudan. *Trans Roy Soc Trop Med Hyg* 1989; 83(4): 431.
- Watts SJ. Dracunculiasis in Africa in 1986: its geographic extent, incidence, and at-risk population. *Am J Trop Med Hyg* 1987; 37(1): 119-125.
- WHO AFRO. Report of the First Dracunculiasis Eradication Programme Managers Meeting. Brazzaville: World Health Organization, African Regional Office, 25-28 March 1991; AFR/CD/63.
- WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis. Reported cases of dracunculiasis: 1986 - 1989 and provisional numbers for 1990. *Guinea Worm Wrap Up* 1991, 31: 7.

MARKETS

- Bohannon P, Dalton G. *Markets in Africa: Eight Subsistence Economies in Transition*. Garden City, New York: Anchor Books, Doubleday & Company, 1965.
- Filani MO, Richards P. Periodic market systems and rural development: the Ibarapa case study, Nigeria. *Savanna* 1976; 5(2): 149-162.
- Hodder BW, Ukwu UI. *Markets in West Africa*. Ibadan: Ibadan University Press, 1969.
- Scott EP. Farmers' participation in the marketing of food crops in two rural Hausa markets. *Savanna* 1978; 7(2): 107-125.
- Smith CA, ed. *Regional Analysis, Volume I: Economic Systems*. New York: Academic Press, 1976.
- Smith RHT, ed. *Periodic Markets, Hawkers and Traders in Africa, Asia and Latin America*. Vancouver: Centre for Transportation Studies, University of British Columbia, 1978.

Bibliography - 2

REFUGEES

- Clark L. Internal refugees - the hidden half. World Refugee Survey - 1988 in Review, US Committee for Refugees. Reprinted by the Refugee Policy Group, Washington.
- Dick B, Simmonds S. Primary health care with refugees: between the idea and the reality. *Tropical Doctor*; 1985; 15(1): 2-7.
- Refugee Policy Group. Ensuring the Health of Refugees: Taking a Broader Vision. Washington, 1990: pp. 39.
- Simmonds S, Vaughn P, Gunn SW. Refugee Community Health Care. Oxford: Oxford University Press, 1983.
- Simmonds S, Cutts F, Dick B. Training refugees as primary health care workers: past imperfect, future conditional. *Disasters* 1985; 9(1): 61-69.

SUDAN

- _____. Dossier: Sudan under stress. *Refugees* 1988; 52: 15-35.
- Bonner R. A reporter at large: famine. *The New Yorker*, March 13, 1989: 85-101.
- King S. The Mundari of Terekeka District (Juba, Southern Sudan). Nairobi: Action Committee for the Promotion of Local Initiative in Terekeka, District, 1984.
- UNICEF. Water for the People: a Project in Kordofan, Sudan, (undated).

SURVEILLANCE

- de Quadros CA, Weithaler KL, Siemon J. Active search operations for smallpox - an Ethiopian experience. *International Journal of Epidemiology* 1973; 2(3): 237-240.
- Foster SO, Ward NA, Joarder AK, Arnt N, Tarantola D, Rahman M, Hughes K. Smallpox surveillance in Bangladesh: 1 - development of surveillance containment strategy. *International Journal of Epidemiology* 1980; 9(4): 329-340.
- Richards F, Hopkins D. Surveillance: the foundation for control and elimination of dracunculiasis in Africa. *International Journal of Epidemiology* 1989; 18(4): 934-943.
- WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis. Guidelines for Surveillance in Dracunculiasis Eradication Programs. Atlanta: Centers for Disease Control, Division of Parasitic Diseases, 1989.

APPENDIX A: TRAINING SESSION GUIDE

ORIENTATION FOR VILLAGE REPORTERS IN MARKET BASED DETECTION OF GUINEA WORM ENDEMIC VILLAGES

OBJECTIVES

At the end of this session, participants will -

1. State the case definition of guinea worm as an emerging worm from an ulcer on the skin.
2. List steps to be taken to find out who in the village has guinea worm disease.
3. Recall the reporting schedule and procedures established for their particular market.
4. Describe the case and assistance to be given a person who has guinea worm.
5. Mention village self-help measures to prevent guinea worm.

OVERVIEW

While this session will focus on all aspects of guinea worm control, its main emphasis will be on helping villagers to distinguish a new, active case of guinea worm. Participants will be given a chance to air their views on case presentation, which will be differentiated from the case definition used in the national eradication programme. Their ideas will be sought on how they can find new cases quickly and the importance of prompt reporting. Traditional treatment practices will be reviewed and suggestions given on how to keep the wound clean. The need to recruit healthy persons to help the sick one collect water will be stressed. Other preventive actions at village level will be outlined including home made cloth filters and a cooperative village well.

PREPARATION

Trainers should have arranged a convenient venue and time for the training in or near the target market in consultation with the recognized market leaders.

Through village and market visits, the organizers should have encouraged villagers to select their volunteer reporters. A list of village reporters should have been compiled in advance. This list should be used as the basis for taking attendance as people begin to gather at the session.

The organizers should have studied the local market schedule and decided which day or days reporting will take place, for example the first market day of the month. The reporting schedule should be convenient for both the villagers and the guinea worm eradication team. The time should be easy to remember.

A training handout or pamphlet may be prepared. A sample is attached. Adequate numbers of the pamphlet should be brought for both village representatives and market leaders who may attend. When using the pamphlet, always ask participants to interpret the pictures and read the captions aloud.

Training should be a team effort. Besides speaking to the participants, someone is needed to take attendance. Another member should be recorder and take notes on ALL comments, ideas and questions made by the participants to aid in review of the session. Also, if the orientation takes place in a school, chalkboard may be used to jot down ideas during brainstorming sessions.

PRESENTATION

1. Introduction

Welcome all participants. Introduce the trainers. Point out clearly the field workers who are assigned to this particular market.

Briefly explain the purpose of the overall programme - quick identification of new cases of guinea worm so that communities can take prompt action to prevent its spread.

Also explain that the participants assembled here have responsibility for:

- [1] quickly finding any new case of guinea worm
- [2] reporting that case promptly to the field worker at the next market
- [3] organizing villagers to prevent the disease

Note that some villages at present do not have guinea worm, but we all must be vigilant because the disease can spread easily if someone is careless.

Explain that this programme of guinea worm case detection and control will last until there is no more guinea worm in the district. At the end of the programme, if people are interested in learning about other diseases, plans can be made for additional primary health care training.

Ask participants if they have any questions or concerns. The Recorder should be sure to make detailed notes of all questions and discussion.

2. Recognition of Guinea Worm

Explain that we can not hope to control and report a disease unless we know how it presents itself. Ask participants to mention ways by which they know if someone has guinea worm. If a chalkboard is available, write down the answers for all to see.

Refer to pages 2 and 3 in the pamphlet. Ask people to comment on the pictures. Ask someone to read aloud the captions.

After a list of symptoms has been made, comment that there is only one way to be sure that a person has guinea worm and not another disease: we must actually see a worm coming out of the ulcer. This worm looks like a white thread.

Also explain that this is the time when guinea worm is most dangerous to the community because when it comes out it can lay its eggs in pond water and spread to other people when they drink this water.

Ask for comments and questions on the points just mentioned. The Recorder should make note of all questions and comments.

Explain that it is the most important job of the village reporter to let the field worker know as soon as someone in the village has a newly emerging guinea worm - that is a worm actually coming out of his skin.

Note that the other signs and symptoms may or may not signal that a guinea worm is coming. The representative should still watch people with those other signs in case a worm eventually does come out. Remind participants that many diseases can cause body pain, rashes, high temperature and rough skin patches, but the only way we can be completely sure that guinea worm is responsible is if we see the worm.

3. The Reporting System

Ask participants to give suggestions on the best way to find out who in the village has guinea worm. Then discuss each idea to see which ones the participants feel are reasonable. Ideas will likely include visiting homes, asking about friends and neighbours and observing who is sick and can not walk about.

Emphasize that it will be necessary to check often, maybe once a week. Note that we must check on everyone who lives in the village - adults and children and farm labourers. If there are some migrant cattle rearers nearby who share the village pond, we must also check if they have guinea worm.

Stress the need for the reporter personally to see the case of guinea worm and make sure a worm is actually coming out. He/she should report the case only if a worm is seen coming out.

Explain that the market reporting system is designed to be convenient for the village reporters. The village should have chosen someone who usually goes to market regularly. It is during these normal visits to market that the representatives will see the field workers and make their reports. The reporting will be quick and simple, so that the reporter will not be distracted from normal market duties.

It is very necessary to report every time, even if no one has guinea worm.

Explain the schedule of report days. Announce at this time the date of the first reporting day and repeat this at the end of the session.

Tell the representatives that their job is very important for the control of guinea worm. If for some reason they can not come to market on the regular reporting day, they should send a message about who has guinea worm through their wife, husband or another responsible person.

Stress that representatives should be -

- REGULAR
- ACCURATE
- ON TIME

Refer to and seek comments on pages 4, 5 and 7 in the pamphlet.

Ask the field workers assigned to that particular market to stand again and be recognized.

Now open the floor for discussion about possible problems and seek suggestions about how to solve them. Some examples of problems may include -

- What if people are not at home when you check them?

- What if people refuse to talk to you?
- What if you can not go to market yourself?

Summarize this session by asking participants to state again the procedures for case detection and reporting.

4. Helping the Sick Person

Ask participants to list different ways for treating guinea worm. Note that most of these traditional medicines (like oil) try to soothe the area and some leaves are supposed to make the worm come out, but none really cure the disease.

Stress that even though there is no medicine to cure guinea worm, there are some things we can do to prevent it from getting worse. Explain that the open guinea worm ulcer allows many dirty things to enter the body. Even tetanus can enter and kill a person. Therefore we should try to keep the ulcer clean.

Demonstrate how to use a clean piece of cloth and water with salt or antiseptic lotion to clean the ulcer every morning and night.

If the guinea worm is causing pain, the person may take pain relieving drugs. Aspirin is cheap and effective for adults, but dangerous for children. Children can take small doses of paracetamol tablets.

Finally the sick person needs help doing household chores. Family members and neighbours should try to help. The most important help is for a healthy person to help collect water for the one with guinea worm. If the sick person puts her leg with guinea worm in the pond, the worm will expel its eggs into the pond and other people will drink these and get sick.

Refer to page 6 in the pamphlet. Get comments on the pictures and ask someone to read the words.

5. Preventing Guinea Worm

Note that we have just described one way of preventing guinea worm by keeping people who have the disease out of the pond. Ask Participants to mention other ways to prevent the disease.

Explain that the best way to prevent guinea worm is to make sure the village has a good supply of clean water. Give examples of villages that have worked together to dig their own well. Emphasize that self-help is important as quick action is desired.

Also talk about filtering water through a clean cloth. This is something that families can do until the time that enough money is raised for the village well. Display a sample cloth water filter. Stress that it is important to do something now and not wait until a well is dug.

Refer to page 8 in the pamphlet and ask for comments and reading of the caption. Ask for general questions and comments on prevention of guinea worm.

6. Review

Ask different participants to recall and repeat for the entire group the different information they have learned today concerning -

- how to recognize guinea worm
- how and when to report cases of guinea worm
- what to do to help victims of guinea worm
- ways that individuals and villages can prevent guinea worm

Finally remind participants of the date of the first reporting day. Again ask the field workers to stand.

7. Closure

Thank those present for attending and tell them that they can come forward individually to ask questions from the trainers.

Make sure that everyone who attended is marked on the attendance sheet.

NOTES

The recorder should prepare a detailed report or minutes of the session paying particular attention to the comments and questions made by the participants. The report should be organized under the headings listed above under Presentation.

Field workers should carry a copy of this orientation session guide and extra pamphlets on village visits to those hamlets that did not send a representative to the training. A brief session can be held with the selected representative following the pamphlet page by page.

(VILLAGE REPORTER ORIENTATION PAMPHLET)

GUINEA WORM

[PUT LOCAL LANGUAGE NAME HERE]

RECOGNITION
CARE
PREVENTION



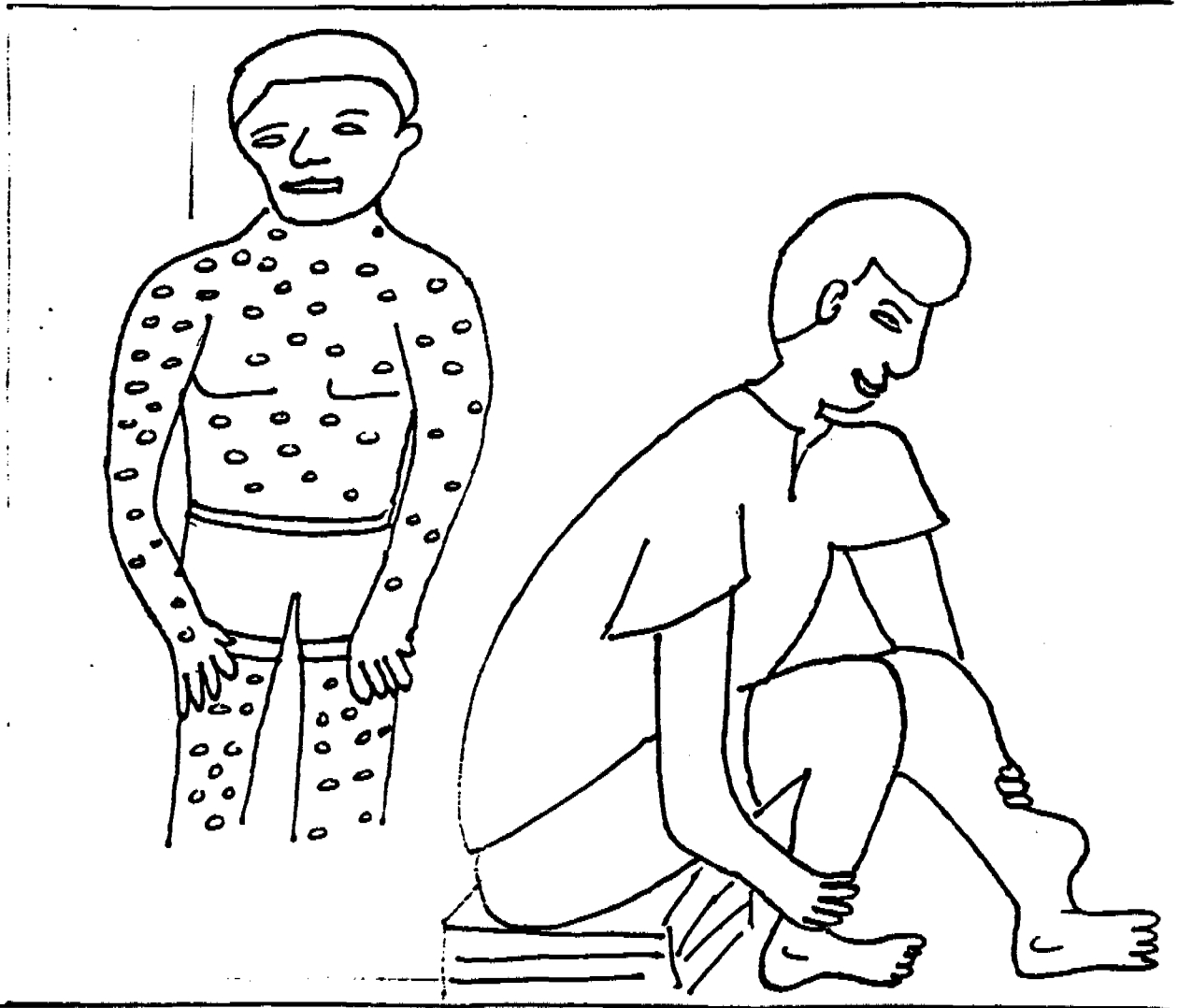
IDAMO
ITOJU
IDENA

by B. Brieger, S. Ogunjimi, A. Adesope

[PUT LOCAL LANGUAGE CAPTION HERE]
Guinea worm do not attack me!

[PUT LOCAL LANGUAGE CAPTION HERE]

2



People know that guinea worm is ready to attack when they see these signs - rashes, itching, stinging sensation, fever, body pain and swelling on the leg or part of the body.

[PUT LOCAL LANGUAGE CAPTION HERE]

3



There is only one definite sign of guinea worm disease -
a white worm, like a thread, coming out of the sore.

[PUT LOCAL LANGUAGE CAPTION HERE]

4



Village representatives/reporters should find out who has guinea worm. Visit homes. Ask friends. Watch who limps, and who stays at home.

[PUT LOCAL LANGUAGE CAPTION HERE]

5



Ask about everyone - men, women, children, farm labourers. Inspect the sore to make sure it is guinea worm.

[PUT LOCAL LANGUAGE CAPTION HERE]

6



If someone has guinea worm, tell him to keep the sore clean. Help him collect water so that he does not wade in the pond.

[PUT LOCAL LANGUAGE CAPTION HERE]

7



Village representatives/reporters should find their guinea worm programme worker at market and report any new cases of guinea worm.

[PUT LOCAL LANGUAGE CAPTION HERE]

8



Prevent guinea worm by filtering pond water through a clean cloth. Organize the people to dig their own well.

APPENDIX B

TRAINING LOCAL FIELD STAFF

OBJECTIVES:

Session One: LOCAL LEARNING

At the end of the first session field staff will ...

1. Map the layout of a local market.
2. List and map the villages in the catchment area of a market.
3. Outline local cultural ideas about the presentation of guinea worm disease and explain similarities and differences between these and surveillance case definition.
4. Conduct a village meeting that encourages full participation among attenders.
5. List criteria and procedures for selecting volunteer village reporters.

Session Two: REPORTING PROCEDURES

At the end of the second session field staff will ...

1. Locate volunteer reporters at market.
2. Clarify information provided by reporters to ensure correct case reports.
3. List special situations or problems and how to solve them.
4. Complete individual village report forms and market summary reports correctly.
5. Describe how general market conditions may affect reporting.

Session Three: VERIFICATION PROCEDURES

At the end of the third session field staff will ...

1. Draw up a plan for village verification visits based on market summary report.

2. Maintain first aid and motorcycle repair kits.
3. Locate suspected patients with guinea worm during village visits.
4. Verify whether suspected patients have a current, active case of guineaworm, by inspecting the ulcer for an emergent worm.
5. Provide first aid and patient education on ulcer cleaning for all confirmed patients and their family members.
6. Deliver health education on prevention at village meeting.
7. Revise lessons and procedures with volunteer reporter.
8. Write verification report on each village visited.

OVERVIEW:

This short training programme is planned for local government field staff who will be responsible for collecting reports on the guinea worm status of endemic villages from local volunteers on market days. The first session provides these field workers with knowledge and skills needed to carry out initial groundwork needed to set up the market based surveillance system. Thus they will come to learn how markets are organized, where attending villages are located and what villagers think comprises a case of guinea worm. For this, practical exercises in the markets will be required.

Secondly, this orientation will review the procedures used to collect information from villagers and verify that it is correct through both clarifications at market and visits to the villages. During this time the participants will become familiar with using any report forms and learn about basic first aid and preventive measures for guinea worm.

PREPARATION:

1. Recruitment:

One or two local government staff should be chosen to work in each market that will be part of the surveillance system. They should be staff whose normal duties bring them to market, so that they may be familiar with the market and so that market visits for surveillance will not require too many extra resources. Examples may be public health inspectors, agriculture extension agents, market clerks and teachers. Markets that have more than 25 attending villages may need two assigned field workers. Thus if a district has up to 8 markets, between 8 and 16 field workers would be expected.

2. Materials:

Each trainee will need a copy of the market based surveillance guidelines and the training pamphlet that will be given to the volunteer village reporters. Each field worker will be given a notebook/exercise book and pen for taking field notes. First aid supplies will be needed for demonstration (see below). Flipchart paper or a chalkboard will be useful during some sessions.

3. Logistics and Schedule:

A comfortable, airy, light room is needed as a training site. Timing of the sessions should be planned so that participants can return home in the evening and not require accommodation, unless the district is extremely large. Thus training should be incorporated into the normal working hours and duties of participants. Transportation will be used for a practical visit to local markets.

Session One will be planned in three parts. Part A is an overview of the local market system, cultural aspects of guinea worm disease, and informal interview and observation techniques to prepare participants for a field visit to a local market. Part B is actual field work in a market, and Part C consists of reporting back on the field visit and a summary of lessons learned from the experience. Therefore session one must be scheduled to coincide with market day for one or two of the largest markets attended by villagers in the district. Sessions Two and Three may be covered in one day or two morning periods as is convenient. A sample schedule is seen below.

| Day/ Time | ONE | TWO | THREE | FOUR | FIVE |
|--------------|----------------------------------|---|--|--|--|
| AM | | Session 1 Part B: Market Visit | Session 1 Part C: Report Back | Session 2 Market Report Procedure | Session 3 Village Visit Procedure |
| PM | Session 1 Part A: Overview | Individual Work to Prepare Reports | | | |

SESSION ONE: PART A

1. Introduction

Welcome participants. Introduce the trainers. Identify each field worker by name, job, and market where he/she will be assigned.

Explain the overall purpose of the programme - using markets as a convenient place to learn about the guinea worm situation in the many scattered rural settlements within the district. Indicate that it is often difficult for staff to visit all villages regularly, but both staff and villagers do meet at market. HANDOUT copies of the GUIDELINES to each participant.

Make sure that all participants are familiar with guinea worm disease. Ask knowledgeable participants to share their ideas with any who may not be familiar with the life cycle and prevention of the disease. Provide a brief overview of the guinea worm eradication programme nationally and as it affects the district. Explain the need for surveillance so that cases can be detected quickly, making programme action more effective. Posters or handouts would be helpful at this stage.

Tell participants about plans to recruit and train village volunteers to identify guinea worm cases and report these to field staff in the markets. Explain that the purpose of these orientation sessions is to provide those chosen to serve as surveillance field workers the knowledge and skills needed to operate the system smoothly.

Display the objectives for the whole orientation (On flipchart paper or as handouts prepared in advance). Review these with participants and ask for questions and comments. Also display and hand out and review a copy of the training schedule. Stress the importance of attending every session on time.

2. Background Information:

Present an overview of the district - size, location, population, number of towns and villages, major features and problems.

Provide the participants with an overview of the guinea worm situation in the district. Display a large sketch map of the district (on flipchart paper or chalk board) with major towns, roads and other features. If a guinea worm case search or other preliminary investigation has already been conducted in the district, mark those areas on the map where guinea worm is endemic. If a case search has not been done, ask participants to mark areas where they have seen guinea worm before.

Also on the map ask participants to locate and mark the major markets in the district. Compare the location of markets and the location of guinea worm areas.

3. Local Markets:

Again note that market places are a good central meeting ground for government staff and villagers. Explain that if we are going to use the market successfully to gather information about the setup of the market.

Post flipcharts (or write on sections of the chalk board) with the following headings:

- LEADERSHIP
- SCHEDULE
- LAYOUT
- TRANSPORTATION
- ACTIVITIES

Ask the following questions to the participants and record their answers on the appropriate flipchart:

- How is market LEADERSHIP organized in this district?
- What is the SCHEDULE of local markets - days of the week and times of day?
- How do we find crops, commodities, sellers and villagers in the market - what is the usual market LAYOUT?
- What is the TRANSPORTATION system that brings villagers to market?
- Besides trading and selling, what other ACTIVITIES occur at market?

After all flipcharts are full, ask participants how they learned the information which they have just provided. They will likely say that they have OBSERVED all these things during their regular visits to market or HEARD about these topics during conversations in the market.

Explain that when we do this type of LISTENING and OBSERVING in a SYSTEMATIC way, we are actually conducting research. This type of study is called formative research and participant observation. It is formative because we can use the information to FORM the basis of programmes we plan. It is participant observation because we are actually PARTICIPATING or taking part in normal market activities, and learn by keeping out eyes and ears open.

Refer to the five items listed and on flipcharts or chalkboard and just discussed. Explain that we need current correct information on each of these items for EACH market in order to plan and carry out market based surveillance for guinea worm.

MARKET LEADERS provide basic information about all the other items. Also if they understand and support the project, they can encourage people attending the market to cooperate.

MARKET SCHEDULE must be known so that we can come to market for surveillance on the days when attendance will most likely be best, and the time of day when most attenders will be present.

MARKET LAYOUT should be drawn on a map. If we know where to find people each village, surveillance activities can proceed faster and easier.

MARKET TRANSPORTATION systems are the key to bringing villagers to market where they can make reports about the guinea worm situation in their village. Transport drivers can be very helpful in locating villages.

MARKET ACTIVITIES usually include social, religious and political events as well as economic. These events may influence attendance one way or the other, and we need to understand this in order to plan our visits at the best times.

Explain that tomorrow, participants in teams will go to some of the local markets to obtain detailed information on the issues which we have just discussed.

4. Local Ideas about Guinea Worm

Give each participant a sheet of paper. Ask them to write down in five minutes all the different symptoms and problems that local people say are part of guinea worm disease. They should include all the different local names they know for different stages or aspects of guinea worm.

After people have written their individual lists, form small groups with 5-6 members each. Give each group 30 minutes to develop one group list that includes everyone's ideas. They should list their symptoms, presentations or aspects of guinea worm in the order in which local people believe the disease develops, and write this list on flipchart paper.

Each group should be given five minutes to present and describe its list.

After all groups have presented, ask participants to look for common items on all lists. They can also raise questions.

Point out that this list is a good start, but may not be completely accurate because we have not yet asked the villagers about this issue in a systematic manner. explain that tomorrow, we will also interview local people in the

market to learn about their own guinea worm experiences and ideas.

5. Market Visit Assignment

In advance the trainers should have selected two (or more depending on available markets, transportation and staff) local markets for field activities on the second day. Divide the participants into teams of equal size to visit the markets. If a participant normally works in one of the markets chosen, put him/her on the team going to the other market. Assign a trainer to guide each team, and inform team members where and when to meet on the next day. Hand out the attached INTERVIEW & OBSERVATION GUIDE for over night study.

SESSION ONE: PART B

Arrange for all participants attending a particular market to either meet at that market, or meet at the training venue early so that they can reach market in time to see the full scope of normal activity and be able to complete all their interviews.

Give each participant a notebook/exercise book and pen. Divide them to work in pairs for the day. They should take turn during interviews with one asking the questions while the other one records the answers in his/her notebook.

On arriving at the market, the group should first visit the market leaders. The organizers should have previously met with these leaders to seek their assistance and approval for the visit. The organizers can then introduce the participants and remind the leaders of the purpose of the visit. During this time the organizers should ask the market leaders to give a brief history and overview of the market. Then participants can ask a few basic questions of the leaders. This part of the visit should not exceed 30 minutes because the market leaders will have other business and responsibilities.

After the brief meeting with market leaders, participants should be taken on a brief tour all around the market to get an overview of places and activity. Then encourage participants to explore on their own and begin the interviews and observation. They may at this point be divided to cover certain sections of the market for mapping.

The trainers should move around the market and observe the participants at work. They may listen to some of the interviews and offer suggestions and answer questions, but generally they should allow the participants to take their own initiative.

INTERVIEW & OBSERVATION GUIDE FOR MARKET VISIT AND STUDY

1. Guinea Worm

Talk to different people - men, women, elders, youth.

Ask them to describe their own experiences with or understanding about guineaworm: How the disease develops; what stages it goes through; what symptoms they had; how long each stage or symptom lasts.

Each team member should try to interview 3-5 people.

2. Village Attendance and List

Talk to market leaders, transporters/drivers, sellers and traders.

Ask them to name the different villages that attend this market most of the time. Some may have more than one name, so ask about these different names. Write down all the names each person mentions, even if these repeat what a previous person said.

Also ask what type of people from the village attend market most often.

Markets are usually located at crossroads, so list the names under headings like The Road Leading South, The Road Leading East, etc. In this way if there are several villages bearing the same name, it will be possible to sort out where they are located.

3. Market Layout

Make a rough sketch of market layout with major roads and sections. Mark the location of the market leader's hut, and religious structures (shrines, mosques), sheds, shops, wells, etc.

Compare the map of market layout with list of attending villages. Write the names of attending villages on the sketch map at the place where members of that village are usually found.

Members of the group visiting the market may divide up the market in sections to make drawing the map easier.

Set a time when everyone will meet back together, i.e. after about 3-4 hours. Explain that no formal sessions are planned for the rest of the day. The participants will use the time to organize their information and put together the maps as a group for presentation at tomorrow's session. The groups can meet wherever they please, but should begin their work quickly while the information is still fresh in everyone's minds.

The group should select a chairperson and form three working sub-groups - 1) guinea worm definition, 2) village attenders and lists and 3) market layout. A secretary for each sub-group should be selected. The group should start with a general meeting where each pair of participants shares their findings. The three sub-group secretaries should take note of all information pertinent to their particular group. After the general meeting participants should divide themselves among the three sub-groups.

Sub-group 1 -

Refer the group working on guinea worm case definition to Figure 3.3 from the Guidelines. Tell them this is only a sample. They should review all interviews about guinea worm and develop their own case presentation chart. Local names for the different stages and symptoms should be included. A LARGE CHART should be made for display during tomorrow's presentation.

Sub-group 2 -

The group working on village attenders and list should first summarize all the different sources of information (e.g. leaders, drivers, village heads, etc.) and comment about which were more useful and why.

Then they should make a full list, with no repetitions, of villages lying in along or near each road leading out from the market. They may construct a rough sketch map to show during the presentation (Refer them to Figure 3.2 in the Guidelines). Special settlements (nomads, refugees) should be marked. They will present a summary CHART as follows:

| |
|--|
| Name of Market: _____ |
| Number of Villages in Direction of Road A: _____ |
| Number of Villages in Direction of Road B: _____ (etc. until all major roads covered) |
| Special Groups (Nomads, Migrants, Refugees): _____ |
| Total villages Attending Market: _____ |

During the presentation they should not read out all names, but members of each group should compare their lists to see if there is any overlap in attendance between the markets just visited. They should also report on any special groups that attend market such as migrant farm labourers, nomadic cattle rearers and refugees, who may be in the area on a semi-permanent basis.

The group should also make a CHART that lists all the main types of people from the surrounding villages that attend market most often. Examples may include - village head, sellers of certain crops, people who cook and sell food, people who are among market leaders group, women traders, etc.

Sub-group 3 -

Refer the group working on the market layout map to Figure 3.1 in the GUIDELINES. They should put together their own sketch on flipchart paper. It may be easier if several sheets of flipchart paper are taped together. During the presentation this group will point out the main features of the market.

SESSION ONE: PART C

1. Presentations:

This session should be planned to hold the morning or afternoon after the market visit depending on what is convenient for organizers and participants. Each group should be given 30 minutes to present. They should start by presenting the sketch of the market layout and then talk about village lists, types of attenders and guinea worm case definition.

After each presentation, allow about five minutes for questions of clarification, but do not encourage major discussion or debate yet.

When all groups have presented, ask participants to make general observations about the similarities or differences found among the markets visited.

After participants have made their own comments, point out that even nearby markets have important differences in the way they are organized and function. It is only through systematic observation and interview that we can learn about these differences and adapt our programmes to fit conveniently with each market.

Inform participants that after the training they will be expected to conduct a more detailed study of their own markets using the same procedures. Their own study will require several visits to the market to get full, correct information. Then planning can begin on how to set up the surveillance activities in that market.

2. Village Meetings:

Explain to participants that it is ideal to visit the villages on the attender lists that they develop at market. This will serve three purposes -

- [1] Confirm location and attendance of the village.
- [2] Add more information about guinea worm case definition.
- [3] Start the process of selecting a volunteer reporter.

Ideally two field staff should attend a village meeting. one can lead the discussion while the other records information in his/her notebook. Outline the following steps for conducting a village meeting:

- [1] Meet village leaders, explain purpose of visit and obtain permission for a meeting. Confirm that people from this village really do attend the market regularly.
- [2] Explain purpose of guinea worm surveillance and eradication efforts in the district.
- [3] Ask villagers to share their own experiences with guinea worm disease.
- [4] Ask villagers to consider who among them attends market most regularly and could thereby bring a report on the guinea worm situation to the market. Ask villagers to select their own volunteer reporter (see part 3 of this session below) who will be trained.
- [5] Explain that once reports are received, the local guinea worm eradication team will try to help the village prevent the disease, but that only through correct reporting will help arrive. Discuss the need to identify and report those cases of guinea worm where they see the worm emerge.
- [6] During the meeting encourage many villagers to share their views. It may be necessary to have a separate discussion with women and youth in some settlements so that they may speak freely.
- [7] Answer all questions from villagers honestly. It is important to build trust from the beginning so that the surveillance system runs smoothly.

3. Recruiting and Training Reporters

Briefly review with participants Sections 4.3 and 4.4 in the GUIDELINES. Give each participant a copy of the pamphlet that will be given volunteer reporters. Remind participants that they will help with training the volunteers from their own markets. They will be responsible for putting together the name list and reminding the volunteers of the training day.

SESSION TWO:

1. Review of Guidelines

This session can take place during one morning or afternoon following completion of Session One. Simply review with participants Section Five in the GUIDELINES. The session will flow more smoothly and faster if participants read Section Five the night before coming to this session.

At the beginning, post the Session Objectives for all to see, and review these.

Copies of any forms to be used during actual market report activities should be made available for review. Participants can practice using the forms by interviewing each other.

2. Market Visit

If time is available they could also make another market visit and interview people from a few villages each. After this they would report back, supervisors would review the forms, and problems could be discussed.

SESSION THREE:

1. Review Guidelines

At the beginning post the Session Objectives for all to see, and review these.

As with Session Two, this session can also be completed in one morning or afternoon, as is convenient with the usual work schedule. This session involves reviewing Section Six of the GUIDELINES. As with the previous session, actual forms should be reviewed. Again, participants should read through Section Six the night before this session.

2. Discuss Logistics

Spend time reviewing logistics with the participants in light of local transport realities and problems. Stress the need for quick verification. Outline procedures for managing motorcycles, if these are used, or scheduling other forms of transportation.

3. Programme Response

Together participants and organizers should carefully review the district eradication programme plans so that everyone is clear on what services or response will be given to villages when guinea worm is found. If response is delayed, villagers may stop cooperating with the field staff, and the programme will fail.

Note that villages where there is no guinea worm may complain that they are not getting any help. Discuss what type of response should be made in these cases.

4. First Aid Skills:

Make sure at this time that all field staff know how to clean a guinea worm ulcer and administer analgesic medications that may be given to those found to be suffering from guinea worm.

Among the field staff may be experienced community health staff. They can be asked to demonstrate the proper procedures, or other local health staff (community nurse, medical assistant, etc.) may be called in for the session.

After the demonstration, participants should be divided in pairs and given a chance to practice ulcer cleaning on each other.

A clear, simple guideline for analgesic choice and dosage according to patient age should be drawn up that fits in with the local essential drugs programme. This too should be reviewed with the participants.

5. Review and Closing:

The full set of objectives for the entire training should be posted and reviewed. Participants should be encouraged to ask questions and comment on areas of uncertainty.

Indicate that on the job supervision will provide continuous reminders and training to the procedures. Participants should also refer to their GUIDELINES for guidance.

Thank everyone for participating and wish them success in eliminating guinea worm from the district.

APPENDIX C: SAMPLE REPORT FORMSMARKET REPORT FORM

(one report form for each attending village)

NAME OF VILLAGE: _____ NAME OF MARKET: _____

NAME OF VILLAGE REPORTER: _____

DATE OF VISIT: _____

VISIT MONTH: Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
(circle)

REPORTER FOUND AT MARKET:

 YES NO

IF NO, WAS INFORMATION SENT THROUGH ANOTHER PERSON?

Name: _____

Relation to Village Reporter: _____

Reason Reporter Not Present: _____

TIME OF REPORT: _____ PLACE OF REPORT: _____

GUINEAWORM CASE REPORTED:
Since Last Market Visit YES NO

IF YES, WRITE BELOW...

| | CASE 1 | CASE 2 | CASE 3 |
|--------------|--------|--------|--------|
| NAME | | | |
| AGE | | | |
| DATE EMERGED | | | |

OTHER INFORMATION/COMMENTS:

NAME OF FIELD WORKER: _____

VERIFICATION REPORT FORM
(print this on back of market report form)

NAME OF VILLAGE: _____ MARKET ZONE: _____

DATE OF VISIT: _____ FIELD WORKER: _____

(REFER TO MARKET REPORT ON FRONT OF THIS FORM)

IF CASE WAS REPORTED AT LAST MARKET, NOTE WHETHER THE REPORT WAS CORRECT, OR DESCRIBE ANY PROBLEMS:

CASE#1: _____

CASE#2: _____

CASE#3: _____

IF NO GUINEA WORM WAS REPORTED AT THE LAST MARKET, TICK WHETHER THIS IS -

CORRECT

INCORRECT

IF INCORRECT, LIST ANY UNREPORTED CASES YOU FIND IN THE HAMLET:

| | CASE 1 | CASE 2 | CASE 3 |
|--------------|--------|--------|--------|
| NAME | | | |
| AGE | | | |
| SEX | | | |
| DATE EMERGED | | | |

WAS REPORTER AVAILABLE TO TAKE YOU AROUND? YES _____ NO _____

IF NO, WHO TOOK YOU AROUND? _____

ANY COMMENTS:

By Key Reporter:

By Villagers with GUINEA WORM:

NOTES ON ACTION TAKEN IF GUINEA WORM CASE REPORTS ARE VERIFIED:
(meetings, discussions, plans, etc.)

MARKET SUMMARY REPORT

MARKET: _____

DATE OF VISIT: _____ VISIT MONTH: _____

FIELD WORKERS: _____

| REPORTER | NUMBER OF VILLAGES | |
|----------------|--------------------|-------------------|
| | Total | With Guinea Worm* |
| Present | | |
| Sent Word | | |
| Did Not Come** | | |
| TOTAL | | |

COMMENTS AND OBSERVATIONS:

A) Market condition and activity:

B) Reporters' performance or problems:

*C) List villages with positive reports that need follow-up:

**D) List villages where no report received:

(use back of form as necessary)

APPENDIX D

LIST OF INTERVIEWS

XIV World Conference on Health Education
Helsinki, Finland, 16-21 June 1991

- 15/6/91 Donald C. Johnson, USA, formerly with USAID in Ethiopia and WHO in Nigeria, concerning market system in southwest Ethiopia.
- 17/6/91 Edwin Kumbatazie, Ghana, Health Education Unit, Ministry of Health
Elly Odoul, Kenya, Health behaviour and Health Education Department, African Medical and Research Foundation
- 19/6/91 Umit Kartoglu, Turkey, Institute of Child Health, Istanbul
Ila Valkharia, India, Centre for Health Education Training and Nutrition Awareness, Ahmedabad, concerning market principles in tribal areas
Luz Casimiro, Philippines, Public Information and Health Education Service, Department of Health, Manila
Donna Silian, USA, Save the Children, concerning work in Indonesia on health information systems.
- 20/6/91 Ngo Bebe, Zaire, School of Public Health, Kinshasha
Martin Nyamathanga, Malawi, Ministry of Health
Jayashree Ramakrishna, India, National Institute of Mental Health, Bangalore, concerning market attendance in India and other uses of market based surveillance
Joshua Adeniyi, Nigeria, African Regional Health Education Centre, University of Ibadan, concerning market organization in northern Oyo State and other uses of market surveillance

APPENDIX EPROGRAMME SETUP & OPERATING COSTS

(Rough Estimates in US Dollars)

PROJECT ACTIVITIES1. STAFF TRAINING:

| | |
|---|----------|
| Personnel: | |
| Per diem for two trainers from National Task Force | \$250.00 |
| Transportation: | |
| Field visits (running local vehicles) | 10.00 |
| Supplies/Materials: | |
| Pamphlets (as used with volunteers, see below) | --- |
| Stationery | 25.00 |
| <hr/> | |
| TOTAL for Field Work Staff Training | \$285.00 |
| <hr/> | |

2. GROUNDWORK: (6-8 weeks)

| | |
|--|----------|
| Personnel: | |
| Local Staff (already on salary) | --- |
| Transportation: | |
| Vehicle (provided by project) | --- |
| Running Costs | 350.00 |
| Incidental Fares (e.g. truck, taxi to market) | 30.00 |
| Supplies: | |
| stationery (notebooks, etc.) | 20.00 |
| <hr/> | |
| TOTAL Groundwork costs | \$400.00 |
| <hr/> | |

E-2

3. VOLUNTEER TRAINING:

Transportation:

Running Costs for Village Visits
for Recruitment & Reminders 100.00

Supplies/Materials:

pamphlets
(at .20@ for 50 people each at 8 sites) 80.00

stationery, chalk, incidentals 20.00

Personnel:

(local staff on salary as trainers) ---

TOTAL Volunteer Training Costs (8 sites) \$200.00

4. MONTHLY REPORTING & VERIFICATION:

(Estimates for one market)

Personnel: Two field workers
Minimum of four person-days per month -
(costs included in local government
staff salaries) ---

Transport:
Vehicle (assuming that project or local
government vehicles are available) ---

Running costs and repairs 10.00

Incidental fares 2.00

Supplies: report forms 6.00

Programme response:
first aid supplies 10.00

filters
(costs as part of national programme) ---

TOTAL additional local costs per market per month \$28.00

SUB-TOTAL for SETUP Costs

One time investment for groundwork
and training based on visiting an
average of eight markets in a district \$ 885.00

SUB-TOTAL for OPERATING Costs

Based on an estimated 8 markets per district
with year round (12 month) monitoring \$2,688.00

TOTAL COSTS for first year \$3,573.00
