PN-ABL-311

AGENCY FOR INTERNATIONAL DEVELOPMENT
PPC/CDIE/DI REPORT PROCESSING FORM

ENTER INFORMATION ONLY IF NOT INCLUDED ON COVER OR TITLE PAGE OF DOCUMENT

1. Project/Subproject Number: 9365948

2. Contract/Grant Number: DPE-5948-C-9030-00

3. Publication Date: May, 1992

4. Document Title/Translated Title:
Technical Assistance
To the Guinea Worm Eradication Program
in Cameroon
(Phases II and III)
March - April and July - September 1991

5. Author(s)
1. Greer, George J., Ph.D.
2.
3.

6. Contributing Organization(s)
Vector Biology and Control Project
Medical Service Corporation International

7. Pagination: 51

8. Report Number: 81235

9. Sponsoring A.I.D. Office: R&D/H

10. Abstract (optional - 250 word limit)

11. Subject Keywords (optional)
1.
2.
3.
4.
5.
6.

12. Supplementary Notes

13. Submitting Official: Robert W. Lennox, Sc.D.

14. Telephone Number: 703-527-6500

15. Today's Date: 5/22/92

DO NOT write below this line

16. DOCID

17. Document Disposition
DOCRD [ ] INV [ ] DUPLICATE [ ]

AID 590-7 (10/88)

Vector Biology
and Control Project

Technical Assistance To the Guinea Worm Eradication Program in Cameroon (Phases II and III)

March - April and July - September 1991

by

George J. Greer, Ph.D.

VBC Report No. 81235

Managed by Medical Service Corporation International • Sponsored by the Agency for International Development
1901 North Fort Myer Drive • Suite 400 • Arlington, VA 22209 • (703) 527-6500 • Telefax: (703) 243-0013 • Telex: 248812 (MSCI UR)

Table of Contents

Abbreviations Used In This Report

1. Executive Summary 1

2. Introduction 3

3. Scope of Work 5

4. Activities and Recommendations 6

4.1. Organization and Implementation of GWEP Activities 6

4.1.1. Results from 1991 GWEP 8
4.1.2. Surveillance, case containment and treatment . . . 15
4.1.3. Health education 20
4.1.4. Distribution of water filters 24
4.1.5. Abate treatment 24
4.1.6. Establishing a computer-based management system 27

4.2. Provision of Potable Water to Endemic Villages . . 29
4.3. Improving the Departmental Surveys 32
4.4. Assistance with Administration of the Mayo-Sava GWEP 33

Tables

Table 1. Distribution of GWD Cases by Village 9
Table 2. Distribution of Cases by Subdivision 13
Table 3. Distribution of Cases by Canton 14
Table 4. Number of Cases Recorded by Each HOT, 1991 17
Table 5. Lag Time between Worm's Appearance and Report to VHW 18
Table 6. VHW Practices 19
Table 7. Frequency of Patients Having One or More Worms 21
Table 8. Number of Health Education Sessions, 1991 . . . 22
Table 9. Number of Filters Distributed, 1991 25
Table 10. Number of Filters Distributed by HOTs, 1991 . . 26
Table 11. Abate Use in Mayo-Sava, May - Early August 1991 28
Table 12. Current Situation and Proposed Projects 31

Figures

Figure 1. Number of Guinea Worm Cases Reported by Month 12

Annexes

Annex 1. List of People Contacted 36
Annex 2. Announcement of a National Task Force Meeting March 6, 1991 38
Annex 3. Announcement of National Task Force Meeting September 24, 1991 39
Annex 4. Schedule for Training Course for Health Outreach Teams and Health Educators 40
Annex 5. April 1991 List: Responsibilities and Schedules 41
Annex 6. Annotated List of All Villages Covered 42
Annex 7. Sample Page from Village Registry for GWD . 43
Annex 8. Form Used by HOTs to Record Information from the Village Registry 44
Annex 9. Form Used by HOTs to Record Information on Abate Treatment 45
Annex 10. Form Used in the Departmental Survey to Record Information on Head-of-Household Interviews . 46
Annex 11. Form Used in the Departmental Survey to Record Information About Individual Cases 47
Annex 12. 1991 Budget Request for the Mayo-Sava GWEP 48
Annex 13. 1991 Supplemental Budget Request 49
Annex 14. Budget Request for November 1991 - April 1992 50
Annex 15. References Used in This Report 51

Author

George F. Greer, Ph.D., is an Associate Research Professor in the Department of Tropical Medicine, Tulane University School of Public Health and Tropical Medicine, New Orleans, Lousiana.

Acknowledgments

The author wishes to express his gratitude to the following people in the Ministry of Public Health for their administrative and technical assistance: Dr. Owona Essomba Rene, Dr. Sam-Abbenyi Amos and others in the Department of Preventive Medicine, Yaounde; Dr. Hamidou Issoufa, Provincial Delegate of Public Health for the Extreme-North; and Dr. Dama Mana, Departmental Chief of Service, Mayo-Sava Department, who, in spite of a very heavy schedule, has dedicated much of his time and energy to making Cameroon's Guinea Worm Eradication Program a success. The program's success or failure rests with these administrators and the health workers in the field. For this reason, I feel certain Cameroon will successfully eradicate GWD in a matter of years.

I also wish to acknowledge the contribution of UNICEF in funding this program and of UNICEF's Program Director for Rural Water and Sanitation, Mr. Mohamed Bendriss Alami, for his unfailing support. Ms. Susan Graham, a Peace Corps Volunteer assigned to the GWEP, made a substantial contribution in almost every aspect of the program from the moment she arrived in Mora in March 1991. I thank Mr. Richard Greene and Mr. George Vishio, USAID Health Officers, for facilitating my work in Cameroon.

Preparation of this document was sponsored by the Vector Biology and Control Project under Contract No. DPE-5948-C-9030-00 to Medical Service Corporation International, Arlington, Virginia, USA, from the Agency for International Development, Office of Health, Bureau for Research and Development.

Abbreviations Used In This Report

AMA	Atelier de Materiel Audio-Visuel
CDC	(U.S.) Centers for Disease Control
GWD	Guinea worm disease
GWEP	Guinea Worm Eradication Program
FSAR	Fond Special d'Action Rurale
HOT	Health outreach team
MINASCOF	Ministry of Social Welfare and Women's Affairs
MOPH	Ministry of Public Health
NGO	Non-governmental organization
NTF	National Task Force for the Eradication of Guinea Worm
OCEAC	Organisation de Coordination pour la Lutte contre les Endemies en Afrique Centrale
PCV	Peace Corps Volunteer
POA	National Plan of Action for the Eradication of Guinea Worm
PVO	Private voluntary organization
ROC	Republic of Cameroon
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

1. Executive Summary

During Phase I of the Vector Biology and Control (VBC) Project's technical assistance to Cameroon's Guinea Worm Eradication Program, I worked on the development and official adoption of the National Plan of Action (POA) and assisted with preliminary stages of its implementation. A summary of these activities is provided in VBC Report No. 81133 "Guinea Worm Eradication Program in Cameroon, June 15 - September 21, 1990."

To expedite implementation of the POA, USAID/Cameroon requested that I return in 1991. I travelled to Cameroon under VBC sponsorship twice in 1991: the first trip was before the transmission season began (March-April); the second during the peak transmission season (July-September). General objectives of these trips were to:

1. help organize the program in the Mayo-Sava Department before the transmission season began;

2. assist with work in the Mayo-Sava Department during the transmission season;

3. coordinate the various programs providing potable water in endemic villages in the Mayo-Sava; and

4. improve the department-wide survey to be conducted late in the year after the transmission season.

For the first time, the Cameroon GWEP included a number of different interventions, including health education, treatment of wounds at the village level, surveillance during rather than after the season, case containment, and distribution of water filters throughout the endemic region. All new components of the program, as well as the continuation of Abate treatment, worked well during 1991.

Surveillance results indicate that there was a large reduction in Guinea worm cases from 1990 (approximately 780) to 1991 (estimated to be about 400). Most of that reduction can be attributed to the provision of potable water in one major endemic village, Sanda Wadjiri. Other reductions may be due to an enhanced Abate treatment program and the distribution late in the 1990 transmission season of a relatively small number of water filters in the four villages with the most cases. More rigorous case definition and ongoing, rather than end-of-year, surveillance also may have resulted in a reduction in the number of cases reported.

There are reasonably good indications that the expanded community-based program begun during the 1991 season will result in a large reduction in cases in 1992. In anticipation of that decrease, decisions must be made about the best ways to use resources to combat the diminishing number of cases.

A review of the availability of potable water in endemic villages and projects planned for the region showed that several needy villages had not been targeted for well projects by any organization. Results of that study were presented to the National Task Force for Guinea Worm Eradication in September 1991. Subsequently, UNICEF, Peace Corps and CARE began to plan water projects in these villages and now all villages have been included in the water plans of one of these organizations.

The Mayo-Sava departmental survey in 1990 provided some useful information, but problems with the protocol made results from many villages questionable. Efforts to strengthen this year's survey, scheduled for November 1991, include the use of photos to enhance identification, stringent confirmation of cases by supervisors, and improved, shortened survey forms.

2. Introduction

Guinea worm disease in Cameroon occurs primarily in a relatively small area in and around the Mandara Mountains in the Extreme-North Province. The transmission season corresponds closely with the rainy season, beginning in March or April and ending in October. Most confirmed transmission is found in the Mayo-Sava Department. This highly focal GWD distribution makes Cameroon an ideal place for an all-out attempt at eradicating the disease. Yet aside from water development projects, Abate treatment of drinking water supplies was the only widely used intervention until 1990.

In 1990, I assisted in the initial implementation of interventions outlined in the National Plan of Action (VBC Report No. 81133). Several hundred locally produced water filters were distributed and case registries were set up in the most highly endemic villages. Unfortunately, these activities did not begin until late in the transmission season (August-September). Other important interventions — health education, treatment of patients and case containment — were to be developed fully during the non-transmission season (November - April). Although the activities in 1990 probably had little effect on transmission, they set the stage for the 1991 season.

At the end of 1990, 12 villages were included in the program. A department-wide survey conducted October 10-24, 1990, found cases in 77 to 86 villages (uncertainty about the exact number is due to disparities within the final OCEAC/UNICEF report). Sixty-three of the new villages had only one or two cases. Unfortunately, there were serious problems with the survey protocol, including the lack of identification cards to assist in the initial identification of Guinea worm cases and the absence of a stringent follow-up system for verification of cases by supervisors.

Personnel and other resources had been stretched to expand the program to include health education, case containment, and village-level surveillance and case treatment. Could the program accommodate an expansion from 12 to 86 villages at the same time? And if not, what services should be provided to the new villages with one

or two cases? These were some of the major questions facing the program at the beginning of 1991.

During 1991 I made two trips to Cameroon, one in March-April and another in July-September. During that period I spent roughly three months working with the Guinea Worm Eradication Program (GWEP).

3. Scope of Work

3.1. Help organize and implement the eradication program in the Mayo-Sava Department. Major activities were to:

- o Develop a rapid, effective surveillance and a case containment program.
- o Establish village-based treatment for patients.
- o Set up a village-based case containment program.
- o Begin the health education program.
- o Assist with the distribution of water filters.
- o Strengthen the Abate treatment program.
- o Establish a computer-based system to manage various aspects of the program, including records of activities for the different interventions, surveillance data and financial records.

3.2. Assess the need for potable water in endemic villages and devise a program of assistance for the most needy villages.

3.3. Improve the design of the next departmental survey.

3.4. Assist with the administration of the GWEP.

4. Activities and Recommendations

4.1. Organization and Implementation of GWEP Activities

Preliminary results of the Mayo-Sava departmental survey (October 1990) were presented at a February 28 meeting of the National Task Force for the Eradication of Guinea Worm (NTF), and the problem posed by the large number of new villages discovered during that survey was discussed. Without the appropriate rigorous methods of identifying and verifying cases, a relatively high percentage of mistaken diagnoses could be expected. In addition, there was concern that spurious cases might be intentionally reported in the endemic region. Villagers and survey workers from non-endemic villages were aware of the special attention given endemic villages, which sometimes includes the provision of new wells. In a region where water is a precious commodity, it is understandable that they would seek to secure more permanent sources of potable water. Because of these concerns, it did not seem wise to expand the program to all villages that had reported cases of GWD in the departmental survey.

The NTF decided to divide villages into two categories. Primary villages included all villages with five or more cases in the October 1990 department-wide survey. Also included in this category were villages that were endemic prior to 1990 and had reported at least one case in 1990. Secondary villages included those with a past history of GWD but no cases in 1990 as well as new villages reporting fewer than five cases in the survey.

Primary villages would receive all services provided by the program (described in detail below), including weekly surveillance for cases. Secondary villages would be covered under a biweekly or monthly surveillance program. Secondary villages, or other villages not previously known to have cases, would become primary villages if five or more confirmed cases were found during the 1991 transmission season.

A major reorganization of the program began in March and culminated with a training course April 8-11, 1991. All people involved in the program in the Mayo-Sava Department, except the village health workers (VHWs), attended the training. VHWs were not included because they had attended a general training in March and it was not possible to recall them so soon for a second course. Some important features of the program were presented to the VHWs during the March training. They received instruction in other aspects of the program from the Health Outreach Teams (HOTs) or supervisors.

The GWD training course covered a broad range of subjects for the 29 participants (Annex 4), including: delivery of health education messages using modified World Neighbor flip charts; control of copepods using Abate (temephos); treatment of wounds; case containment; and motor bike maintenance for workers who would be using motor bikes provided by UNICEF. At the end of the training, flip charts were given to each of the nine health educators. A work plan for all teams was discussed and accepted at the conclusion of the course (Annexes 5 and 6).

The duties and responsibilities for the different workers in the program are as follows:

Village Health Workers. VHWs are the cornerstone of the program. They are responsible for village-level surveillance as well as case containment. Case containment is based on applying occlusive bandages to all wounds and preventing infected individuals from contacting sources of drinking water.

Health Outreach Teams. HOTs are composed of nurses or other health workers at government and mission hospitals in endemic areas. They service all primary and secondary villages and supervise the VHWs in their regions. In primary villages, HOTs collect surveillance data from the VHWs every week, confirm new cases, and provide medical supplies. In secondary villages, they collect surveillance data every two to four weeks. The HOTs are also responsible for treating drinking water sources with Abate.

Health Educators. HEs are professional health trainers who work permanently for CARE or the Ministry of Social Welfare and Women's Affairs. They are responsible for delivering health education to the primary villages. They work with the HOTs and VHWs to reinforce two principal messages: 1) infected people should not go near drinking water sources and 2) all villagers should drink only filtered or potable water.

Supervisors. Peace Corps Volunteers and the Departmental Chief of Primary Health Care supervise the work of the HOTs and health educators and, directly or indirectly, the work of the VHWs. Supervisors are responsible for: 1) collecting surveillance forms from HOTs; 2) keeping records of the number of cases per village; 3) spot verification of cases; 4) maintaining the flow of medical supplies to the villages through the HOTs; and 5) monitoring all field activities.

Departmental Chief of GWEP. The GWEP's Departmental Chief, Dr. Dama Mana, is also the Departmental Chief of Health Services. He is responsible for overall coordination and evaluation of the program. He monitors workers at all levels of the program both through the supervisors and by periodic on-site evaluation of field activities.

Peace Corps provided a new volunteer to the program, Ms. Susan Graham, who arrived in Mora in March 1991. Ms. Graham's participation in Peace Corps is part of the requirements for the Masters Internationalist Program at Boston University. Her assignment to the GWEP came at a most opportune time. She quickly assumed many responsibilities beyond those of her assignment as a supervisor and essentially became Dr. Dama's deputy for the GWEP.

4.1.1. Results from 1991 GWEP

Results from 1989, 1990 and 1991 are presented in Table 1. The 1989 results are based on a end-of-year survey (October 23 - November 9, 1989) carried out only in villages known to be endemic. The 1990 results are from a survey of all villages in the department, which was conducted in October 1990. Results for

Table 1
Distribution of GWD Cases by Village in Mayo-Sava

ARR	CANTON	VILLAGE	Number of cases by: departmental surveys in 1989	1990	Case Cont. 1991	Team	Intervention 1991 F	A	T
KO	KERAWA	DOUGDJE	.	11	1	KE	F	A	T
KO	KERAWA	KERAWA	.	4	1	KE			
KO	KERAWA	WARA WIDE	.	2	5	KE			
KO	KOLOFATA	ALZEE	.	1	.				
KO	KOLOFATA	DOUGZA (BLAHA OUMATA)	.	1	0	KE			
KO	KOLOFATA	GOUZOUDOU	.	0	1	KO			
KO	KOLOFATA	KIDJI MATARI	.	1	.				
KO	KOLOFATA	NDABA	95	53	47	KE	F	A	
KO	KOLOFATA	SANDA WADJIRI	493	317	71	KE	F	A	T
KO	KOLOFATA	SARE WALASSA	.	2	0	KE			
KO	KOLOFATA	TOLKOMARI	.	2	0	GO			
KO	KOLOFATA	ZIZE	.	1	0	KE			
MO	BOUNDERI	GARNACK	.	2	0	BO			
MO	BOUNDERI	TAGAWA	.	0	3	BO			
MO	DJOUNDE	AISSA HARDE	.	1	0	AH			
MO	DJOUNDE	DJOUNDE	.	1	0	AH			
MO	DOULO	DOULO	.	1	5				
MO	DOULO	GANE ACHE	.	1	0	AH			
MO	DOULO	TAHER GOUDRON	.	1	0	AH			
MO	KOSSA	MADJINA	.	1	.	KS			
MO	KOURGUI	TAGOUDELE	.	1	0	GO			
MO	LIMANI	KALTA GALTARI	.	1	.	AM			
MO	MEME	ADEKELE III & IV	.	7	1	M2	F	A	
MO	MEME	DERGALA	.	1	.				
MO	MEME	HERE	.	1	0	ME			
MO	MEME	KOUDBA	.	1	.				
MO	MEME	MANGAVE MOUYANG	.	2	0	ME			
MO	MEME	MEME	.	2	0	ME			
MO	MEME	MEME CENTRE	.	2	0				
MO	MEME	MOUVANE	.	1	0	ME			
MO	MEME	MOUYOURE MADA	.	1	0	ME			
MO	MEME	SAVA (SAVA MADA)	.	1	2	ME			
MO	MEME	SERA DOUMDA	.	1	2	ME			
MO	MEME	SERA HADIA	.	1	0	ME			
MO	MORA	MAGALA	.	2	0	M2			
MO	MORA	MASSARE	.	1	.				
MO	MORA	MORA VILLE	.	5	2	M1			
MO	MORA	POUCHE BLEBLE	.	.	4	GO	F	A	T
MO	MORA	TCHOKOYABA I,II,III	.	2	1	M2			
MO	MORA MASSIF	BLAMA SALI MABATA	.	1	0	M1			
MO	MORA MASSIF	DJOUE	.	9	1	M2			
MO	MORA MASSIF	DOUME	.	8	21	M1	F	A	T

Table 1 (cont.)
Distribution of GWD Cases by Village in Mayo-Sava

ARR	CANTON	VILLAGE	Number of cases by: departmental surveys in 1989	1990	Case Cont. 1991	Team	Intervention 1991 F	A	T
MO	MORA MASSIF	GAGADAMA	.	10	11	M2	F	A	T
MO	MORA MASSIF	MBRIME	65	8	3	M1	F	A	T
MO	MORA MASSIF	MORA MASSIF	.	7	.				
MO	MORA MASSIF	OUNDALA (NDALA)	.	4	1	M2			
MO	MORA MASSIF	TIDIWE	.	4	14	M1	F		T
MO	MORA MASSIF	VAME/NDRIME	95	183	83	M1	F	A	T
MO	M. ZOUELVA	DOURONGO	.	1	0	TM			
MO	M. ZOUELVA	GALDAMATS	.	.	1	TM			
MO	M. ZOUELVA	GAMNAGA	.	5	.				
MO	M. ZOUELVA	GOTADA	.	1	1				
MO	M. ZOUELVA	GUEBEDE	18	12	0	TM	F	A	T
MO	M. ZOUELVA	HODEWAY	.	1	2	TM			T
MO	M. ZOUELVA	HOUDMEKOUA	.	0	2	TM			T
MO	M. ZOUELVA	KATOUA	.	1	.				
MO	M. ZOUELVA	KOULONG	.	6	7	TM	F	A	T
MO	M. ZOUELVA	MADELA	.	1	0	TM			
MO	M. ZOUELVA	MAGUICHE	15	12	0	TM	F	A	T
MO	M. ZOUELVA	MALIHA	.	2	.				
MO	M. ZOUELVA	MALIKA GOUCHAKALA	.	1	.				
MO	M. ZOUELVA	MATCHOKA (=MATCHAKOR)	.	1	0	TM			
MO	M. ZOUELVA	MOKOL	.	2	3	TM			
MO	M. ZOUELVA	SIGAI	30	26	2	TM	F	A	T
MO	M. ZOUELVA	ZOUELVA	.	1	0	TM			T
MO	PODOKO NORD	GOURVOUYEDE(=GOURVA WEDE)	.	3	1	GO	F	A	T
MO	PODOKO NORD	MBOUDA	.	1	0				
MO	PODOKO NORD	NADZANG	.	1	.				
MO	PODOKO NORD	OURAGA MAKOULAHE	.	1	.	GO	F	A	T
MO	PODOKO CENTRE	KASSA	1	0	1	GO			T
MO	PODOKO SUD	TALA DABARA	8	1	8	GO	F	A	T
MO	WARBA	JILVE	.	19	2	MO	F	A	T
TO	MADA	CARREFOUR DONGOLA	.	2	0	MO			
TO	MADA	GEMELE GIGLA	.	1	0	TM			
TO	MADA	GEMELE KLAGAYAK	.	1	.	MO			
TO	MADA	LDEDENE	.	1	.				
TO	MADA	ZAGAMTANGUE BAKARY	.	1	0				
TO	OULDEME	DIBONG I	.	1	.				
TO	OULDEME	KEDEM (KEDEH)	.	2	0	MO			
TO	OULDEME	MADAVARE A & G	.	1	6	MO	F	A	
TO	OULDEME	MANDREFE (=SAMA)	3	0	1	MO			
TO	OULDEME	MAYO PLATA	.	3	4	MO		A	
TO	OULDEME	OUZEDEDE (=OUJEDE)	24	10	5	MO	F	A	T
TO	OULDEME	PLATA DOUMLALE	.	1	0	MO			
TO	OULDEME	PLATA KAPA	.	1	8	MO	F	A	T
TO	OULDEME	TAHOUYAME DELEMBELE	.	1	0	MO			
TO	OULDEME	VANDELAR	24	0	4	MO	F	A	T
TO	PALBARA	HOBHOB	.	1	.				
	TOTAL NUMBER CASES		871	796	338				

Abbreviations:

ARR:
KO = Kolofata
MO = Mora
TO = Tokombere

Health Outreach Teams:
AH = Aissa Harde
AM = Amchide
BO = Bounderi
GO = Godigong
KE = Kerawa
KS = Kossa
M1 = Mora 1
M2 = Mora 2
ME = Meme
MO1 = M. Ouldeme 1
MO2 = M. Ouldeme 2
TM = Tala Mokolo

Interventions:
F = Filters
A = Animation
T = Well treatment

1991, as of mid-September 1991, are based on the surveillance system described below. An end-of-year, departmental survey will be done in November 1991. Those results were not available for this report.

For this report, 1991 results were available only up to the middle of September. The distribution of cases by month in 1991 (Figure 1) shows that a majority of cases occurred in July and August. The number of new cases reported fell dramatically by mid-September, and we do not expect many cases after that date. Therefore, even though the results presented here do not include the cases recorded after mid-September, they are thought to represent fairly well the final results for the year.

In 1990, 796 cases were reported from 86 villages. By mid-September 1991 only 338 cases had been reported from 43 villages and only 12 of the villages had more than five cases. Frequency distributions for cases in 1990 and 1991 by subdivision and canton are shown in Tables 2 and 3, respectively. There were large reductions in the number of cases in both Kolofata and Mora subdivisions between 1990 and 1991 (Table 2).

In Kolofata Subdivision most of the reduction came in Sanda Wadjiri (Kerawa Canton), where the number of cases fell from 317 cases in 1990 to 71 in 1991 (Table 1). Two bore-hole wells funded by UNICEF were drilled in that village in July 1990. Heavy use of the wells during the rest of the transmission season was probably responsible for most of the reduction in cases.

In Mora Subdivision the greatest reduction in cases came in the Vame/Ndrime village complex, where reported cases dropped from 183 in 1990 to 83 in 1991. Several factors may have been responsible for this reduction, including the distribution of water filters late in the season and expansion of the Abate program to include several wells never previously treated.

With the exception of the one in Sanda Wadjiri, no other well projects were completed before the end of the 1990 transmission season. Nor were interventions other than Abate treatment introduced outside of four villages with the highest number of cases. Thus, reduction in the number of cases between 1990 and 1991 throughout much of endemic region was due either to the Abate treatment or to the elimination of spurious cases.

Figure 1
Number of Guinea Worm Cases Reported by Month
1991

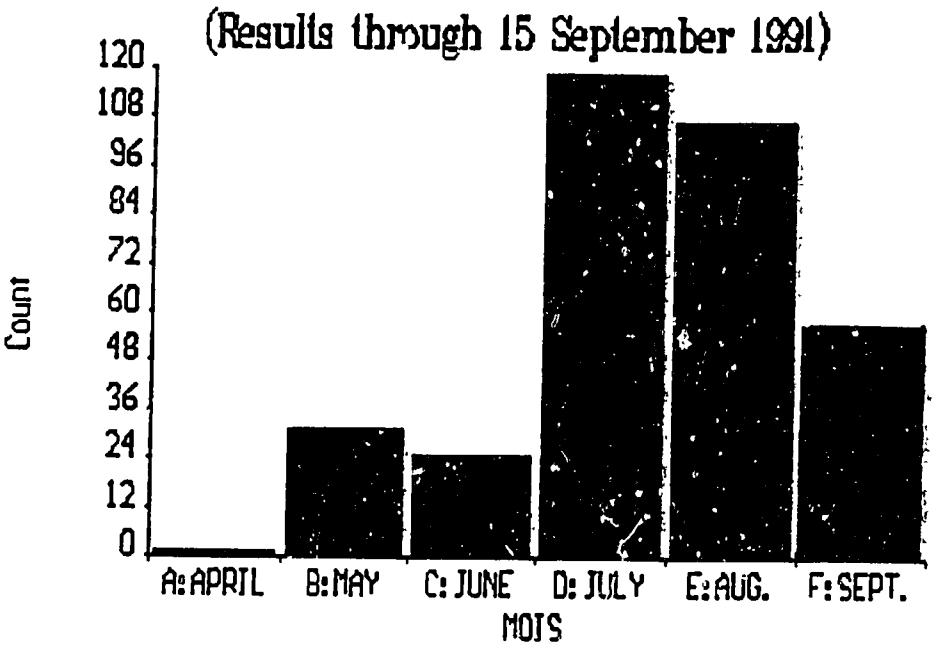

Table 2. Distribution of Cases by Subdivision

DISTRIBUTION OF CASES IN 1990 BY SUBDIVISION

SUBDIVISION	Freq	Percent	Cum.
KOLOFATA	395.0	49.6%	49.6%
MORA	374.0	47.0%	96.6%
TOKOMBERE	27.0	3.4%	100.0%
Total	796.0	100.0%	

Mean per SUBDIVISION group = 265.33
StdDev = 206.67

DISTRIBUTION OF CASES IN 1991 BY SUBDIVISION

(As of mid-September, 1991; reported by the village-based case-containment program.)

SUBDIVISION	Freq	Percent	Cum.
KOLOFATA	126.0	37.3%	37.3%
MORA	184.0	54.4%	91.7%
TOKOMBERE	28.0	8.3%	100.0%
Total	338.0	100.0%	

Mean per SUBDIVISION group = 112.67
StdDev = 78.85

Table 3. Distribution of Cases by Canton

DISTRIBUTION OF CASES IN 1990 BY CANTON

CANTON	Freq	Percent	Cum.
BOUNDERI	2.0	0.3%	0.3%
DJOUNDE	2.0	0.3%	0.5%
DOULO	3.0	0.4%	0.9%
KERAWA	17.0	2.1%	3.0%
KOLOFATA	378.0	47.5%	50.5%
KOSSA	1.0	0.1%	50.6%
KOURGUI	1.0	0.1%	50.8%
LIMANI	1.0	0.1%	50.9%
MADA	6.0	0.8%	51.6%
MEME	21.0	2.6%	54.3%
MORA	10.0	1.3%	55.5%
MORA MASSIF	234.0	29.4%	84.9%
MOUKTELE ZOUELVA	73.0	9.2%	94.1%
OULDEME	20.0	2.5%	96.6%
PALBARA	1.0	0.1%	96.7%
PODOKO CENTRE	0.0	0.0%	96.7%
PODOKO NORD	6.0	0.8%	97.5%
PODOKO SUD	1.0	0.1%	97.6%
WARBA	19.0	2.4%	100.0%
Total	796.0	100.0%	

DISTRIBUTION OF CASES IN 1991 BY CANTON

(As of mid-September, 1991; reported by the village-based case-containment program.)

CANTON	Freq	Percent	Cum.
BOUNDERI	3.0	0.9%	0.9%
DJOUNDE	0.0	0.0%	0.9%
DOULO	5.0	1.5%	2.4%
KERAWA	7.0	2.1%	4.4%
KOLOFATA	119.0	35.2%	39.6%
KOSSA	0.0	0.0%	39.6%
KOURGUI	0.0	0.0%	39.6%
LIMANI	0.0	0.0%	39.6%
MADA	0.0	0.0%	39.6%
MEME	5.0	1.5%	41.1%
MORA	7.0	2.1%	43.2%
MORA MASSIF	134.0	39.6%	82.8%
MOUKTELE ZOUELVA	18.0	5.3%	88.2%
OULDEME	28.0	8.3%	96.4%
PALBARA	0.0	0.0%	96.4%
PODOKO CENTRE	1.0	0.3%	96.7%
PODOKO NORD	1.0	0.3%	97.0%
PODOKO SUD	8.0	2.4%	99.4%
WARBA	2.0	0.6%	100.0%
Total	338.0	100.0%	

4.1.2. Surveillance, case containment and treatment

A village-based surveillance system with weekly case reporting was established in 1991. A case registry was set up in each primary village. It was the VHW's responsibility to enter essential information on each case into a registry (sample page is shown in Annex 7). In addition to the name, age and sex of the patient, the ordinal number of the worm (the first, second, third, etc. worm for the patient) was recorded. The date when a worm first broke the skin ("Date d'apparition du ver") and the date a case was recorded by the VHW ("Date cas etait signale") were taken. These dates proved useful in determining the lag time in reaching patients after a worm had emerged. The VHWs were also required to indicate whether they had told the patient not to fetch water ("Avez-vous dit au malade de ne pas aller puiser de l'eau?") and whether they had bandaged the wound ("Avez-vous fait pansement au malade?").

VHWs were taught to treat and bandage wounds and were provided with medical supplies. Treating patients has helped improved case reporting, and application of occlusive bandages has reduced the dissemination of larvae. VHWs presented the following case containment messages to patients: the patient should stay away from drinking water sites and should make arrangements to have other family members or friends fetch water. VHWs were asked to circulate frequently in their villages to search for patients who had not sought treatment.

HOTs visited primary villages under their jurisdiction weekly and recorded all new cases on a standardized form. This form was laid out exactly like the village registry (Annex 8) but included information about the worker recording the information and the date the information was recorded on the form. The forms were then either given to the supervisor in Mora or held at the HOT's post until a supervisor collected them.

Twenty primary villages were divided among seven HOTs as follows: Mora-1 (five villages), Mora-2 (two), Kolofata (three), Mayo Ouldeme-1 (two), Mayo Ouldeme-2 (two), Tala Mokolo (four) and Godigong (two). Each team was also responsible for carrying out surveillance in secondary villages in its region. Three

other HOTs were formed to cover regions with secondary but no primary villages. These included Assie Harde, Bounderi and Meme (Table 1). The number of cases reported by each team in 1991 is shown in Table 4.

Some villages that apparently should have been included on the list of primary villages were not: Djoue and Mora Massif in Mora Massif Canton and Gamnaga in Zouelva Canton (Table 1). These villages were either incorrectly named in the 1990 survey or were composed of several widely spread villages. Two villages included as primary villages did not have enough cases to meet the criteria. None of the villages covered by the Godigong team had five or more cases in 1990. Slavada (Podoko Nord Canton), with three cases in 1990, was elevated to a primary village to give its team at least one primary village at the beginning of the 1991 season. Mayo Plata (Ouldeme Canton), with only four cases in 1990, was included and its HOT's coverage was extended to the nearby villages of Madavare A and Madavare G.

Surveillance forms for the villages were turned over to a supervisor only days after the HOTs had collected them. In Mora, results from the forms were entered into a computer and a weekly summary was prepared for Dr. Dama, who reviews the program during a weekly meeting with the supervisors. This surveillance system allows for a rapid response to outbreaks of cases.

The surveillance information also provides some measure of the success of the case containment program. An analysis of the time between the appearance of the worm and the day it is reported to the VHW shows that the majority of cases were reported within five days of emergence, with a mean of seven days (Table 5). Although this interval is unacceptably long, preliminary analysis indicates that as the program matured during the 1991 season, the lag time became shorter.

Two other indicators for case containment are shown in Table 6. Ninety-nine percent of the time VHWs told patients not to fetch water and they bandaged a patient's wound 77 percent of the time. Failure to bandage wounds usually occurred when supplies had been exhausted.

Table 4
Number of Cases Recorded by Each HOT, 1991

NUMBER OF CASES RECORDED IN 1991 BY EACH HEALTH OUTREACH TEAM

TEAM	Freq	Percent	Cum.
AH	0	0.0%	0.0%
AU	1	0.3%	0.3%
BO	3	0.9%	1.2%
GO	14	4.1%	5.3%
KE	125	37.0%	42.3%
M1	128	37.9%	80.2%
M2	15	4.4%	84.6%
ME	5	1.5%	86.1%
MO1	12	3.6%	89.6%
MO2	17	5.0%	94.7%
TM	18	5.3%	100.0%
TO	0	0.0%	100.0%
Total	338	100.0%	

Mean per TEAM group = 28.17
StdDev = 46.42

AH= AISSE HARDE
AU= NOT REPORTED BY A TEAM
BO= BOUNDERI
GO= GODIGONG
KE= KERAWA
M1= MORA-1
M2= MORA-2
ME= MEME
MO1= MAYO OULDEME-1
MO2= MAYO OULDEME-2
TM= TALA MOKOLO
TO= TOKOMBERE

Table 5
Lag Time between Worm's Appearance And Report to VHW

LAGTIME	Freq	Percent	Cum.
0	12	5.3%	5.3%
1	32	14.1%	19.4%
2	15	6.6%	26.0%
3	18	7.9%	33.9%
4	25	11.0%	44.9%
5	28	12.3%	57.3%
6	15	6.6%	63.9%
7	20	8.8%	72.7%
8	10	4.4%	77.1%
9	5	2.2%	79.3%
10	8	3.5%	82.8%
11	6	2.6%	85.5%
12	3	1.3%	86.8%
14	2	0.9%	87.7%
16	4	1.8%	89.4%
17	1	0.4%	89.9%
18	3	1.3%	91.2%
20	2	0.9%	92.1%
21	2	0.9%	93.0%
22	2	0.9%	93.8%
25	1	0.4%	94.3%
26	2	0.9%	95.2%
28	1	0.4%	95.6%
29	1	0.4%	96.0%
30	1	0.4%	96.5%
32	1	0.4%	96.9%
34	1	0.4%	97.4%
37	1	0.4%	97.8%
38	1	0.4%	98.2%
40	1	0.4%	98.7%
44	1	0.4%	99.1%
49	1	0.4%	99.6%
50	1	0.4%	100.0%
Total	227	100.0%	

Sum = 1670.00
Mean = 7.36
Standard deviation = 8.63

Table 6. VHW Practices

WAS PATIENT TOLD NOT TO FETCH WATER

DONTFETCH	Freq	Percent	Cum.
+	295	99.0%	99.0%
-	3	1.0%	100.0%
Total	298	100.0%	

WAS THE WOUND BANDAGED

BANDAGED	Freq	Percent	Cum.
+	229	76.8%	76.8%
-	69	23.2%	100.0%
Total	298	100.0%	

The frequency distribution of the number of worms harbored by each patient (Table 7) shows that 93 percent had only one worm and the mean was 1.15 worms per patient. This is a relatively low mean and is a good indication of low-intensity transmission.

Some difficulty was encountered impressing the HOTs with the importance of accurate, comprehensive surveillance. This was particularly true for the older teams, whose only responsibility in previous years had been Abate treatment. In general the teams responded well after persistent reminders from supervisors, but there is room for most teams to improve surveillance.

Recommendations:

1. All villages with one or more cases in 1991 should be treated as primary villages in 1992 and receive all program interventions. Secondary villages would consist of villages that had cases in 1990 but none in 1991.

2. The surveillance program must be more closely and routinely monitored to ensure that all cases are identified. The HOTs must routinely check whether cases have been missed by the VHWs, and the supervisors must in turn confirm that the HOTs have accurately reported all cases. A detailed plan should be worked out by the program chief and supervisors.

4.1.3. Health education

Twenty World Neighbor flip charts were donated by Global 2000. After slight modification to make them more culturally appropriate, these flip charts became the main source of training materials in 1991. After a great deal of delay, UNICEF signed a contract in mid-March 1991 with Atelier de Materiel Audio-Visuel (AMA) for the local production of education materials. Field tests of the material were done in late September and final production is scheduled for late 1991.

Village-level training was done principally by seven health trainers from CARE and two from the Ministry of Social Welfare and Women's Affairs (MINASCOF). Table 8 shows that 123

Table 7
Frequency of Patients Having One or More Worms And the Mean Number of Worms Per Patient in 1991

Number of Worms by Patient	Freq	Percent	Cum.
1	277	93.3%	93.3%
2	10	3.4%	96.6%
3	3	1.0%	97.6%
4	3	1.0%	98.7%
5	2	0.7%	99.3%
6	1	0.3%	99.7%
8	1	0.3%	100.0%
Total	297	100.0%	

Sum = 342.00
Mean = 1.15
Standard deviation = 0.71

Table 8
Number of Health Education Sessions by Village, 1991

VILLAGE	Freq	Percent	Cum.
DOUGDJE	6	4.9%	4.9%
DOUME	4	3.3%	8.1%
GAGADAMA	5	4.1%	12.2%
GUEBEDE	6	4.9%	17.1%
HERE	4	3.3%	20.3%
JILVE	10	8.1%	28.5%
KOULONG/GOLDA	9	7.3%	35.8%
MAGUICHE	8	6.5%	42.3%
MAYO PLATA	6	4.9%	47.2%
MBRIME	10	8.1%	55.3%
NDABA	6	4.9%	60.2%
OUZEDEDE (OUJDE	11	8.9%	69.1%
PLATA KAPA	5	4.1%	73.2%
SANDA WADJIRI	6	4.9%	78.0%
SIGAI	8	6.5%	84.6%
VADAVOUA	1	0.8%	85.4%
VAME/NDRIME	14	11.4%	96.7%
VANDELAR	4	3.3%	100.0%
Total	123	100.0%	

Mean per VILLAGE group = 6.83
StdDev = 3.11

sessions were held at 18 different sites. The number of women, men and children at each session and whether or not the chief of the village was present was recorded on standardized forms. The chief was present 78 percent of the time; the average group size was 18 with an average of seven males, six females and four children. The attendance of village chiefs and a good representation of women indicate that the message is being received well and is reaching the appropriate audience.

In spite of trainers' diligent efforts, from August onward they often had difficulties finding villagers to attend the sessions. July to November is the growing season, an intense period of work for villagers in the Mayo-Sava. In addition, trainers were often unable to attend scheduled meetings because of rains and impassable roads.

A training course for all GWEP health educators is scheduled for January 1992. It will serve as a refresher course on health education and cover the use of the new materials developed by AMA. The training will be carried out by two senior health educators, one from the Ministry of Health and one from CARE, as well as AMA personnel who were integral in developing the new materials.

Health education sessions in the villages will begin shortly after the end of the course and continue until June or July, after which it becomes difficult to assemble villagers because they are working their farms. Presenting health education during the non-transmission season has the advantages of not competing with agricultural work and getting the messages to the villagers well before the beginning of the transmission season.

Recommendations:

1. Health education in the villages should be carried out in the dry season, before transmission begins. This recommendation has already been acted on by the GWEP.

2. A means for determining the effectiveness of the health education program should be devised. AMA and anthropologists in the country should be asked to assist in the development of an ongoing program assessment.

4.1.4. Distribution of water filters

Mr. Alami, UNICEF Representative for Water and Sanitation, found craftsmen in the south near Yaounde to make rattan filter supports. Fine-mesh monofilament filter material donated by Du-Pont was sewn onto the rings to produce a filter like the ones used in the Guinea worm eradication program in Ghana. These filters were very popular with the local population, but problems with the craftsmen and administrative problems at UNICEF delayed their delivery to Mora until well after the transmission season had begun. The first shipment of 1,400 did not arrive until almost mid-July, and a second shipment of about 1,000 arrived in mid-September.

The numbers of filters distributed by village and by team are shown in Tables 9 and 10. A breakdown of the delivery by month shows that roughly 1,200 filters were distributed in June and July, 700 in August and 350 in September.

A problem with the filters is that the rattan ring frequently comes apart. Because rattan is not found in the Mayo-Sava, the villagers are unable to repair the rings.

Recommendations:

1. Attempts should be made to produce acceptable filters in or near to the endemic region and they should be distributed earlier in the season.

2. A system must be developed to determine the success of the program by measuring villagers' filter use.

4.1.5. Abate treatment

Appropriate techniques for Abate treatment, including accepted methods for determining the volume of the water sites and of Abate needed, were taught at the training course held in April 1991. All HOTs had sufficient Abate 200 left over from 1990 to carry out the first treatments of the season. A new shipment of Abate 500 arrived in Mora in July and was immediately distributed to the HOTs, who were instructed to dispose of the old Abate 200.

Table 9
Number of Filters Distributed in 1991 by Village

VILLAGE	Freq	Percent	Cum.
ADEKELE III & I	48	2.0%	2.0%
DOUGDJE	80	3.3%	5.3%
DOUME	131	5.5%	10.8%
GAGADAMA	98	4.1%	14.9%
GUEBEDE	25	1.0%	15.9%
HODEWAY	56	2.3%	18.3%
HOUDMEKOUA	100	4.2%	22.5%
JILVE	247	10.3%	32.8%
KOULONG/GOLDA	220	9.2%	42.0%
MAGUICHE	30	1.3%	43.2%
MBRIME	89	3.7%	46.9%
NDABA	126	5.3%	52.2%
OUZEDEDE (OUJDE	140	5.8%	58.0%
PLATA KAPA	98	4.1%	62.1%
POUCHE BLEBLE	40	1.7%	63.8%
SAVA	20	0.8%	64.6%
SIGAI	57	2.4%	67.0%
SLAVADA (GOURVE)	50	2.1%	69.1%
TALA DABARA	110	4.6%	73.7%
TCHOKOYABA I,II	49	2.0%	75.7%
TIDIWE	113	4.7%	80.5%
VADAVOUA	40	1.7%	82.1%
VAME/NDRIME	300	12.5%	94.7%
VANDELAR	40	1.7%	96.3%
WARA WIDE	88	3.7%	100.0%
Total	2395	100.0%	

Mean per VILLAGE group = 95.80
StdDev = 70.43

Table 10
Number of Filters Distributed in 1991 by HOTs

TEAM	Freq	Percent	Cum.
GO	200	8.4%	8.4%
KE	294	12.3%	20.6%
M1	673	28.1%	48.7%
M2	195	8.1%	56.9%
ME	20	0.8%	57.7%
MO1	427	17.8%	75.5%
MO2	98	4.1%	79.6%
TM	488	20.4%	100.0%
Total	2395	100.0%	

Mean per TEAM group = 199.58
StdDev = 227.61

Each team was taught to record important information on a form (Annex 9). These forms were returned to the Mora Headquarters routinely and the results entered into the computer. All teams began treatments in May, except the one in Mayo Ouldeme, which began in mid-June. Table 11 shows the total number of treatments completed by each team by mid-August 1991 and the number of cases reported by each team in 1990 and 1991.

Although data on the quantity of Abate used in 1990 is not available, the teams maintained roughly the same schedule and treated approximately the same number of sites in both 1990 and 1991. Note that the Godigong team performed the second largest number of treatments and dispensed the second highest quantity of Abate, yet the number of cases reported in their region increased slightly from nine to 14. This brings into question the need for generalized application of Abate when there are only a few cases in a region. Treating only in areas where cases have been reported might be a better option.

In 1991 as in 1990, we found that the HOTs concentrated on sources of drinking water available at the beginning of the rainy season. Efforts to expand treatment to include water bodies present only later in the season have not been very successful. New efforts must be made in 1992 to ensure that the teams cover all potential transmission sources throughout the transmission season.

Recommendations:

1. The Abate program should be reassessed, particularly in areas with low numbers of cases.

4.1.6. Establishing a computer-based management system

UNICEF provided the GWEP with a personal computer and printer, which were taken to the program headquarters in Mora in April 1990. Software available to the GWEP included EpiInfo 5.1, dBase 4, Wordperfect, Quicken and Lotus 123. A CDC program produced for Guinea worm eradication programs was tested. Unfortunately, its purpose was assimilation of national-level statistics and it was unsuitable for recording village-based data.

Table 11

Abate Usage in Mayo Sava Between May - and early August 1991				
Health Outreach Team	Total Number of Treatments Performed	Total Volume of Abate Used (ml)	Total Number of GWD Cases 1990	1991
Godigong	86	2,093	9	14
Kolofata	31	2,330	390	129
Mora-1	59	868	241	123
Mora-2	4	18		16
Mayo Ouldeme	28	1,097	41	29
Tala Mokolo	107	973	65	18

Ms. Susan Graham developed a data entry and management system for all intervention components of the GWEP using EpiInfo. She has begun work on a management system for the budget using Quicken. Results presented in this report serve as an example of the benefits of using computers to manage a GWEP program.

Recommendations:

1. When it arrived in Mora, the computer was damaged so that it was impossible to use it with a printer. This problem cannot be fixed in Cameroon. A substitute computer should be sent to Mora until the original computer has been fixed.

4.2. Provision of Potable Water to Endemic Villages

For the past two years there has been a lack of communication and coordination among groups working to provide new wells to Guinea worm-endemic villages in the Mayo-Sava. Four groups are assisting with well development in that region: Fond Special d'Action Rural (FSAR II), a World Bank project committed to drilling 1,000 bore-hole wells in northern Cameroon in the next five years, CARE, UNICEF and Peace Corps. These organizations have established among themselves who works in which villages.

Villagers must collect and put aside approximately $500 before FSAR will drill a bore-hole well. The money is placed in a bank account controlled by a village committee in charge of well maintenance. The committee must select someone to be in charge of well maintenance and repair. He or she is sent for training by FSAR. While this approach is a commendable, it does have some disadvantages in the endemic region because: 1) it is often not feasible to drill bore-hole wells in mountainous regions; 2) many villages are either too small or too poor to raise the required money.

CARE works in villages that are not included in the FSAR program. CARE requires much less money from villagers (approximately $100) and insists on community participation. Community education is carried out before each project begins. CARE either digs draw wells or improves existing wells.

UNICEF will not work in a village that either FSAR or CARE has targeted. Past attempts at collaborative projects between CARE and UNICEF have met with limited success. Requirements for the village are less well-defined by UNICEF — for example, it provided two bore-hole wells in Sanda Wadjiri in 1990 and the only requirement was that the village select someone to attend a training course in well maintenance. UNICEF seems willing to pick up villages that have not been targeted by either FSAR or CARE for projects, and will probably approach independent drillers, as it has in the past, to carry out the work.

Peace Corps projects are community-based efforts and also require a financial contribution from the community, but the amount varies according to the type of project and the resources of the village. Mr. Larry Kaye, a PCV who has been in Mora since 1989, has led an effort to dig a draw well in Sanda Wadjiri. Unfortunately, that well is still not functional. Peace Corps has agreed to replace Mr. Kaye when his tour is over in 1991.

Ms. Susan Graham, Mr. Larry Kaye and I listed the important endemic villages and their current water situation. I then met separately with Mr. Pierre Dama, Chief of the FSAR program in the Extreme-North, Mr. Michael Turcott and Mr. Rubin Bin, who are responsible for CARE water projects, and Mr. M. Alami, Chief of Water and Sanitation for UNICEF, to see whether they could make commitments to carry out water projects in all villages needing assistance before the beginning of the next transmission season in April 1992. The results of that effort, summarized in Table 12, were discussed at the National Task Force in September 1991. CARE, UNICEF and Peace Corps agreed to take on villages in need of assistance where nothing had been planned for 1992.

Table 12

Current Situation and Proposed Projects for Provision of Potable Water in GWD-Endemic Villages

Village	Available Potable Water	No. Case 1991	Projects Planned			Recom-mendation for 1992
			FSAR	CARE	UNICEF	
Sanda Wadjiri	2 bh 1 d,m	71	2 bh	--	----	
Doudje	none	5	1 bh	--	----	
Ndaba	1 bh	47	1 bh	--	----	1 d,m UNICEF
Vame	4 d,m	83	---	--	----	
Doume	none	21	1 bh	--	----	Repair/ improve wells(PC, UNICEF)
Mbrime	none	3	---	1d,m	----	
Sigai/ Maguiche	1 d,m	2	---	--	----	
Koulong/ Guebede	1 d,m	6	---	1d,m	----	
Gagadama	2 d,m	11	---	1d,m	----	Redig well
Tidiwe	none	14	--	---	----	1 d,m UNICEF
Madavare	none	5	--	---	----	1 d,m CARE
Warawede	?	5	--	---	----	Study
Vandelar	none	4	--	---	----	Repair/ improve wells: PC UNICEFd
Jilve	3 d,m	2	1 bh	---	----	
Ouzedede	1 d,m 1 bh	5	--	---	----	Imprrove wells: PC UNICEF
Tala Dabara	?	7	--	---	----	Study
PoucheBleble	?	4	--	---	----	Study
Plata Kapa	none	8	--	---	----	1 d,m CARE

bh= bore hole well
d = draw well
m = knee high or taller margin around well

Recommendations:

1. UNICEF, CARE and Peace Corps should actively promote projects that will either improve existing wells or provide new sources of potable water before the 1992 transmission season in the following villages: Ndaba, Doume, Gagadama, Tidiwe, Madavare, Vandelar, Ouzedede and Plata Kappa.

2. No information was available on the current status of potable water in several villages. A fact-finding mission should be carried out to determine the needs of the following villages: Warawede, Tala Dabara and Pouche Bleble

4.3. Improving the Departmental Surveys

Two main problems with the end-of-year, department-wide survey carried out in October 1990 were the lack of Guinea worm disease identification cards and the absence of rigorous, standardized follow-up verification by supervisors. The forms were also cumbersome and attempted to gather unneeded data at the expense of brevity and preciseness.

During the September 24, 1991, NTF meeting (Annex 3), modification of the survey was discussed. It was decided that a plastic-coated identification photo of a Guinea worm partially extracted from a foot should be used to help identify cases during the house-to-house survey. The photo will also be used by supervisors who return and verify cases in villages where no cases had been reported during the 1991 transmission season. All villages, even those covered by surveillance during the transmission season, will be included in the departmental survey. This will provide a measure of accuracy of both the in-season and post-season surveillance.

Revision of the forms used in the 1991 departmental survey was also recommended. In the two days after the NTF meeting, I met with Dr. Dama and Dr. Trebucq of OCEAC to revise the forms. Dr. Trebucq was of invaluable assistance to us. The new forms were produced on computers at OCEAC. One (Annex 10) is to be used in the house-to-house case searches. The other (Annex 11) is for each case and has a section for a supervisor's confirmation.

The need to carry out end-of-year surveys in other regions where cases have been reported was also discussed at the NTF meeting. There were reports of cases from two areas in the North Province. Investigation by Mr. Obate Zo'o of the Ministry of Health Bureau of Onchocerciasis, Schistosomiasis and Dracunculiasis January 30 - February 2, 1991 revealed cases in two villages near Pitoa. Pitoa was itself an endemic village in the mid-1980s. The second area is Rey Bouba, a village not far from the Chadian border. Dr. Sam-Abbenyi, National Coordinator for GWEP, confirmed cases in the Rey Bouba region.

The NTF recommended that surveys covering the two subdivisions in question be carried out using the same procedures used in the Mayo-Sava survey. Personnel from the two areas would work as part of the Mayo-Sava survey to learn the procedures. Dr. Sam-Abbenyi would personally oversee the surveys in the Pitoa and Rey Bouba subdivisions, scheduled for December 1991.

4.4. Assistance with Administration of the Mayo-Sava GWEP

Dr. Dama informed me in early July that UNICEF had not fully funded all sections of the operational budget for the community-based program (Annex 12). In addition, some costs had not been included in the request. I assisted Dr. Dama in preparing a supplementary budget request (Annex 13) that was submitted to UNICEF July 12 and approved shortly afterwards.

We also prepared a budget for consideration by UNICEF and Peace Corps to cover activities during the dry (non-transmission) season from November 1991 to April 1992 (Annex 14). The main activity was health education and general training for VHWs. (It is the government's ambition to provide a two-week general training course for VHWs throughout the country. A number of GWD endemic villages have only recently identified individuals to serve as VHWs.) The proposal covered four activities:

1. 10 days of general training with emphasis on GWD for VHWs in 18 endemic villages that do not have formally trained VHWs;

2. two days of training on GWD for VHWs who have already received general training;

3. a training-of-trainers course followed by a training course for the health educators to introduce the materials recently developed by AMA;

4. funding for health education in the villages for February - April 1992.

Dr. Dama and I met with Mrs. Deborah Agbor-Tabi, Associate Peace Corps Director for Health and Community Development, and Mr. Alami of UNICEF September 25. UNICEF and Peace Corps agreed to support the program, with each picking up two portions. UNICEF will fund activities 1 and 2, and PC will fund activities 3 and 4.

5. Itinerary

Date	Place	Activities
Feb. 27 - March 1	Yaounde	Meetings with USAID and Ministry of Health
March 4-6	Yaounde	National Task Force Meeting and separate meetings with UNICEF, CARE, Peace Corps, Dr. Chippaux and Dr. Desfountaine
March 7-9	Maroua & Mora	Travel to Extreme-North; meeting in Maroua with Dr. Hamidou, Provincial Delegate for Health; meeting in Mora with Dr. Dama, Departmental Chief of Health Services; meeting with Peace Corps Volunteers
March 11-16	Mora	Planned training course; visited village with active cases
April 1-15	Mora	Worked on training course
July 2-22	Mora	Assisted in putting program in place
Sept. 1-20	Mora	Worked on various components of program
Sept. 21-28	Yaounde	NTF meetings and separate meetings on improving departmental survey and budget

Annex 1

List of People Contacted

*Dr. Owona Essomba Rene, Director of Preventive Medicine, MOPH

*Dr. Sam-Abbenyi Amos, Subdirector of Epidemiology, Department of Preventive Medicine, MOPH and Coordinator of National Task Force for Guinea Worm Eradication

*Dr. Hamidou Issoufa, Provincial Delegate, MOPH, Extreme-North Province

*Dr. Dama Mana, Departmental Chief of Service, MOPH, Mayo-Sava Department

Mr. Pierre Dama, Chief FSAR II Program, Ministry of Agriculture, Maroua

Mr. James Washington, USAID/Cameroon, Head EHRP

*Mr. Richard Greene, USAID/Cameroon, Health Officer

Mr. Juan Fernando Aguirre, UNICEF Cameroon, Country Representative

*Mr. Mohamed Bendriss Alami, UNICEF Cameroon, Program Director Rural Water and Sanitation

Ms. Judy Collins, CARE Cameroon, Director

Mr. Michel Larouche, CARE Cameroon, Deputy Director

Mr. Michael Turcott, CARE Cameroon, Chief of Water and Health, Mokolo

Dr. Seumo Fosso Eleonore, CARE Cameroon, Health Coordinator

*Mrs. Deborah Agbor-Tabi, Peace Corps Cameroon, Associate Director for Health and Community Development

Mr. Larry Kaye, Peace Corps Volunteer, Mora

Ms. Susan Graham, Peace Corps Volunteer, Mora

Ms. Jacqueline Bouwmans, Cadre Audio Viseul d'AMA

*Dr. Jean-Philippe Chippaux, Centre Pasteur Yaounde (ORSTOM)

*Dr. Desfontaine, Chief, Health Services, OCEAC

*Dr. Arnaud Trebucq, Deputy Chief of Epidemiology and Statistics, OCEAC

Mr. Timothy Manchester, Director, Save the Children, Cameroon

* Representative to the National Task Force for Guinea Worm Eradication

Annex 2

Announcement of a National Task Force Meeting
March 6, 1991

ANNEX 2 -38A-

NEA.-

MINISTERE DE LA SANTE PUBLIQUE

REPUBLIQUE DU CAMEROUN
Paix - Travail - Patrie

N° 379 /MP/MSP/SG/DMPR/DAMPR/SDE/SLE/BOSD. MA 7

MESSAGE - PORTE

LES DESTINATAIRES DU PRESENT MESSAGE, MEMBRES DE LA TASK FORCE NATIONALE SONT INVITES A ASSISTER PERSONNELLEMENT A UNE REUNION QUI AURA LIEU AU BUREAU DU SOUS/DIRECTEUR DE L'EPIDEMIOLOGIE LE MERCREDI 06 MARS 1991 A 10H30 PRECISES.

L'ORDRE DU JOUR PORTERA SUR :

1- LE PLAN D'ACTION DE L'ELIMINATION DE LA DRACUNCULOSE EN 1991.

2- LES PREPARATIFS DE LA DEUXIEME JOURNEE NATIONALE DE LA DRACUNCULOSE

DESTINATAIRES :
- Mr. ALAMI, UNICEF
- Mr. MBOUZEKO, OMS
- Dr. KAMWA, MINSAP
- Pr. SAME EKOBO, CUSS
- Dr. DESFONTAINE, OCEAC
- Dr. CHIPPEAUX, CPC
- Mrs AGBOR-TABI-PEACE CORPS
- Dr. GREER, USAID (MISSION)
- Dr. SUEMO, CARE

YAOUNDE, le 28 FEV. 1991

LE SOUS-DIRECTEUR D'EPIDEMIOLOGIE

Dr. A. Sam-Abbenyi

Annex 3

Announcement of National Task Force Meeting
September 24, 1991

ANNEX 3

.39A.

NEA.

MINISTERE DE LA SANTE PUBLIQUE

REPUBLIQUE DU CAMEROUN
PAIX - TRAVAIL - PATRIE

N° 590 /MP/MSP/SG/DMPR/DAMPR/SDE

Adressé TA

MESSAGE PORTE

LES DESTINATAIRES DU PRESENT MESSAGE SONT INVITES A ASSISTER PERSONNELLEMENT A UNE IMPORTANTE REUNION QUI AURA LIEU DANS LE BUREAU DU SOUS/DIRECTEUR DE L'EPIDEMIOLOGIE LE MARDI 24 SEPTEMBRE 1991 A 15 HEURES PRECISES.

L'ORDRE DU JOUR PORTERA SUR

(1) EXPLOITATION INFORMATIQUE DE L'ENQUETE DEPARTEMENTALE DANS LE MAYO SAVA EN 1990.
(2) PREPARATIFS DE L'ENQUETE NATIONALE (MAYO SAVA, BENOUE/ ARRONDISSEMENT DE PITOA, MAYO REY/ARRONDISSEMENT DE REY BOUBA, MAYO DANAY ET MANYU).
(3) VOLET EDUCATION POUR LA SANTE DU PROGRAMME D'ERADICATION DE LA DRACUNCULOSE.
(4) MISE EN OEUVRE DE LA STRATEGIE D'ENDIGUEMENT DE CAS (CASE CONTAINMENT) AU MAYO SAVA.

DESTINATAIRES :

-Dr.NSUE MILANG OMS ✓
-Mr ALAMI UNICEF ✓
- Pr SAME EKOBO CUSS ✓
-Dr J.P. LOUIS OCEAC ✓
-Dr CHIPPAUX CPC ✓
-Ms AGBOR-'ABI PEACE CORPS ✓
-Mss SUENE CARE INT ✓
-Dr GREER U.TULANE/VBC ✓
- Dr DAMA MANA SDSP/MORA ✓
-Ms GRAHAM SDSP/MORA ✓
-Mr OBATE ZO'O BODS. ✓

YAOUNDE, le 13 SEP. 1991

LE SOUS-DIRECTEUR D'EPIDEMIOLOGIE

Annex 4

Schedule for Training Course for Health Outreach Teams and Health Educators

STAGE DE FORMATION DES ANIMATEURS ET DES EQUIPES DE TRAITEMENT DANS LE CADRE DU PROGRAMME D'ERADICATION DU VER DE GUINEE

Programme du Stage:

Lundi 8 Avril

7h - 7h30	Inscription	
7h30 - 8h	Test Préliminaire	
8h - 8h30	Accueil et Ouverture	Préfet du Mayo Sava
8h30 - 9h30	Generalités sur le Ver de Guinée Présentation du Programme d'Eradication du Ver de Guinée	Docteur DAMA
9h30 -10h	PAUSE	
10h -12h30	Sensibilisation de la Communauté Promotion de l'Action Individuelle	Susan GRAHAM

Mardi 9 Avril

7h30 -10h	Lutte Vectorielle et Traitement des Sources d'Eau	Mahamat DOUGDJE et Aboukar WANDI
10h -10h30	PAUSE	
10h30 -12h	Traitement et Endiguement des Cas	Docteur DAMA

Mercredi 10 Avril

7h30 - 9h30	Surveillance des Cas	Adama MALOUM
9h30 -10h	PAUSE	
10h -11h	Evaluation de la Communauté et Promotion de l'Action Communautaire	Susan GRAHAM
11h -11h30	Planification des Activités 1991	Docteur GREER
11h30 -12h30	Réunion des Equipes	

Jeudi 11 Avril

7h30 - 9h	Réunion des Equipes Présentation des Plans d'Action	Equipes
9h -10h	Résumé et Test Final	Docteur DAMA
10h -10h30	Evaluation du Stage	
10h30 -11h	Cérémonie de Clôture de Stage	Préfet du Mayo Sava
11h -12h	Formation d'Entretien de Moto*	Laurence KAYE Mecanicien OUSMAN

* La formation d'entretien de moto sera pour ceux qui reçoivent les motos d'UNICEF.

Annex 5

April 1991 List

Page 1: Health Outreach Team, health educator and village health worker responsible for each primary village.

Page 2: Work schedule for HOTs and health educators showing when they should visit each village.

Village	Equipes de Traitement	Animateurs	Agent de Santé (ASC)
Kerawa			
Sanda Wadjiri	Guelem et Boui	Kassoum	Maloum et Yerima
Dougdjé	Guelem et Boui	Kassoum	---
Ndaba	Guelem et Boui	Suzanne et Guelem ou Boui	Abba
Mora			
Vamé	Mahama Dougdjé et Aboukar Wandi	Poudito	Tchara Jéremie Doudou Marie
Mbrimé	Dougdjé et Wandi	Hamadou Garga	Amza Melia et Sakoma
Ndrimé	Dougdjé et Wandi	Tamar	---
Gagadama	Toukour et Brahim Lala	Minascof	---
Adakele III	Toukour et Brahim Lala	Minascof	---
Tala Mokolo			
Sigai	Tavia et Piola Josué	Ayouba	Safsaf Jean et Damatal
Maguiché	"	"	Gamagai Fatakwa
Guebedé	"	"	Zougo André
Koulong	"	"	Mazinai Jean
Golda	"	"	Dekochila Dadigoa et Makadji Haboga
Mayo Ouldémé			
Ouzdédé I et II	Koulifa	Abba Mastafa	Melafet
Mayo Plata	"	"	Gouévé David
Jilvé	"	Fadi	---
Godigong			
Tala Dabara	Medjelé et Nabada	Medjelé et Nabada	Zala David
Kourva Wéré	"	"	---
Ouraga	"	"	Zamana Chetima

ANNEX 5 (Page 1)

Village	Equipes des Traitment	Jour de Surveillance	Jour de Traitment	Animateurs	Jour de Animation
Kerawa					
Sanda Wadjiri	Guellim & Boui	chaque lundi	4eme mercredi	Kassoum	1ere & 3eme mercredi
Dougdjé	"	"	"	"	"
Ndaba	"	chaque samedi	3eme mercredi	Susanne & Guellim ou Boui	"
Mora					
Vamé	Mahamat Dougdjé & Aboukar Wandi	chaque lundi	1ere lundi & 1ere juedi	Poudito	1ere & 3eme juedi
Mbrimé		"		Hamadou Gorge	"
Ndrimé	"	"	"	Tamar	1ere ven & 3eme juedi
Gagadama	Toukour & Brahim Lala	chaque mardi	1ere vendredi	Minascof	1ere & 3eme juedi
Adakele III		"	"	"	"
Tala Mokolo					
Sigai	Tavia & Piola Josué	chaque vendr	2eme vendredi	Aycuba	1ere & 3eme vendredi
Maguiché	"	"	"	"	"
Guebedé	"	"	1ere vendredi	"	1ere & 3eme mercredi
Joulong	"	"	"	---------	----------
Golda	"	"	3eme vendredi	---------	----------
Mayo Ouldémé					
Ouzedédé 1 & 2	Koulifa + Mdjele'	chaque samedi	1ere mardi	Abba Moustapha	1ere & 3eme lundi
Mayo Plata	"	chaque mardi	"	"	2eme & 4eme lundi
Jilvé	"	"	"	Fadi	1ere & 3eme lundi
Godigong					
Tala Dabara	Medjelé & Nabada	chaque diman	1ere lundi	Medjelé & Nabada	2eme + 4eme vendredi
Kourva Wéré	"	chaque mercr	1ere mardi		3eme & 4eme mardi
Ouraga	"	"	"	"	"

Annex 6

Annotated List of All Villages Covered By the Mayo-Sava GWEP At the Beginning of the 1991 Transmission Season And HOTs Responsible for Each Village

42A

MINISTERE DE LA SANTE PUBLIQUE

DELEGATION PROVINCIALE DE LA SANTE PUBLIQUE EXTREME-NORD

SERVICE DEPARTEMENTAL DE LA SANTE PUBLIQUE DU MAYO-SAVA

REPUBLIQUE DU CAMEROUN
Paix Travail-Patrie

REPARTITION DES VILLAGES ENDEMIQUES DEPISTES DEPISTES PAR EQUIPES ET AIRES DE SANTE.

EQUIPES DE SURVEILLANCE des Villages Vers de Guinée

AIRE DE SANTE	EQUIPE DE SURVEILLANCE	VILLAGES A SURVEILLER	
MORA	Equipe CDMP MORA	Tidiwé Doumé Mabata xT Vadavoua Blama-Sali Mabata Djoué Oumdala xT Gegadama VAMB & MBREME NDREME Tchakoyaba I xT Tchakoyaba II xT Adékélé III Adékélé IV xT Mora Centre Magala II xT Blamaderi	MORA-MASSI MORA
	KOSSA	Tayer Gougron Gané Aché	DOULO
	1er et 3e lundi 1e et 3e lundi AISSA HARDE KOSSA	Aissa Hardé B.W. Djoundé Madina	DJOUNDE
TALA-MOKOLO	E.S.D. TALA-MOKOLO	Sigal Maguiché Guébédé Koulon Golda Gamelé Jigla	MADA
		Zouelva Matchakoa Mouktélé-Zouelva Gotada Mokol Modeway Dourongo Madala	MOUKTELE. ZOUELVA
KERAWA	C.S.D. KERAWA	Sanda Wadjiri Ndaba Sari Walassa ~~Tallaouri~~ Dougzo Blama Oumaté Zizé Kerawa Wouidé Dougdjé	

426

.../2

Aire de Santé	Equipe de Surveillance	Villages à surveiller
M E M E	C.S. D. MEME	Mangavé Mouyang Moujouré Héré 1° + 3° Mardi ~~[illegible]~~ Mouyané ~~Séwé Guwunda~~ Sere Madia 1er et 3e Mercredi
GODIGONG	C.S.D. GODIGONG	Tala Dabara, Takomani Gourva Wédé Ouzaga Kourgui Tegodélé, Kassa
BOUNDERI	C.S.D. BOUNDERI	Kalta Daltari) Limani Garnack Bounderi 1er lundi et 3e ~~lundi~~

MORA, le 12 Février 1991
Le Chef du Service Départemental
de la Santé Publique du Mayo-

1 jour toutes les 2 semaines
(2 j/mois) pour Tokomani
Kourgui
Kassa

- Dr DAMA MANA -

Mayo Oulddémé — CSD Mayo ouldémé

Sama
Vandela
Madavani Adjimidiré
Kedeh
Plata Kapa *
Plata Doumlalé
Tahuyamé Delemi
Madavare Gagaa
~~Gamilé Gigla~~
Kagayak
Kamafour
Zagamtaure Bakari

Richel Kimmy
Abdoul Karim

Tatatga → Tokoukéré

Annex 7

Sample Page from Village Registry for GWD

Numéro du Ver	Nom du Chef de Famille	Nom du Malade	Prénom du malade	Age	Sexe	Date d'apparition du ver	Avez-vous dit au malade de ne pas aller puiser de l'eau ?	Avez-vous fait pansement au malade ?	Nouveau ou ancien cas	Date cas signalé

Annex 8

Form Used by HOTs
To Record Information from the Village Registry

Date: _____

NOUVELLE EMERGENCE DU VER DE GUINEE

Village: _____ Equipe: _____ Nom de l'enqueteur: _____

Numéro du ver	Nom du chef de famille	Nom du malade	Prénom du malade	Age	Sex	Date d'apparition du ver	Avez-vous dit au malade de ne pas aller puiser de l'eau ?	Avez-vous fait pansement au malade ?	Nouveau ou ancien cas	Date cas était signalé

ANNEX 8

44A

Annex 9

Form Used by HOTs
To Record Information on Abate Treatment

FEUILLE D'ENREGISTREMENT DES DONNEES SUR L'APPLICATION DE TEMEPHOS

Arrondissement: _____ Village: _____ Equipe: _____

Permission des notabilites accordee? ____ Villageois prepares? _____ Nom du responsable de l'application _____

Nom de puit	Type de source d'eau	Longeur	Largeur	Profond.	Volume d'eau (m^3)	Temephos 200	Temephos 500	Temephos utilisee (ml)	Remarques

Annex 10

Form Used in the Departmental Survey to Record Information from Head-of-Household Interviews

ENQUETE NATIONALE DRACUNCULOSE

Fiche d'enregistrement des foyers

Arrondissement ..... Village ..... Fiche n° ..... Date: .....

Canton ..... Chef de Village ..... Enquêteur .....

N° Foyer	Nom du chef du foyer	Quartier	Nb. personnes habitant le foyer			Connaissez - vous le VdG? (Oui/Non)	Combien de personnes ont eu le VdG depuis le début de cette saison des pluies
			Adulte		Enfant		
			H	F			
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
Total							

VdGfoyer

ANNEX 10

469

Annex 11

Form Used in the Departmental Survey To Record Information About Individual Cases

(This form is also used during a follow-up visit by a supervisor to confirm the case.)

ANNEX 11

ENQUETE NATIONALE DRACUNCULOSE AU CAMEROUN

FICHE INDIVIDUELLE DE CAS SUSPECT DE DRACUNCULOSE

Enquêteur: ..... N° de fiche ..... N° de foyer ..... Date .....

Une fiche individuelle doit être établie pour chaque personne ayant présenté un ver de Guinée depuis le premier janvier 1991.

I - IDENTIFICATION DU FOYER

Arrondissement .....

Canton : .....

Village : .....

Quartier :.....

II - IDENTIFICATION DU MALADE

Nom .....

Prénom .....

Age ..... ☐☐☐

Sexe (M ou F) ..... ☐

III - LIEU DE RESIDENCE HABITUELLE

Réside depuis plus d'1 an dans ce village Oui/Non ..... ☐

Si la réponse est N, identifier le foyer de résidence avant de venir dans ce village:

Arrondissement .....

Canton : .....

Village : .....

Quartier :.....

IV - POINTS D'EAU UTILISES

Indiquez le ou les points d'eau ou le sujet puise son eau de boisson pendant la saison pluvieuse:

a) nom de la mare .....

b) nom du mayo .....

c) nom du forage .....

d) nom du puits traditionnel .....

e) nom du puits à margelle .....

V - LA MALADIE

Le sujet reconnaît la photo du ver de Guinée? Oui/Non ..... ☐

Depuis le début de cette saison des pluies, avez-vous eu cette maladie Oui/Non ..... ☐

Vous avez-vu le vers? Oui/Non ..... ☐

Il y avait (ou il y a) une plaie Oui/Non ..... ☐

L'enquêteur voit une plaie ? Oui/Non ..... ☐

A quel mois est sorti le premier vers ? .....

C'était cette année ? Oui/Non ..... ☐

CONFIRMATION DU CAS

Nom du superviseur: .....

Date: .....

C'est un cas de dracunculose de cette année Oui/Non ..... ☐

Annex 12

1991 Budget Request for the Mayo-Sava GWEP Submitted to UNICEF July 12, 1991

484

MINISTERE DE LA SANTE PUBLIQUE

DELEGATION PROVINCIALE DE LA SANTE PUBLIQUE DE L'EXTREME-NORD

SERVICE DEPARTEMENTAL DE LA SANTE PUBLIQUE DU MAYO-SAVA

REPUBLIQUE DU CAMEROUN
Paix-Travail-Patrie

PROGRAMME D'ERADICATION DE LA DRACUNCULOSE DANS LE MAYO-SAVA: BUDGET DES ACTIVITES A MENER EN 1991

****

INTRODUCTION

Les activités du Programme d'éradication de la Dracunculose dans le Mayo-Sava comprendront:

- l'animation (l'education pour la Santé, promotion des filtres, éducation hydrosanitaire) de mai à octobre 1991 dans 14 villages
- le traitement des puits et la surveillance des cas dans 14 villages de mai à octobre 1991
- la surveillance des 63 autres villages infectés de juin à octobre 1991
- l'endiguement des cas par les agents de Santé villageois
- le traitement des cas dans les 14 villages ayant plus de 3 cas de mai à octobre 1991.

4 groupes de budget seront présentés:

- Budget des activités de la période de transmission
- Budget de l'enquête générale de recherche des cas en novembre
- Budget entretien véhicule
- Budget fournitures de bureau.

I- Budget des activités de la période de transmission de Mai à Octobre 1991:

A/ - Animation dans les 14 villages ayant au moins 3 cas en 199 et certains anciens villages ayant au moins 1 cas:

- Education hydrosanitaire
- Mobilisation Communautaire
- Promotion des filtres
- Endiguement des cas.

7 animateurs CARE et 2 animatrices de MINASCOF effectueront cett animation 2 jours de visite/mois/village -

.../2

488

14 x 2 x 6 = 168 jours

Perdiem: 2.000 Frs x 168 = ... 336.000 F

Carburant: 500 Frs x 168 =..... 84.000 F

TOTAL..... 420.000 F

B/ - Traitement des points d'eau et surveillance des cas (y compris endiquement) 14 villages

Objectifs: -Traitement des points d'eau non potable à l'abate dans 14 villages ayant 3 cas au moins (une fois par mois)

- Notification des cas chaque semaine auprès des ASC
- confirmation des cas
- appui aux ASC dans le traitement des malades.

6 équipes de 2 personnes chacunes ~~xxx~~ assureront ce travail pendant 6 mois.

a) Traitement des points d'eau

11 jours/mois x 6 = 66 jours

Perdiem : 2.000 Frs x 66 = 132.000 Frs

Carburant (toutes ces équipes utiliseront les 6 motos UNICEF).

500 Frs x 66 = 33.000 Frs

TOTAL(a) : 132.000 Frs + 33.000 Frs = 165.000 Frs - ~~330,000~~ 495,000

b) Surveillance dans les 14 villages les plus touchés ou anciens

1 visite/semaine/village

8 jours/semaine x 4 x 6 = 192 jours

Perdiem: 2.000 Frs x 192 = 384.000 Frs

Carburant: 500 Frs x 192 = 96.000 Frs

TOTAL (b): 384.000 Frs + 96.000 Frs = 480.000 Frs

TOTAL B : (a) + (b) = 165.000 Frs + 480.000 Frs = 645.000 Frs

C/ - Surveillance des cas dans les 63 autres villages ayant moins de 3 cas en 1990

2 visites par mois et par village

1 journée suffit pour 2 villages

4 jours /mois pour l'équipe de Kossa

4 jours/mois pour l'équipe de Aïssa-Hardé

2 jours/mois pour l'équipe de Boundéri

4 jours/mois pour l'équipe de Mémé

2 jours/mois pour l'équipe de Godigong

Mayo-Ouldémé 2 jours par mois

8 jours/mois pour Koumey Michel

Aboulkarim

4 jours/mois pour l'équipe de Kérawa

4 jours/mois pour l'équipe de Tala-Mokolo
6 jours pour équipe I Mora (Mahama Dougdjé + Aboukar Wandi)
6 jours pour équipe II Mora (Toukour et Brahim)

Soit 46 jours/mois x 5 = 230 jours
Perdiem: 2.000 Frs x 230 = 460.000 Frs
Carburant: 500 Frs x 170 = 85.000 Frs
(Moto Service)
Carburant et lubrifiant pour Motos personnelles
= 1.000 Frs x 60 j = 60.000 Frs

TOTAL(C): 605.000 Frs

D/ - Depistage quotidien et endiguement des cas par les ASC ou un volontaire villageois

- Objectif: - dépistage quotidien des cas
- enregistrement des cas dans un cahier
- pansement
- message au patient pour l'endiguement

Perdiem: 1.000 Frs/semaine x 4 x 6 = 336.000 Frs
(D) = 336.000 Frs

E/ - Collecte des fiches de Surveillance auprès des équipes de traitement, confirmation des cas

Ce travail sera assuré par les 2 volontaires de Peace Corps et le Coordinateur départemental des SSP.

N.B. Le déplacement (Perdiem et carburant) sera assuré par le Peace Corp S'ils se déplacent en voiture le carburant peut leur être fourni.

Pour le déplacement du Coordinateur des SSP
4 jours/mois/équipes soit 12 jours (les 2 équipes de Mora ne sont pas comptées) = 12x6 = 72 jours
Perdiem: 2.000 Frs x 72 = 144.000 Frs
Carburant: 36 jours en moto =
500 Frs x 36 = 18.000 Frs
36 jours en voiture
2.000 Frs x 36 = 72.000 Frs
Perdiem chauffeur:
1.000 Frs x 36 = 36.000 Frs
TOTAL (E) = 234.000 Frs

F/ - Supervision Générale par le Chef de Service Départemental de la Santé Publique du Mayo-Sava

. 1 visite/mois/village = 13x6 = 78 jours
Perdiem = 4.000 Frs x 78 = 312.000 Frs

482

Perdiem Chauffeur: 1.000 Frs x 78 = 78.000 Frs
Carburant : 2.000 Frs x 78 = 156.000 Frs
TOTAL (E) = 546.000 Frs.

II - Budget entretien voiture et motos

- Entretien des 6 motos: forfait 50.000 Frs/an la 1ère année soit 50.000 Frs x 6 = 300.000 Frs
- Entretien du véhicule UNICEF forfait 150.000 Frs

TOTAL II= 450.000 Frs

III - Budget fournitures de bureau

- papier
- stencils
- encre
- chemises

* forfait 100.000 Frs (III).

IV - Enquête générale pour recherche active des cas dans tous les villages du département

- Période: 1ère quinzaine de novembre
- Duree de l'enquête: 15 jours pour les autres villages et 2 jours pour la ville de Mora
- Evaluer la situation de l'endémie après la 1ère enquête de 1990
- L'enquête comprend 2 phases:
  * formation des enquêteurs
  * enquête proprement dite

A/ - Formation des enquêteurs

Période: 1ère semaine de novembre 1991
Budget: Transport des enquêteurs venant hors de Mora = 100.000 Frs
Transport du Dr. Desfontaine pour la formation= billet avion Yaoundé - Maroua = 88.000 Frs

- Perdiem du Dr. Desfontaines pour 3 jours : 75.000 Frs
- Repas pour enquêteurs = 150.000 Frs

TOTAL = 413.000 Frs (a)
(Même budget qu'en 1990)

B/ - Enquête proprement dite

* Perdiemx ASC = 2.000 Frs x 40 = 80.000 Frs
  Perdiem infirmiers, animateurs CARE:
  2.000 Frs x 15 x 36 = 1.080.000 Frs
  Perdiem superviseurs : 2.000 Frs x 15x3= 90.000 Frs
* +carburant et lubrifiant:
  33 motos et 2 véhicules seront utilisés comme l'année dernière (1990):

/5

48E

MINISTERE DE LA SANTE PUBLIQUE

DELEGATION PROVINCIALE DE LA SANTE PUBLIQUE DE L'EXTREME-NORD

SERVICE DEPARTEMENTAL DE LA SANTE PUBLIQUE DU MAYO-SAVA

REPUBLIQUE DU CAMEROUN
Paix-Travail-Patrie

PROGRAMME D'ERADICATION DE LA DRACUNCULOSE DANS LE MAYO-SAVA.-

Requête pour un budget supplémentaire adressé à l'UNICEF YAOUNDE

Dans le projet de budget que nous avions présenté en date du 12 avril 1991 quelques erreures se sont glissées dans les rubriques

1er point: I.B. a) Traitement des points d'eau. En effet chaque équipe de traitement comprend deux personnes pour résoudre les problèmes de langage. Les 165.000 frs représentent le perdiem et carbura pour des équipes comprenant une seule personne. Il convient par conséquent de multiplier les 165.000 frs par 2 soit 330.000 frs pour le traitement des points d'eau pour 14 villages. Or un autre imprévu s'est ajouté. 7 autres villages viennent d'être ajoutés à la liste des villages où les points d'eau doivent être traités (le nombre des cas est assez important). Le budget traitement des points d'eau doit être donc de | 495.000 frs| au lieu de 165.000 frs. Nous sollicitons donc un supplément de 495.000 frs - 165.000 frs = |330.000 frs|

2e point: I.B. b)= Surveillance dans les 14 villages les plus touchés ou anciens.

Nous avions prévu un budget de 480.000 frs mais 344.000 frs seulement ont été alloués. Ce que nous trouvons insuffisant. Un autre imprévu, 7 villages se sont ajoutés soit 21. Le budget doit remonter à 480.000 frs + 240.000 frs = 720.000 frs. Nous avons besoin d'un supplément de 240.000 frs + 136.000 frs = | 376.000 frs |

3e point: Pour l'endiguement des cas nous avons jugé utile voire indispensable d'utiliser les Agents de Santé Communautaire des villages Nous voudrions les motiver avec 1.000 frs / semaine soit 21.000 frs par semaine pour les 21 villages.

Pour les 4 mois de surveillance (juillet - AoUt - Septembre - Octobre) il faudra 21.000 frs x 4 = |336.000 frs|

En conclusion: Pour mener le programme à bon port nous sollicitons un supplément de budget de 330.000 frs +376.000frs+336.000frs = | 1.042.000 frs|.-

.../2

Annex 13

1991 Supplemental Budget Request
For Mayo-Sava GWEP
Submitted to UNICEF July 12, 1991

49A

MINISTERE DE LA SANTE PUBLIQUE

DELEGATION PROVINCIALE DE LA SANTE PUBLIQUE DE L'EXTREME-NORD

SERVICE DEPARTEMENTAL DE LA SANTE PUBLIQUE DU MAYO-SAVA

REPUBLIQUE DU CAMEROUN
Paix-Travail-Patrie

PROGRAMME D'ERADICATION DE LA DRACUNCULOSE DANS LE MAYO-SAVA.-

Requête pour un budget supplémentaire adressé à l'UNICEF YAOUNDE

Dans le projet de budget que nous avions présenté en date du 12 avril 1991 quelques erreures se sont glissées dans les rubriques

1er point: I.B. a) Traitement des points d'eau. En effet chaque équipe de traitement comprend deux personnes pour résoudre les problèmes de langage. Les 165.000 frs représentent le perdiem et carbura pour des équipes comprenant une seule personne. Il convient par conséquent de multiplier les 165.000 frs par 2 soit 330.000 frs pour le traitement des points d'eau pour 14 villages. Or un autre imprévu s'est ajouté. 7 autres villages viennent d'être ajoutés à la liste des villages où les points d'eau doivent être traités (le nombre des cas est assez important). Le budget traitement des points d'eau doit être donc de | 495.000 frs| au lieu de 165.000 frs. Nous sollicitons donc un supplément de 495.000 frs - 165.000 frs = |330.000 frs|

2e point: I.B. b)= Surveillance dans les 14 villages les plus touchés ou anciens.

Nous avions prévu un budget de 480.000 frs mais 344.000 frs seulement ont été alloués. Ce que nous trouvons insuffisant. Un autre imprévu, 7 villages se sont ajoutés soit 21. Le budget doit remonter à 480.000 frs + 240.000 frs = 720.000 frs. Nous avons besoin d'un supplément de 240.000 frs + 136.000 frs = | 376.000 frs |

3e point: Pour l'endiguement des cas nous avons jugé utile voire indispensable d'utiliser les Agents de Santé Communautaire des villages. Nous voudrions les motiver avec 1.000 frs / semaine soit 21.000 frs par semaine pour les 21 villages.

Pour les 4 mois de surveillance (juillet - AoUt - Septembre - Octobre) il faudra 21.000 frs x 4 = |336.000 frs|

En conclusion: Pour mener le programme à bon port nous sollicitons un supplément de budget de 330.000 frs +376.000frs+336.000frs = | 1.042.000 frs|.-

.../2

496

Mora, le 12 juillet 1991.

LE CHEF DE SERVICE DEPARTEMENTAL DE LA SANTE PUBLIQUE DU MAYO-SAVA,

- Dr. DAMA Mana -

Annex 14

Budget Request for November 1991 - April 1992
Submitted to UNICEF and Peace Corps Sept. 20, 1991

50A

PROGRAMME NATIONAL D'ERADICATION DE LA DRACUNCULOSE

Budget des Formations et Animation:
Novembre 1991 - Avril 1992

Ces activités ont pour but 1) mener à bien la surveillance des cas et la strategie de l'endiguement des cas et 2) continuer et rédynamiser l'education pour la santé avec le nouveau materiel éducatif confectionné par AMA.

I. Formation des 18 ASCs dans les villages d'endémie dracunculienne.

La formation va durer 12 jours dont 10 jours ouvrables et 2 jours de week-end.

UNICEF

1) Transport des participants:
1.000 F X 18 participants = 18.000 F

2) Perdiem des participants:
1.000 F X 12 jours X 18 = 216.000 F

3) Perdiem des encadreurs:
2 encadreurs par jour
2 X 10 jours X 2.500 F = 50.000 F

4) Bureau:
Cahiers, bics etc. = 3.600 F
Secretariat = 5.000 F

TOTAL: 292.600 F (Deux cent quarte vingt douze mille six cent francs)

II. Récyclage de 17 ASCs déja formés sur l'endiguement des cas.

2 jours de formation

UNICEF

1) Transport des participants:
1.000 F X 17 = 17.000 F

2) Perdiem des participants:
1.000 F X 2 jour X 17 = 34.000 F

3) Perdiem des encadreurs:
2.500 F X 2 jour X 2 encadreur = 10.000 F

4) Bureau:
Secretariat = 5.000 F
Cahiers, bics etc. = 3.400 F

TOTAL: 69,400 F (Soixante neuf mille quatre cent francs)

502

III. Formation des animateurs à la technique d'animation pour la santé avec le nouveau materiel confectionné par AMA.

Cette formation se deroulera in deux phases:

- Premiere phase: formation des formateurs par un consultant de AMA.
- Deuxieme phase: formation des animateurs proprement dite.

A. Formations des formateurs

- 2 jours de formation + 2 jours pour le voyage du consultant de Yaoundé à Mora.

PC

1) Perdiem et indemnité du consultant de AMA:
(30.000 F + 15.000 F) X 4 jours = 180.000 F

2) Billet avion Yaoundé-Maroua-Yaoundé = 88.000 F

3) Perdiem de 2 formateurs à former venant de Maroua et de Mokolo. Ces 2 formateurs ont de l'experience en matière d'éducation (M. KONDJI de la Delegation de la Santé Publique et M. ABDOURAMAN Mal Bappa de CARE)
8.000 F X 2 X 2 jours = 32.000 F

4) Transport pour les 2 formateurs:
4.000 F X 2 = 8.000 F

TOTAL: 308.000 F (Trois cent huit mille francs)

B. Formation des animateurs proprement dite.

- Participants: 9 animateurs CARE
2 animatrices MINASCOF
1 coordinateur des SSP
2 infirmiers du CSD de Godigong

- Duree de la formation: 5 jours

- Formateurs: M. KONDJI, Maroua
M. ABDOURAMAN mal Bappa, Mokolo
Mme. Suzanne GRAHAM

1) Perdiem de participants:

Ces participants auront droit au perdiem: 2 animateurs de CARE de Kerawa et 2 infirmires de Godigong.
2.000 F X 4 X 5 jours = 40.000 F

2) Transport des participants:
1.000 F X 4 = 4.000 F

3) Materiels bureau et secretariat = 10.000 F

504

4) Cahiers: 200 F X 14 = 2.800 F

5) Perdiem des encadreurs:
10.500 F X 2 X 5 jours = 105.000 F

TOTAL: 161.800 (Cent soixante un mille huit cent francs)

IV. Budget animation et education pour la sante pour la saison intermedaire: Fevrier-Mars-Avril, 1992

- 20 villages à animer
- 2 sorties/mois/village = 40 sorties/mois X 3 = 120 sorties

1) Perdiem:
1.500 F/ sortie X 120 = 180.000 F

2) Carburant et lubrifiant:
750 F/ sortie X 120 = 90.000 F

3) Supervision:
- Chef SDSP Mayo Sava: 2 sorties/mois = 6 sorties
- Mme. Susan GRAHAM: 1 sorties/sem X 4 X 3 = 12 sorties

a) Carburant et lubrifiant:
3.000 F/sortie X 12 = 36.000 F

b) Perdiem Chef SDSP:
4.000 F/sortie X 6 = 24.000 F

c) Chauffeur:
1.000 F/sortie X 12 = 12.000 F

TOTAL: 342.000 F (Trois cent quarante mille francs)

GRAND TOTAL: I + II + III + IV =

292.600 F + 69.000 F + (308.000 F + 161.800 F) + 342.000 F =

1.173.800 F (un million cent soixante treize mille huit cent francs)

à Mora le 20 septembre 1991
Le Chef de Service Départemental de la Santé Publique du Mayo Sava

PC

Annex 15

References Used in This Report

UNICEF/OCEAC "Enquête de recherches actives des cas de Dracunculose dans le Mayo Sava, October 1990."