WATER AND SANITATION
FOR HEALTH PROJECT

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SECOND REGIONAL CONFERENCE ON GUINEA WORM IN AFRICA

ACCRA, GHANA

MARCH 14 - 18, 1988

WASH FIELD REPORT NO. 240

JUNE 1988

Prepared for
the Office of Health,
Bureau for Science and Technology,
U.S. Agency for International Development
WASH Activity No. 420

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by

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and
David Yohalem

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GLOSSARY OF ACRONYMS

BCCI	Bank of Credit and Commerce International
CDC	Centers for Disease Control
ORSTOM	French Research Institute in Benin
IDWSSD	International Drinking Water Supply and Sanitation Decade
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
VBC	Vector Biology Control Project
WASH	Water and Sanitation for Health Project
WHO	World Health Organization
WHO/AFRO	World Health Organization/Africa Regional Office

Chapter 1

INTRODUCTION

Often referred to as the "forgotten disease of the forgotten people," guinea worm is estimated to affect 5 to 15 million persons per year. Approximately 140 million people are at risk in Africa, Asia, and the Middle East. The disease infects rural people who use contaminated water sources. Because the disease does not kill but only incapacitates its victims, many donor agencies have neglected it.

In order to remedy this situation, the World Health Organization/Africa Regional Office (WHO/AFRO), the USAID-sponsored Water and Sanitation for Health (WASH) Project, and Global 2000 of the Carter Center in Atlanta sponsored the Second Regional Workshop on Guinea Worm in Accra, Ghana, March 14-18, 1988. The theme of the conference was "Community Mobilization for Safe Drinking Water and Guinea Worm Eradication." The conference was opened with addresses by President Jimmy Carter, Prof. G.L. Monekosso, African Regional Director of the World Health Organization, and senior officials of the Ghanaian Government. Over 100 participants from 17 African countries, India, Pakistan, the United States, Europe, and various U.N. Agencies attended the conference.

USAID requested WASH assistance in 1987 to help WHO/AFRO design and implement the conference. Fred Rosensweig traveled to Brazzaville in November 1987, and met with Dr. E. Beausoleil, Director of the Communicable Diseases Division, and Dr. M.A. D'Almeida, Regional Officer for Parasitic Diseases, who was responsible for the planning and implementing of the conference. They agreed upon a conference design modeled upon the May 1987 University of Atlanta International Conference on Water Supply and Sanitation. At that conference, small group workshops had been combined with plenary presentations and discussions. This resulted in active involvement and sharing of experiences among the conference participants. WASH consultant David Yohalem was requested to design the workshop component of the Accra conference, train the workshop facilitators drawn from African country delegations, monitor their work, and assist Dr. D'Almeida in coordinating the conference.

This report describes the planning and development of the conference, including recruitment and training of workshop facilitators, the plenary session (including the major technical findings and recommendations), and workshop sessions. This report also includes the conclusions and recommendations of the workshop coordinators.

Chapter 2

PLANNING AND PREPARATIONS

2.1 Conference Objectives

The overall objectives of the conference were:

- To assess the progress made in the implementation of the recommendations from the First Regional Workshop, held in Niamey, Niger, 1-4 July 1986.
- To review the current status of dracunculiasis with particular reference to its occurrence, distribution, surveillance, control, and socioeconomic impact.
- To review the current status of projects for the control or elimination of dracunculiasis as part of primary health care and water and sanitation projects.
- To facilitate the formulation and development or the strengthening of national plans of action in all endemic African countries.
- To help mobilize public and international support for anti-dracunculiasis projects by publicizing the extent and deleterious effects of the disease and opportunities for its elimination.

2.2 Conference Planning

With three funding sources and several major organizations participating, the conference preparations were unusually complex. Conference presentations were made by 16 of the 17 African delegations, representatives from the Indian and Pakistani Dracunculiasis Eradication Programs, and technical experts from the WASH Project, Centers for Disease Control (CDC), Global 2000, the United Nations Development Program (UNDP), the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), Global Water, and the Ghanaian Ministry of Health. The participation of President Jimmy Carter at the opening of the conference and his visit to a village outside Accra where guinea worm is endemic added considerably to the preparations entrusted to Global 2000 and Ghanaian Government officials. The tripartite funding of the conference by WHO/AFRO USAID, and Global 2000 required additional financial planning and coordination.

The Ghanaian Ministry of Health established a conference planning committee in late 1987 which was chaired by Dr. Kofi Ahmed, Head of the Epidemiology Division of the Ministry. The committee coordinated local conference preparations with Dr. David Newberry, head of Global 2000's Ghana office, and with M&J Enterprises, Ltd., a private Ghanaian secretarial services firm in Accra which ably handled all logistics, accommodation and travel arrangements, and secretarial support at the Kwame Nkrumah Conference Center.

2.3 Conference Preparations

The responsibility of the WASH Project for planning and preparing the conference was shared by Fred Rosensweig, May Yacoob, David Yohalem, and Dennis Long of USAID/S&T/Health. Rosensweig designed the conference with Dr. D'Almeida in Brazzaville in November 1987. Rosensweig and Yacoob coordinated WASH's involvement with Dr. Donald Hopkins at Global 2000 and Robert Kaiser at the Centers for Disease Control (CDC). Rosensweig and Yohalem designed the training materials for the facilitators, which were prepared in French and English. (Copies are available from the WASH Project.)

Yohalem arrived in Accra on March 9, 1988, and met with Dr. D'Almeida who would be the other conference coordinator. They discussed selection of workshop facilitators, the organization of the workshop component, and the conference program. Dr. D'Almeida had asked several participants who had attended the first regional conference on guinea worm in Niger in 1986 to arrive early in order to be trained to facilitate the workshops. Dr. Kollo Basile, Director of the Service of Rural Medicine in the Cameroon Ministry of Health, and Mr. Oumarou Barti, Sanitary Engineer in the Division of Hygiene and Sanitation of the Niger Ministry of Health, were selected as facilitators. Two members of the official Ghanaian delegation and members of the Ministry of Health Conference Planning Committee, Dr. Kofi Ahmed and Dr. S.Z. Bugri, Regional Director for Health-Northern Region, were asked to facilitate two working groups.

Yohalem and D'Almeida met with Global 2000 and WHO/Ghana officials and the members of the Planning Committee on March 10 to be briefed on local logistic preparations and to discuss the conference program. The major logistical problem concerned the unavailability of the Nkrumah Conference Center for Monday afternoon. The search for an appropriate, available room for Monday afternoon's session took up an inordinate amount of time and energy over the next three days. This problem interfered with the training of the workshop facilitators, forcing several delays and postponements of their sessions. Despite these difficulties, the facilitators showed enthusiasm for their roles and even volunteered for extra meetings to insure the success of the workshops.

2.4 Workshop Facilitators' Training

The Conference Coordinators and four workshop facilitators had their own meeting on March 11 to discuss the workshops and their role as workshop facilitators. Everyone went over to the Nkrumah Conference Center to tour the site and decide where to set up spaces for the four working groups. The group discussed the objectives and structure of the workshops and how they fit into the goals of the conference as a whole. They agreed to work together on Saturday and, if necessary, Sunday to prepare for the workshops.

Saturday's staff training session concentrated on discussing group facilitation, the roles and responsibilities of facilitators, and reviewing the workshop facilitators' guide. Fortunately, the volunteer facilitators all had previous experience with small workshops. Barti Oumarou, who had attended the May 1987 Water Supply and Sanitation Conference at the University of Atlanta, discussed the design from a participant's point of view. The other

three facilitators had attended various management and technical training sessions using adult learning methods and were familiar with group discussion techniques. The designs for the three workshop sessions were discussed, concentrating on the key facilitator tasks and how to perform them. Emphasis was placed on the first two sessions (Problem Identification and Problem Analysis).

Sunday morning the team practiced writing and presenting clear task instructions and facilitating small group discussions for the first two sessions. On Sunday afternoon materials were prepared for the first workshop. Later, the workshop facilitators and conference coordinators met with several of the presenters to discuss how the plenary sessions related to the content of the workshops. Several of the presenters were asked to assist the workshop facilitators in leading the workshop sessions. A member of the Benin delegation, Mr. Roger D'Almeida, Associate Peace Corps Director-Health, also agreed to assist one of the facilitators. The workshop facilitators met with their assistants and discussed how they could help the facilitators prepare and conduct the sessions.

2.5 Participants

One hundred twenty-six participants attended the entire conference. Eighty-five of the delegates came from the following African nations:

• Benin	9	• Mali	2
• Burkina Faso	3	• Mauritania	2
• Cameroon	2	• Niger	2
• Central African Republic	2	• Nigeria	8
• Chad	2	• Senegal	2
• The Gambia	2	• Sudan	2
• Ghana	39	• Togo	3
• Guinea	2	• Uganda	1
• Ivory Coast	2		

The remaining 41 participants came from India, Pakistan, the United States Agency for International Development, WASH Project, Peace Corps, CDC, various United Nations agencies, Global 2000, and other organizations involved in guinea worm eradication (for a full participant list see Appendix A).

Chapter 3

PROCEEDINGS AND OUTCOMES

3.1 Day One

3.1.1 Opening Ceremonies and Presentations

The Second Regional Workshop on Guinea Worm in Africa was convened on Monday, March 14, 1988. Opening addresses were made by Secretary for Health, Air Commodore (ret.) F.W.K. Klutse; President Jimmy Carter; Professor G.L. Monekosso; and Provisional National Defense Council member Mr. Justice D.F. Annan. (The full text of President Carter's address and the summary of Professor Monekosso's address are presented in Appendices B and C.)

After the opening addresses, a group photo, and a coffee break, the conference reconvened to elect a chairman and accept the proposed program. The remainder of the morning was taken up with a presentation of the CDC-produced film on guinea worm, "The Fiery Serpent," which was filmed in Anambra State, Nigeria, and an address by Dr. Donald Hopkins, Senior Consultant for Global 2000, on the status of guinea worm control and eradication programs. (Dr. Hopkins' address is presented in Appendix D.)

3.1.2 Technical Presentations

The conference reconvened in the late afternoon with presentations by Dr. P.N. Sehgal, former Director of the Indian National Institute of Communicable Diseases, Delhi, on the Indian Guinea Worm Eradication Program; Dr. Peter Bourne of Global Water on the International Drinking Water Supply and Sanitation Decade (IDWSSD); and Dr. Mohammed Abdur Rab, Principal Scientific Officer for the Pakistan National Institute of Health, Islamabad, on the Pakistan Guinea Worm Eradication Program.

India is one of the first countries to undertake a guinea worm eradication program. The program was launched in 1983 under the auspices of the National Institute of Communicable Diseases, in Delhi. The disease is endemic in six states comprising 7,102 villages using tanks, ponds, or stepwells. The eradication strategy consisted of bi-annual case-search operations, conversion of existing sources to safe sources, chemical treatment (with Temephos), and health education. India expects to completely eradicate the disease by 1990.

In Pakistan, with the help of Global 2000, the National Institute of Health, and Bank of Credit and Commerce International (BCCI) Foundation, the guinea worm eradication program began in November 1986. Since then, the project has assessed and confirmed prevalence of the disease, established its reporting and administrative systems, assessed people's behavior, and developed educational materials, training, and two demonstration projects. Different approaches have been tested for different areas and different materials developed for each of the at-risk groups. The program developed a management and reporting system reaching into the villages. The project is developing training programs of front-line village implementors in case identification, reporting, water filter distribution, health education, and chemical treatment of water.

The goal of the program is to halt disease transmission in 1988, given its limited endemism, low prevalence, and low transmission.

After discussion of the addresses, the session ended with a brief presentation by Dr. Kofi Ahmed on the purpose of the workshops and how they relate to the conference as a whole. The participants were then assigned to their respective working groups. At noon after reviewing the registration forms and realizing that over 100 participants would be staying for the entire conference, the conference coordinators decided to add a fifth working group. The groups were organized by language preference. Few people chose bilingual groups, hence two Francophone and three Anglophone working groups were set up. Bill Brieger of the University of Ibadan agreed to facilitate the third English-speaking group.

3.2 Day Two

3.2.1 Country Reports

Tuesday morning the conference reconvened at 8:30 for country presentations. Sixteen of the 17 African countries present at the conference made brief presentations on the status of their national programs. (Dr. J. Adamafio's summary of the presentations is attached as Appendix E. The full texts of the country reports are available by contacting the WASH Project.)

3.2.2 Workshop I

The first workshop of the conference occurred on Tuesday afternoon. Each subgroup was asked to brainstorm a list of all the problems they encountered in planning and implementing guinea worm control and eradication programs; to review the list and choose the six problems that were most important to them; and to list those six in order of importance. After a brief coffee break, the working groups reconvened and each subgroup presented its lists of problems. Most lists were very similar and the groups were able to agree on a common list of the six major problems they wanted to analyze and solve during the remainder of the workshop sessions. The Francophone groups required more time to finish these tasks because of the greater difficulty in agreeing on the proper wording for the problem statements. The participants valued the exercise and were pleased to see that all the working groups had come up with similar lists of problems. The six problems agreed upon were:

- Lack of resources
- Lack of data
- Lack of commitment and sustainability
- Lack of awareness of the socioeconomic consequences of the disease at all levels
- Lack of intersectoral coordination
- Lack of community involvement and education.

At the conclusion of the first workshop, the participants re-assembled to see the UNDP/USAID film, "The Waters of Ayole," on the Togo Rural Water Supply Program. It was well-received and generated a good deal of discussion. The Ghana Ministry of Health was host at a reception on Tuesday evening after the film.

3.3 Day Three

3.3.1 Technical Presentations

Wednesday morning's session was devoted to the following technical presentations and discussions:

- Agricultural Impact
  Mr. Carel de Rooy, UNICEF, Lagos
  Dr. Dennis Long, USAID, Washington

- Cost-Benefit Ratios of Interventions
  Dr. John Paul, Research Triangle Institute, North Carolina

- Effective Surveillance
  Dr. Karl Kappus, CDC, Atlanta

- Effects on Maternal and Child Health
  Dr. May Yacoob, WASH Project
  Dr. William Brieger, University of Ibadan
  Dr. Susan Watts, Rhode Island College

According to the first plenary presentations and discussions by Dr. Long and Mr. de Rooy, research has documented the impact of dracunculiasis on agricultural production. A UNICEF-sponsored study in Nigeria focused on the relationship between guinea worm prevalence and rice production. It was undertaken in nine Local Government Areas (LGAs) and surveyed 723 people in 87 households. These data were then extrapolated to 195,000 households (1.6 million people). It was established that, at a cost of US $35.2 million, four different intervention strategies could be used simultaneously to eradicate guinea worm in seven LGAs over a period of five years. The proposed strategies include improved water supply, health education and distribution of nylon monofilament filters, chemical treatment of ponds, and community education and mobilization which would also include sanitation. The economic benefits from such an approach would result in an estimated US $20 million per annum in additional rice sales alone. The USAID-sponsored Vector Biology Control Project (VBC), in collaboration with CDC, will also carry out a similar agricultural impact study in Nigeria over a two-year period.

Dr. Guiguemde discussed how epidemiological studies are furthering understanding of disease transmission. She and her team in Burkina Faso were able to identify a total of 17 species and 6 genera of "cyclops" responsible for transmission in one province. (For more details, see Annual Parasitologie Human Comparatif 1987, No. 5, pp. 484-491.) Similar studies are being conducted by the French Research Institute (ORSTOM) in Benin.

Another study by Dr. Guiguemde's team showed dracunculiasis control through health education in three hyperendemic villages which were organized within the framework of primary health care. Slides and films were shown as part of the village program. The preventive means consist of community efforts and individual efforts. Each village was organized, and a village health agent was chosen by the community and trained. He was assisted by a committee of seven men and seven women also selected by the community. The focus of the training was village prevention and the distribution of filters. Two years into the program, the disease was eradicated. (For more details, see Bulletin de la Société de Pathologie Exotique, 1987, pp. 390-395.)

Dr. John Paul, Research Triangle Institute, presented a 1987 field test of a microcomputer-based implementation planning and cost-benefit model, developed by WASH in 1986. The field test, conducted through the Pakistan Guinea Worm Eradication Program, indicated the modeling process could be applied to planning guinea worm control programs. (The full study, WASH Field Report No. 231, A Field Test Report of Implementation Planning and a Cost-Benefit Model for Guinea Worm Eradication in Pakistan, is available from WASH.)

Dr. Karl Kappus presented his paper, Effective Surveillance to Eliminate Dracunculiasis: New Tasks for Old Tools, which emphasized the importance of effective surveillance in the elimination of guinea worm disease because it mobilizes political support, defines the location and extent of guinea worm disease, is critical for controlling the disease and evaluating the impact of intervention, and confirms eradication. He recommended that four principles of guinea worm disease surveillance be included in design: 1) activities should always have the objective of supporting the eradication effort; 2) information must be available to those who need it in time to guide decisions; 3) activities must be designed according to the specific situation; and 4) activities should always include independent monitoring. He discussed four phases of the program: 1) collection and use of available information, 2) identification of affected areas and the extent of guinea worm disease, 3) direction of intervention efforts, and 4) confirmation of the elimination of guinea worm disease. He stressed that surveillance activities should be designed according to the extent of endemic guinea worm disease and the phase of the elimination program. Good design incorporates active procedures to overcome obstacles (e.g., geographic and temporal focus, immobilization of infected persons) that cause routine passive reporting to identify only a small percentage of cases. Good design also includes monitoring to validate results at every stage.

May Yacoob, Susan Watts, and William Brieger made a presentation entitled "Guinea Worm: What Happens to Mothers and their Children?" It was based on a WASH study, conducted in Nigeria, focused on how the disease affects women and their ability to care for their children. The study findings have serious implications for child survival and development. Forty-two women were surveyed. Their experiences were developed into case studies which showed trends and patterns in four major variables: self care, child care, domestic activities, and economic activities. The results of the study showed that over 50 percent of the women were bedridden for an average of nine weeks. They tended to curtail their nutritional intake and to suffer acute self neglect. Their children, while cared for by available kin, were not receiving adequate nourishment. Over 20 percent of the sampled women defaulted on child immunization as a direct consequence of their incapacitation. Malarial fevers in children went untreated or were treated with local and/or unprescribed

drugs. Infections and ulcers went untreated. The average loss of income was US $70 (in an area where annual per capita income is US $125). The study illustrated some of the major consequences of disability on the woman, her family, and the community. (The full study, WASH Field Report No. 232, Maternal Morbidity from Guinea Worm in Nigeria and Its Impact on Child Survival, is available from WASH.)

3.3.2 Workshop II

On Wednesday afternoon, the workshop participants in their five working groups analyzed the six problems they had identified the previous day. The facilitators discussed the proposed method for analyzing problems and asked each subgroup to analyze two of the six problems. Most of the subgroups were so enthusiastic about the method that they asked to take more time to do the task so they could go into greater detail in analyzing the problems. The working groups also chose to spend more time discussing the subgroup analyses of the problems so that everyone could participate directly. One group worked until 8:00 p.m., discussing the problem analyses, and broke up only after repeated requests from the Conference Coordinator.

3.4 Day Four

3.4.1 Donors' Panel and Country Resources

On Thursday morning, a panel of various donor representatives was convened to talk about the financial and technical resources available to combat dracunculiasis. UNDP and WHO representatives were each authorized to announce grants of $50,000 to eradication efforts on the continent. Other representatives of bilateral and multilateral donor agencies explained how to access their funds. Participants from the various technical assistance agencies present at the conference explained how the endemic countries could access their services. (A synopsis of the donors' panel presentation appears in Appendix F.) Most participants filled out resource questionnaires describing the kinds of help they could provide. (A copy of the questionnaire and a summary of responses are attached as Appendix G.)

3.4.2 Workshop III

After the morning break, the working groups reconvened to solve their six problems. Each subgroup worked on one problem before lunch and another one after lunch. The total group reviewed and contributed solutions to each of the problems after they were presented by the subgroup. (A synopsis of the five groups' recommendations is attached as Appendix H. The recommended solutions to each of the five groups' lists of problems and their analyses of the problems are available from WASH.) Several participants from each working group assisted their facilitator in preparing the working group's presentation to the entire conference. At the same time, a small group of conference participants worked on the proposed conference recommendations.

3.4.3 Country Action Plans

The delegates from each of the participating countries met in country teams. They reviewed what they had learned the conference and developed action plans incorporating these ideas into their national strategies for controlling guinea worm. Some country teams used this opportunity to start adapting their national action plans. These action plans are also available through WASH.

3.4.4 Closing Session

The conference concluded with reports from the five working groups recommending solutions to the problems encountered in planning and implementing dracunculiasis control projects and a discussion of the conference recommendations. After considerable discussion, the following set of formal conference recommendations were accepted by the delegates.

3.5 Conference Recommendations

3.5.1 General

1. A Third Regional Conference on guinea worm in Africa should be held in two years' time in a Francophone country.

   - WHO/AFRO should identify a suitable venue in sufficient time to make all financial and logistical arrangements.

   - The format of the conference should be designed by WHO/AFRO to meet the program development needs of the conference participants and to incorporate an appropriate balance of plenary presentations and discussions and small group discussions to involve all participants.

2. Participation

   The conference should include professionals involved at all levels from policy makers to local program and implementation people. These participants should include community workers in health education and water supply and sanitation as well as epidemiologists and researchers. Every effort should be made to ensure the participation of the "unsung heroes" of the guinea worm campaign.

3. Role of IDWSSD

Since the steering committee of the International Drinking Water Supply and Sanitation Decade reaffirmed at its 1987 its endorsement of dracunculiasis eradication as a subgoal for the Decade, WHO should coordinate the requests of individual countries for financial, material, and logistical assistance to various donor agencies who wish to help eradicate guinea worm disease.

4. Mass Media

The Second Regional Conference encourages the maximum use of the mass media at national and international levels to publicize the human suffering caused by dracunculiasis as well as breakthroughs in the campaign to stimulate political awareness and financial commitment to eradication campaigns.

3.5.2 National

1. National Conferences

Each endemic country should hold a national conference on dracunculiasis to:

- Educate policy makers about problems and needs
- Prepare data and reports
- Evaluate progress to date
- Forward results to the International Conference.

2. Case Definition, Surveillance, and Disease Reports

The Conference accepts for the purpose of surveillance the case definition of dracunculiasis: "an individual exhibiting or having a recent (one year) history of skin lesion with the emergence of a worm."

Each endemic country should establish active surveillance programs and report to WHO at the end of March every year. Reports should include information on numbers of cases reported by geographical area.

The absence of national reporting on guinea worm has adversely influenced support for eradication programs. Each endemic country is therefore strongly urged to make the reporting of dracunculiasis mandatory immediately.

3. Intersectoral Activities and Cooperation

At the donor and national levels dracunculiasis eradication efforts should be part of on-going national water supply and sanitation programs and it should be recognized that in endemic countries these efforts constitute an integral part of child survival and maternal well-being.

Appropriate ministries are encouraged to undertake the data gathering, policy development, planning, and program implementation which are necessary for eradication of guinea worm disease. It is only when such data and plans are made available that donors can respond to requests for assistance.

A variety of means should be used to extend the message about guinea worm to populations at risk. Eradication program participants, such as mothers, women's organizations, farmers, village health workers etc., should be mobilized to this end.

Chapter 4

WORKSHOP COORDINATORS' CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

4.1.1 General

The conference met its objectives and the design of the conference worked well. The mix of plenary presentations and discussions, workshops focused on problem solving, and country delegation tasks (country presentations, action planning, resource sharing) was successful. Plenary and workshop activities complemented each other and contributed to the success of the conference as a whole.

Participants greatly appreciated the design and implementation of the conference, as shown by attendance at all activities throughout the week, their active participation, the extra time they chose to spend on their assigned tasks, and the degree of detail of the products. Participant comments voiced to the coordinators and facilitators were very favorable, especially regarding the workshops.

The 4-1/2 day schedule was fairly tight. There was no time for a free afternoon during the conference. Many working groups worked longer than requested to get into greater detail and enable everyone to discuss the problems being analyzed.

The Ghanaian Ministry of Health and Accra office of Global 2000 did an excellent job in logistical and protocol preparations for the conference and President Carter's attendance at the opening.

4.1.2 Problems

WHO regulations for disbursing per diem to the participants was unduly cumbersome and in some cases inequitable. The conference coordinators had to become involved in time-consuming details which could have been handled by others had the system worked better.

The reliance on an independent secretarial support service (M&J Enterprises) was crucial for the success of the conference. All plenary presentations and products of the working groups were translated, typed, reproduced, and distributed to all the participants throughout the conference. A third conference coordinator specifically assigned to supervising this effort would have been very helpful.

Participants were housed in seven different hotels. This limited the degree of informal information sharing and program development to program breaks at the Conference Center. Travel arrangements took additional time because of the routes of the buses needed to drop off and pick up the participants at various hotels. It was recommended that a common residence be found for participants at the next conference, preferably at the conference site itself.

4.2 Recommendations

1. WASH should assist WHO/AFRO in designing and implementing the Third Regional Conference scheduled for a Francophone country in two years.

2. The Third Regional Conference should include an appropriate mix of plenary and small-group participatory activities. The activities should be selected to meet the program development needs of the participants.

3. WASH should inform WHO and other United Nations and international agencies of the success of the workshop component of the conference and of the advantages of including small-group participatory activities in international conferences. WASH should take a pro-active role in encouraging groups to adopt such programs and assist in their design and implementation.

4. Future 4-1/2 day conferences should be held over a full five days, so that Wednesday afternoon can be set aside as free time. Per diem should be paid to cover travel time as well as the days of the conference, and payments should be better coordinated between WHO/AFRO and the WHO country delegation responsible for disbursing the funds.

5. At future conferences, one person should be assigned the specific responsibility for supervising the secretarial staff in the reproduction of conference reports and findings. The individual needs to understand the design of the conference to prioritize secretarial tasks. Professional secretarial services should be contracted to handle the actual work.

6. Future conference sites should be selected on the basis of travel availability, conference and accommodation facilities, and the level of support services available. The commitment of the host country is also very important.

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WASH Reports on Guinea Worm Control

WASH Technical Report No. 50: Workshop on Guinea Worm Control at the Community Level: A Training Guide (French and English). This 2-1/2 day course was written in collaboration with Nigeria's University of Ibadan and field-tested in two states.

WASH Technical Report No. 51: Adding Guinea Worm Control Components: Guidelines for Water and Sanitation Projects (French and English). These guidelines and accompanying annexes are addressed to project managers of various water supply and sanitation projects in guinea worm endemic countries.

WASH Field Report No. 223: Teaching About Guinea Worm Prevention: A Manual for Secondary School Teachers (French and English). This 1/2-day training program will be part of the USAID/Nigeria-sponsored Family Life Education syllabus.

WASH Field Report No. 231: A Field Test Report of Implementation Planning and a Cost-Benefit Model for Guinea Worm Eradication in Pakistan (English only).

WASH Field Report No. 232: Maternal Morbidity from Guinea Worm in Nigeria and Its Impact on Child Survival (English only).

WASH Field Report No. 233: Guidelines for Implementation Planning for Guinea Worm Control Programs: An Approach to Assessment of Cost-Effectiveness and Cost Benefit (English only).

APPENDIX A

Workshop Participants

P A R T I C I P A N T S

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APPENDIX B

ADDRESS BY

PRESIDENT JIMMY CARTER

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ADDRESS BY MR. JIMMY CARTER

Thank you Mr. Chairman.

Yesterday, I was in Lagos, Nigeria where we had a very well attended press conference with almost as many news reporters as participants in this meeting. One of the reporters asked: "Mr. President, you have been the leader of a great nation. Why in the world are you involved in a program to eliminate guinea worm? It is not reasonable that you would spend your time with such a project". That is a question easily answered. This is a horrible disease for those who suffer from it. In the continent of Africa, each year more than 10 million people are afflicted with this disease. It is a kind of problem that is often overlooked - perhaps even by many in this room.

I have been in several countries to speak with the Prime Minister or the President, or the Secretary or Minister of Health, and found that they are thoroughly unfamiliar with the fact that guinea worm is a prevalent affliction in their country. Quite often the disease is only known in the poorest and most remote of villages and among the people who quite often have no relationship with the central government officials in the capital city.

In Pakistan for instance, where we hope to have success in totally eradicating guinea worm by the year 1990 - in one village only two cases of guinea worm had been reported to the central government. When we did a more thorough inventory there of cases, we found that about 1,200 people had been treated locally for this disease in the previous year.

Nigeria has 21 states. In all 21 states, guinea worm is prevalent and about 2 1/2 million Nigerians suffer from this disease each year. This is a conservative estimate based on inadequate reporting to the central government. As has already been pointed out so well, guinea worm has far reaching adverse effects on the economies of nations. In one small area of Nigeria for instance, UNICEF has done a study showing that among a population of 1 1/2 million, $20,000,000 worth of rice production is lost each year because of guinea worm. This would far exceed the cost of treating the guinea worm problem in the entire country. Such eradication would not only liberate farmers during the planting season from this disease that has been part of their lives for many centuries, but also remove what is a major cause of absenteeism from the schools among the children of the country.

It is important that this conference and now the commitment of WHO and other organizations to target guinea worm for eradication bring attention to this disease. Obviously, as has been pointed out so well already, the preventive measures are very simple but the implementation of the program for eradication is not so simple. By drilling deep wells to reach pure water, we know that guinea worm can be eliminated. This is a long range and

expensive solution but it is the best of all. There are chemicals available, as you all know, for the treatment of watering places - small ponds or water holes that are used by villagers for drinking purposes. This brings relief as well.

Other procedures are much more feasible in implementation: that is the changing of water taken from an infected water hole or supply into water that is free of the guinea worm larvae. One option of course, is to boil the water but this is not always feasible. Yesterday, we had a very enlightening report from one of the State Ministers of Health in Nigeria who said that the people just simply would not take 2 or 3 hours to boil water and wait for it to cool before they drink it when they are thirsty. Also, he said the villagers complain that boiled water does not taste good and there is no way that boiled water will ever be used as a means to eradicate guinea worm. But through a simple education programme based on radio broadcasts, simple posters and brochures, if the people can be taught to strain the water or filter the water through a clean cloth then they find that after a year there is no guinea worm. And one of the most exciting prospects for eradication is that once a cycle is broken for 12 months as you know in a particular village, then the guinea worm will not recur.

It might be wise to point out that another benefit from this Conference and the one held two years ago in Niger is that there is now a co-ordinated effort with UNDP, with UNICEF, with WHO, with private contributions for focussing on teaching about this disease. This can, I think bear rich dividends very quickly. The awareness by public officials in each country that their people suffer from this disease and it can be eradicated, will bring rich political benefits to the wise leaders of those countries for delivering an effective programme for the well being of their own people. This will obviously contribute to political stability.

As a former politician myself, I know that when you can implement a programme that is good for your own people it provides for popularity and stability and a sense of accomplishment of the entire country. This is available to the 19 countries in Africa that suffer this affliction on their people. My hope is that not only the Ministers of Health and Secretaries of Health but also that the Presidents and Prime Ministers and other leaders will become deeply involved in this program that can be very beneficial to them and very popular for them.

There are rich financial dividends to be derived from a minimum expenditure of public funds. The Carter Centre and Global 2000 will maintain our involvement in this programme, although obviously our role will be relatively small. What we can do is always to contribute to the publicity about guinea worm disease and let the leaders of nations know that dracunculiasis is a problem in their country and that it can be alleviated.

One of the exciting facets of our own efforts is that a private banking firm, the Bank of Credit and Commerce International has volunteered to provide full funding for the effort that we are making in the Carter Centre against guinea worm through Global 2000. And I think the marshalling of a private contribution of this kind can be pursued by those who need additional financial support. We are fortunate in the Carter Centre to have Dr. William Foege as our Executive Director. He was, as you may know, the Director of the Centres for Disease Control that helped to co-ordinate a few years back the worldwide effort to eradicate smallpox. Lessons from that success are now about to be employed in the next phase to eradicate the second disease targeted by WHO for total worldwide elimination: guinea worm.

I think success in this programme will bear rich dividends in the courage and ambition of health agencies to move then to total eradication of polio, measles, perhaps river blindness, and yaws, because this will indicate that not only is it advantageous, but it is possible through co-ordinated action to eradicate these endemic diseases from this continent and from others. Finally, I would say that the Guinea Worm Eradication Programme can be joined with similar programmes to increase food production, to improve education, to immunize children against contagious diseases.

We have working with us also in Ghana, one of the most receptive nations I have ever seen and the friendliest nation I have ever visited a wonderful human being. Just two years ago we had 4[illegible] farmers involved in increasing production of food grains. Last year we had 200 farmers; this year we will have more than 18,000 Ghanaian farmers who will be participating in increasing their production of food grains. This is through the leadership of Dr. Norman Borlaug whom you may remember received a NOBEL PEACE PRIZE in the early 1970s for his work in the Green Revolution in India and Pakistan.

So, the medley of health programmes and agricultural programmes and education programmes and political and economic advancement in nations is a direct benefit from targeted goals such as this that are exciting, that are inspirational and are practical in their achievement. As the head of the Carter Centre, I pledge my full and sustained commitment and participation, in a limited way of course, until the goal of total eradication of guinea worm is achieved.

This is a wonderful opportunity for us to show the world what can be done with co-operation in the field of primary health care and I am grateful to play a small role in the effort that you all have commenced and which will be concluded with success.

Thank you very much.

APPENDIX C

Summary of Address by
Dr. G.L. Monekosso,
Regional Director of WHO for Africa

SUMMARY OF ADDRESS BY DR. G.L. MONEKOSSO, REGIONAL DIRECTOR OF WHO FOR AFRICA

Dr. Monekosso thanked the people and government of Ghana for their warm welcome and for hosting the conference, and the delegates attending for their interest in control of major epidemics, of which dracunculiasis is one of the most important. He also thanked former U.S. President Jimmy Carter for helping in the battle against this and other diseases, disasters, and hunger.

This meeting is held as a follow-up to the conference held at Niamey, Niger, in July 1986, and Dr. Monekosso pointed out that we should take pride that this second conference has been convened at the place and date agreed upon. He reviewed the objectives of this conference, which should also help us to mobilize public opinion and the international community against dracunculiasis.

The Indian Guinea Worm Eradication Program has demonstrated that guinea worm can be eliminated by simple means based on a primary health care strategy. Dr. Monekosso urged us to use the little time left in the International Drinking Water Supply and Sanitation Decade to come as near as possible to our objective or eradicating guinea worm in all endemic countries by providing safe drinking water. However, although dracunculiasis is in theory easily eradicated, in practice it will be more difficult to attain and we must be equal to the task.

With appropriate effort, he concluded, we should be able to ensure that all endemic countries will have begun a national guinea worm control program by 1990, and that by 1995 over half of the endemic region will be free of dracunculiasis.

GLOBAL 2000

APPENDIX D

DRACUNCULIASIS ERADICATION:

THE END OF THE BEGINNING

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I want first to thank the Government of Ghana for hosting this conference. Thanks are due also to the other co-sponsors: the World Health Organization's Regional Office for Africa, the U.S. Agency for International Development, and Global 2000, Inc. of the Carter Center. Finally, I want to thank President Jerry Rawlings and President Jimmy Carter for being here. The emphatic statement which your presence signifies is helping to bring attention to this terrible neglected disease from which so many still suffer needlessly.

This second African Regional Meeting on Dracunculiasis marks the end of the beginning of the global campaign to eradicate guinea worm disease. When the time comes to celebrate the eradication of dracunculiasis, this historic meeting will be seen as a watershed. We've come a long way since Niamey:

- Guinea worm is no longer quite so obscure, having last year been the subject of a sixteen page cover story in Nigeria's Pan-African newsweekly, African Concord, of a full page article in the health magazine of the Washington Post, and it was the focus of a Congressional Hearing by the U.S. House of Representatives' Select Committee on Hunger. The new movie you have just seen is another important step in this process of public enlightenment.

- We have a better sense of the extent of the disease, with new surveys in parts of Sudan, Ethiopia, Mali, Guinea, Pakistan, and Ghana. Teams in an area of Mali found 435 cases where only 23 had been previously reported. Anambra State in Nigeria treated 202,494 cases of guinea worm between November 1986 and March 1987 alone--out of a state population of about 5 million. (This is about twenty times the total cases reported to WHO for all of Africa in 1986).

- We understand better too the burden guinea worm imposes on agriculture and school attendance, thanks to researchers in Nigeria, where the diminution of rice production alone in one area is over 11%.

- We have much more documentation of the excellent efficacy of health education and household filters in Burkina Faso, where public health scientists reduced incidence from 54%, 37%, and 24% in three villages to zero in only two transmission seasons. Kati village in Togo, and Kankan in Nigeria are two other comparable recent examples. Here however, pride of place must go to India, which began its national guinea worm eradication program in 1980 and reduced the national total number of cases from 44,819 in 1983 to 22,610 in 1986. One of the seven original endemic states of India, Tamil Nadu, is already free of the disease, and Gujarat should soon be free as well.

• Since national guinea worm eradication programs also began in Ghana and Pakistan last year with the assistance of Global 2000-BCCI, and since three other Nigerian states have now joined Anambra in establishing state task forces for guinea worm eradication, it is clear that dracunculiasis eradication can no longer be alleged to be merely an obsession of a few fanatics.

Thus, much has been accomplished since the International Drinking Water Supply and Sanitation Decade began in 1981. The tide has turned. We know guinea worm can and will be eradicated. But we still have much to do before we can dance on the grave of this ancient parasite.

Our first task from now is to improve surveillance and reporting of dracunculiasis (Table 1). At the national level, we need first to know where the disease is before we can shut down transmission. Internationally, better reporting and publicizing of that information is the key to mobilizing political and financial support, and to measuring the significance of your achievement once guinea worm is eradicated. Every endemic country should make reporting of dracunculiasis mandatory and report that data regularly to WHO. Failure to do so helps those who believe guinea worm is not a significant problem.

The second task is for all endemic countries to develop and implement a national plan of action and set a target date for guinea worm elimination (Table 1). If control measures as effective as those described by Dr. Guiguemde and his colleagues in 3 villages of Burkina Faso were immediately placed into effect in all such endemic villages, then it would theoretically be possible to stop guinea worm completely by 1990. Human nature being what it is, however, I do not expect such rapid mobilization. It is entirely reasonable to project though that we could eradicate guinea worm by 1995, at the latest. Such a plan should show what needs to be done, and indicate what the country is already doing for itself. It thus provides an attractive context for requesting outside assistance, as Anambra State in Nigeria has done successfully with Japan, UNICEF, and American Cyanamid, for example. An inventory of projects to provide safe drinking water over the next several years is an important part of such a plan, and health authorities should make the rationale for giving priority to villages where guinea worm is endemic clear to the water supply authorities: endemic villages suffer all the usual harmful effects of unclean drinking water plus the deleterious effects of guinea worm on their health, agriculture, and education. And the villages with guinea worm are only a small fraction of the total number of villages without safe drinking water.

The third task is for bilateral and international donor agencies to help those countries that decide to get rid of guinea worm, particularly those countries which help themselves by reporting

cases, developing a plan of action, and budgeting funds for guinea worm control, however meager. Having done that, the countries deserve help. Burkina Faso, for example, has had an excellent national plan of action for over two years, which it has not been able to implement fully because of lack of external support. If development is your concern, if helping the poorest of the poor in rural areas, if helping farmers help themselves, if helping villages become self-sustaining is your concern, if improving people's health, agriculture, and education is your business, then helping to eradicate dracunculiasis is one of the best investments you can make. Child survival can have no real meaning in an endemic area where guinea worm is still rampant, and neither does primary health care. However, combatting guinea worm is an excellent vehicle for developing both, while immediately rendering a badly needed service.

Agencies and institutions fall into one of three categories on this issue: those with no interest, those with token interest, and those that take significant action. If development means anything, if primary health care means anything, if child survival means anything, if Health For All means anything, then surely they mean that a child should at least know what clear water looks like, and that he or she shouldn't miss school or be crippled for life by an infection that is as easily preventable as this one is. Surely they mean that farmers should be able to plant and harvest their crops without being crippled by this preventable menace; and that people in affected areas should understand that guinea worm comes from their drinking water, that entering a source of drinking water with a blister or emerging worm is an unneighborly act, that if they organize themselves they can take effective action against it, and that they can take effective personal protective measures as well.

Guinea worm is vulnerable. Its continued transmission is no longer acceptable or tolerable. We have seen enough of this miserable worm! Unlike many other terrible diseases, dracunculiasis has only a fragile hold on endemic communities. It has no animal reservoir, its prevalence is highly seasonal in most areas, it is only contracted by drinking contaminated water, its distribution is limited and focal, and there are at least three known ways to completely prevent it. What more do we need? For what else are we waiting? For a fraction of the cost of the highly successful Onchocerciasis Control Program, we can eradicate another disease which has long plagued farming communities in this region and severely hampered development, even though it is also rarely fatal.

Less than 3 years remain in the Water and Sanitation Decade. The time for action and funding is now, not next year. It has taken 7 years to get to this point. If we all do what we should do, and do it quickly, we can eradicate guinea worm by 1995, with benefits to be compounded daily indefinitely thereafter. To

summarize, what we need to do is to seek out and report cases of guinea worm disease, develop and implement plans of action to eradicate it, and provide funding for well-planned programs. Reporting of cases is the key to the other two tasks. Report, report, report!

The status of this campaign will be discussed at the World Health Assembly in Geneva in May. Let there be a chorus of testimony to the guinea worm's horrors, and an even louder chorus of pledges to eradicate it.

The tide has turned. The struggle continues.

TABLE 1

	GW Reporting Mandatory	GW Reported to WHO (1985-86)	Active Surveillance ☆	National+ Plan of Action	Interventions*	Eradication Goal	External Assistance
Benin	●			o	o		AID
Burkina Faso	●	●		●	o	1994	
Cameroon	●	●	●	●	●	1993	
CAR							
Chad							
Côte d'Ivoire	●	●	●	●	●	Yes	
Ethiopia	●	●	o				
Gambia							
Ghana	●	●	●	●	●	1993	Global 2000
Guinea							
Kenya							
Mali		●			o		Impact, UNDP
Mauritania					o		
Niger		●		o			
Nigeria				o	o	1995?	UNICEF, Japan, Global 2000
Senegal							
Sudan		●			o		UNICEF
Togo	●	●		●	●	Yes	AID, UNICEF, Peace Corps
Uganda	●	●	o	o	o		UNICEF
India	●	●	●	●	●	1990	AID, DANIDA, SIDA
Pakistan	●		●	●	●	1990	Global 2000
Saudi Arabia							
Yemen							

+ o = incomplete or outdated, ● = active
* o = pilot or partial, ● = national program
☆ o = partial, ● = national or all endemic areas

TABLE 2

Uncertain Status	Dracunculiasis: Established/Likely Eradication Dates					
	1990	1991	1992	1993	1994	1995
CAR	India	Togo		Ghana	Burkina Faso	Nigeria?
Chad	Pakistan					
Ethiopia	Cameroon					
Gambia	Côte d'Ivoire					
Guinea						
Kenya						
Mali						
Mauritania						
Niger						
Senegal						
Sudan						
Uganda						
Saudi Arabia						
Yemen						

APPENDIX E

Summary of Country Reports

APPENDIX E

Summary of Country Reports

BURKINA FASO

The serious socioeconomic consequences of the disease have become increasingly recognized. It is estimated that more than three percent of the total population are infected annually. The number of cases peaks from May to August; the report describes the number of cases reported by province and by month for the years 1984-1986 inclusive. Thus, the distribution of guinea worm in the country is now broadly known. Active surveillance and identification of endemic communities are among tasks which remain to be performed. Control efforts are limited mainly to improvement of drinking water supplies and health education programs. A draft national plan of action has been prepared; external assistance for its implementation is being sought.

CAMEROON

Guinea worm disease is endemic in the northern region of Cameroon comprising the Upper-Northern, Northern and Adamaoua provinces which have been officially notifiable since 1982. It affects an estimated 1,380,000 inhabitants representing 13.3 percent of the country's population. National objective is eradication by 1993. Basic data collection and operations research has been completed. Eradication activities including anti-cyclops treatment of ponds using temephos, health education, and provision of community water supply are scheduled to start by June 1988.

CHAD

The disease is localized in the marshy plains of the Majo-Kebbi, Salamat, and Tandjile Prefectures. Little data are available on the extent of the disease. The government is contemplating starting a control program, but no firm starting dates are fixed.

TOGO

Dracunculiasis is endemic throughout the country but is most prevalent in Bassar, Haho, and Zio sub-prefectures officially notifiable. A total of 1,456 cases were reported in 1985 and 1,325 in 1986. A national policy is yet to be formulated, although some localized control projects are being implemented. UNICEF, GTZ, CUSO, USAID, World Neighbors, and the Evangelical Church have assisted in various community water supply, sanitation, and health education projects.

LA COTE D'IVOIRE

Commitment to guinea worm elimination is still strong, mainly through the coordinated activities of the rural health services and an ambitious national village safe water program. Although incidence rates have been significantly reduced, in recent years these gains may be compromised by breakdowns in the maintenance of the village water supply program. Improved coordination and implementation of additional control procedures, as well as further donor support, will be needed in the years immediately ahead if the objective of guinea worm eradication is to be achieved.

NIGERIA

Much progress continues to be made toward the generally accepted objective of elimination of dracunculiasis. Since the convening of the 1st National Conference on guinea worm in 1985 a national plan of action is now being formulated which aims at achieving eradication by December 1995. Priority is given to active case search and to inter-state coordination. The disease is prevalent in 20 of the 21 states; more cases of guinea worm are found in Nigeria than in any other endemic country. Recent research findings that the socioeconomic impact of guinea worm is much more serious than was previously believed. In 1987 a total of N.25 million was budgeted for control purposes and a similar sum in 1988. External financial and other support from international and private agencies (UNICEF, Global 2000) have been provided and continues to be pledged. Remarkable reductions in the number of guinea worm cases have occurred in some areas where intervention was undertaken. Control strategies vary from State to State. Anambra, Kwaro, Oyo, and Ogun states have established task forces specifically for guinea worm control. At present the disease is notifiable in only two states; others will follow. A national workshop on active surveillance and then specific aspects of guinea worm control is scheduled for November 1988.

UGANDA

The dry northern part of Uganda records the highest number of cases of guinea worm in the country. Unfortunately, no data is available due to the political instability in that part of the country. It has not been possible to plan and/or implement any control strategy in the affected areas.

GAMBIA

Dracunculiasis is not a major health problem in the Gambia. No cases were reported during the past several years. There is, however, a need to undertake a nation-wide survey to confirm the status of the disease, especially in the rice-growing areas of the country.

SUDAN

Guinea worm is endemic in three of the northern provinces in Sudan, namely Equatoria, Blue Nile, and Southern Kordofan. The level of endemity is, however, not known since it is not a reportable disease. A recent pilot survey (1986) in the South Kordofan Province (Buram Rural Council Area) involving 18 villages and 297 households indicates average infection rate of 24.6 percent. This survey was done in collaboration with the UNICEF Water and Environmental Sanitation Project. A national plan of action for the eradication of guinea worm as part of the Primary Health Care project is presently under consideration.

GHANA

Guinea worm is endemic in all 10 regions of the country. The average yearly number of cases reported is just over 4,000. A survey in the Northern Region, which records the highest number of cases, was done in 1987. The actual number of cases estimated from this survey is about 83,000 in a population of 1.3 million people. A national plan of action on guinea worm eradication has been formulated and is due to be implemented in the current year, 1988. The program, which is in collaboration with Global 2000 Inc., is in three two-year phases with a target of eradicating the disease by the year 1993.

RESUME DES RAPPORTS PAR PAYS

NIGER

La maladie existe partout dans le pays. Les zones très touchées sont le département de Niamey et celui de Mardi, (73,5% des cas). La population rurale est surtout atteinte. Les zones de prédilection sont les membres inférieurs et la bourse du scrotum. Les malades sont surtout vus au stade de complications (ankyloses, gangrènes, tétanos). De 1980 à 1988 le nombre de puits et de point d'eau a passé de 5120 à 12.231. Les autorités du pays pensent prendre des mesures pour le traitement chimique des eaux polluées, la vulgarisation des techniques simples de filtration, et une campagne intense d'information et d'éducation pour la santé sur le ver de Guinée par les Mas Média.

BENIN

La Dacunculose sévit dans toutes les régions du pays. La zone la plus touchée est de ZOU. Beaucoup de travaux de recherches concernant la maladie ont été effectué dans cette zone. Pour l'ensemble du pays une étude épidémiologique n'a pas encore été réalisé. La volonté politique pour lutter contre l'affection existe et a été traduite par la désignation d'un responsable national. Les autorités du Bénin envisagent la réactualisation du programme national de lutte contre le ver de Guinée élaboré en 1985, sur la base des orientations du présent séminaire. Dans la zone de forte endémicité, un projet intégré d'éducation pour la santé, d'approvisionnement en eau potable et d'assainissement est en cours (225 forages de 1988 à 1989).

SENEGAL

La maladie est très rare dans le pays. 10 cas seulement ont été notifié dans le département de BAKEL (région frontière avec le Mali, la Guinée et la Mauritanie) depuis 1985. Les autorités du pays pensent développer une enquête active pour situer l'importance de la maladie. Un vaste programme d'hydraulique villageoise par des forages et des puits améliorés a démarré. 102 forages et puits ont été réalisés dans la zone suspecte. Le traitement chimique de l'eau des marigots souillés, une enquête épidémiologique active, et un programme d'éducation pour la santé sont à envisager.

GUINEE

Les autorité ont procédé à une vaste enquête de surveillance active de la maladie, au cous du moins de Février et début Mars 1988, dans la région de la Haute Guinée. Cette enquête qui a touché toutes les couches socio professionnelles de cette région n'a permi de découvrir que 2 cas seulement de ver de Guinée déclaré depuis 19860. Tous les 56 cas signalés en 1969 résultent d'une erreur de codification des cas d'onchocercose. Il n'existe pas actuellement de foyer actif de transmission de la maladie. Il est prévu la réalisation de forages par la SNAPE dans la région suspecte.

MAURITANIE

La maladie sévit partout dans le pays avec une forte endémicité dans la région de l'extrême Est du pays. (50% des cas). Aucune étude épidémiologique poussée n'a été faite dans le pays. Mais certaines enquêtes ont été réalisées ça et là et ont abouti à la conclusion que les hommes et les femmes sont également touchés. La durée d'invalidité de la maladie est d'environ 2 mois. Un projet de lutte contre la dracunculose dans le pays est élaboré avec pour objectif à court terme, pour tester l'efficacité d'une stratégie de lutte dans 6 villages de la zone de forte endémicité et à moyen et long terme réduire de 95% l'incidence annuelle estimée à 1000 cas pour tout le pays.

Le financement pour l'exécution de ce projet est recherché.

MALI

La maladie sévit partout dans le pays avec deux zones de forte prévalence : MOPTI et KAYES (34%). Dans ces deux zones des recherches ont été effectuées avec pour objectifs la création d'une zone pilote de démonstration, et l'évaluation des répercussions économiques de la maladie. Des travaux, il se dégage que la tranche d'âge la plus affectée est de 15 à 24 ans (40,1%), queles populations ignorent l'origine de la maladie. Cette étude a permi l'introduction dans cette zone de vente de tamis filtre, de campagne intense d'information et d'éducation pour la santé ainsi que une activité de dépistage actif des malades. L'es études sur l'évaluation des répercussions économiques sont en cours. Les autorités du pays recherchent des moyens pour la mise en oeuvre des interventions dans tout le pays.

APPENDIX F

Report on Donors' Panel

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Report on Donors' Panel

Dr. Hopkins opened the donors' conference by stating that resources were needed to solve the problem of guinea worm disease control, and that was why donor agencies were asked to come to Accra (although only a few have responded). He called on those present to state their pledge for the eradication of dracunculiasis.

The UNDP Representative in Accra stated that the victory over smallpox should be used as a model so that other diseases, like guinea worm disease, can also be eradicated. UNDP therefore pledged to donate $50,000 for the eradication of dracunculiasis. WHO also pledged to donate $50,000 in technical cooperation for the 19 African countries for the eradication of guinea worm disease by 1995. As for the World Bank, Mr. Bennett stated that the agency has no special program for the elimination of guinea worm disease but the World Bank supports primary health care activities in some countries and this can be used to eradicate guinea worm disease.

Other agencies spelled out their roles in various fields in many African countries and their commitment particularly for the elimination of guinea worm disease by 1995. In Ghana, the World Bank supports two programs, all in water supply. Two million dollars is for Rural Water Supplies and $5 million for well construction in guinea worm infected areas in Ghana. A document for requesting funds from the World Bank was circulated to every delegate. Dr. Long of USAID said that if a government sets priorities then AID can assist. If the issue of guinea worm disease is raised by the Ministry, funds can be provided from other programs, e.g. WASH. Training of staff in the control of tropical diseases is also undertaken by USAID.

Dr. Hopkins urged delegates to know the extent of guinea worm disease in their countries before funding can be requested from any donor agency. He emphasized the importance of surveillance and reporting of the disease.

APPENDIX G

Country Resources for Control of Guinea Worm Disease

Questionnaire and Summary of Responses

SECOND WORKSHOP ON DRACUNCULIASIS

ACCRA, GHANA
March 14-18, 1988

RESOURCES QUESTIONNAIRE

The purpose of this questionnaire is to determine what resources each country can offer to other countries where guinea worm disease is endemic. The responses will be tabulated and made available to the conference participants so they can make follow-up requests.

1. Country _____

2. Name(s) and title of principal contact for guinea worm _____

_____

_____

3. Address of contact _____

_____

_____

4. We can assist other countries in the following ways (Check the ones which apply):

	CHECK IF YOU CAN PROVIDE	ADD DETAILS
a. Supply written materials (e.g., training materials, program guidelines, etc.)		
b. Send a technical advisor for program development and/or implementation		
c. Host a visit to a project with a guinea worm control component		
d. Provide training		
e. Participate in a joint research project		
f. Supply project information such as cost data, problems encountered lessons learned, etc.		

	CHECK IF YOU CAN PROVIDE	ADD DETAILS
g. Provide help in the design or implementation of an evaluation		
h. Assist in a public awareness campaign		
i.		
j.		

COUNTRY RESOURCES FOR CONTROL OF GUINEA WORM DISEASE

Organizations Which Can Provide Training Materials, Program Guidelines, etc.

COUNTRY	ORGANIZATION
Burkina Faso	Centre Muraz/OCCGE Section Parasitologie
Burkina Faso	Ministere de la Sante Publique
Chad	Direction du Genie Sanitaire
Ghana	World Vision/LSD-Rural Water Project
India	National Institute of Communicable Diseases
Nigeria	UNICEF Assisted Water & Sanitation Project
Togo	Ministere de la Sante Publique
United States	AID/S&T/H
United States	Centers for Disease Control

Organizations Which Can Provide Technical Advisors for Control Programs

COUNTRY	ORGANIZATION
Burkina Faso	Centre Muraz Section Parasitologie
Burkina Faso	Ministere de la Sante Publique
Cameroon	Ministry of Health/Epidemiology & Malaria Service
Ghana	World Vision/LSD-Rural Water Project
Togo	Hopital Bethesda
Togo	Ministere de la Sante Publique
United States	AID/S&T/H

APPENDIX H

Recommendations from the Working Groups on Guinea Worm in Africa

APPENDIX H

2nd Regional Conference on Guinea Worm in Africa

Workshop Recommendations

Five working groups (3 English, 2 Francophone) were formed to discuss and identify six major problems in guinea worm control and eradication programs. Each major group consisted of 3 sub-groups which were made up of professionals from the various operational areas required for the control of the disease, for example researchers, epidemiologists, health educators, and water and sanitation engineers. Furthermore, the group meetings were entirely facilitated by participant volunteers.

Having analyzed the cause of the problems identified, the groups proceeded to develop the following recommended solutions for planning and implementing the eradication of dracunculiasis.

I. LACK OF RESOURCES:

1. An effective and feasible proposal is essential when soliciting funds. Proposals should include:

   - the identification and use of competent personnel to write proposals
   - the clear identification of objectives, goals, and means of verification
   - clear understanding of assistance needed
   - clearly outlined budget and plan of action which includes activities, commencement and completion dates, budget, and specification of responsible personnel.
   - a clear statement of existing resources including management capacity to absorb and utilize existing resources, and additional resources.
   - a clear outline of the project, cost benefits, and sustainable impact.

2. Manpower Development

   - Identify the personnel needed and available.
   - Determine the gap between available and needed resources.

- Select and train personnel.

- Provide appropriate incentives in cash and in kind.

3. Funds

Recognizing that there is competition for scarce resources, MOH can organize a donors' conference, ensure a marketable project, explore alternative resources, and require donors to specify programs and areas of interest for funding.

II. LACK OF DATA

1. Improve data base:

- Training at all levels.

- Develop simple and standardized reporting format.

- Develop efficient and effective network for collection of primary data.

- Set up mechanisms for data retrieval.

- Let local community members know why information is required and train staff and community in assisting in the process.

III. LACK OF COMMITMENT AND SUSTAINABILITY

1. International level

- Secure international donors' commitment to sustain on-going programs regardless of any political changes in government.

- Improve information dissemination and information.

2. National level

- Continue to remind policy makers about on-going guinea worm programs, and the human consequences of the disease.

- Continue lobbying.

- Strengthen methods for soliciting assistance

- Ensure utilization of professionals by providing them with adequate resources and incentives.

3. Local level

- Emphasize need for health education, community participation, and the use of community-based resources.

IV. LACK OF AWARENESS OF THE SOCIOECONOMIC CONSEQUENCES OF THE DISEASE AT ALL LEVELS

1. International

- Publicize available information about the consequences of the disease on crop production, infants, and mothers.

- Continue effort in research and documentation.

- Make intensive and conscious mass media efforts at the international level through films, articles in the popular press, and continued support by key international personalities.

2. National level

- Provide adequate public education, surveillance, and research.

- Improve rural communications and accessibility.

3. Local level

- Strengthen and support emphasis on community participation, health, education, and information dissemination.

- Continue support of participation by local village-level organizations in the provision of basic amenities, e.g., water.

- Ensure continued feedback on village-level activities to national government authorities and full recognition of local efforts.

V. INTER-SECTORAL COORDINATION

1. Ensure the full participation of agencies involved in guinea worm control programs.

   - health
   - water
   - agriculture
   - social affairs
   - community development
   - rural development
   - education
   - rural mobilization
   - infrastructure and roads program.

2. Ensure that the coordinating sector, health, works out a mechanism for such cooperation, by identifying who does what, when, and where.

3. Ensure that policy decisions within each of the above-mentioned sectors consider guinea worm eradication a government commitment.

4. Identify a department with the full responsibility of planning, organizing, coordinating, mo toring, and evaluating all of the above agencies' efforts in gu nea worm eradication.

VI. LACK OF COMMUNITY INVOLVEMENT AND EDUCATION

1. Understand local village-level decision-making processes and ensure that the formal and non-formal authorities in each community are involved.

2. Ensure that district-level government staff use adult learning methodologies in communicating messages to villages. Ensure that they are trained in training, rather than lecturing to villagers.

3. Ensure that community-based agents are sufficient in number to provide adequate coverage of all villages, are well supplied with necessary training materials, have means of transportation, and are adequately and regularly paid.

4. Ensure that both communities and health agents understand that the results of actions directed toward guinea worm cannot be discerned immediately (at least one-year time lag).

5. Ensure that adequate time is spent in preparing communities to undertake water projects. Ensure they are provided with equipment and training to repair any failures in the system.