DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control
and Prevention (CDC)

Memorandum

Date: January 19, 2001

From: WHO Collaborating Center for
Research, Training and Eradication of Dracunculiasis

Subject: GUINEA WORM WRAP-UP # 109

To: Addressees

Detect Every Case (within 24 hours), Contain Every Worm (immediately)!

SUDAN REPORTS 73% OF WORLD'S CASES; HYDRO POLYMERS DONATES 9 MILLION PIPE FILTERS

According to provisional figures received so far for 2000, Sudan has reported 73% of all cases of dracunculiasis for the year (Figure 1, Table 1). Of the provisional total of 51,515 cases reported from Sudan through November, only 90 were reported from northern states (map, state line-listing) (99% reporting rate) and 49 of those were imported by displaced persons from endemic areas in the southern states. 80% of the 90 cases in northern states were contained. Of the 33 villages that reported a case so far in 2000 (indigenous or imported), only 5 villages reported more than 1 indigenous case, including the village of Al Mazmoum West in Sinnar State, which reported 17 indigenous cases (14 contained). All households in that village have received cloth filters, it has 4 safe sources of drinking water, Abate was applied in at least 6 months of 2000 (through October) and the village has received appropriate health education. All of the 33 villages that reported a case in the northern states have received health education, 61% (20) have cloth filters in every household, 64% (21) have at least one source of safe water, and Abate has been used in 45% (15).

Figure 1

DISTRIBUTION OF 70,165 CASES OF DRACUNCULIASIS REPORTED IN 2000*

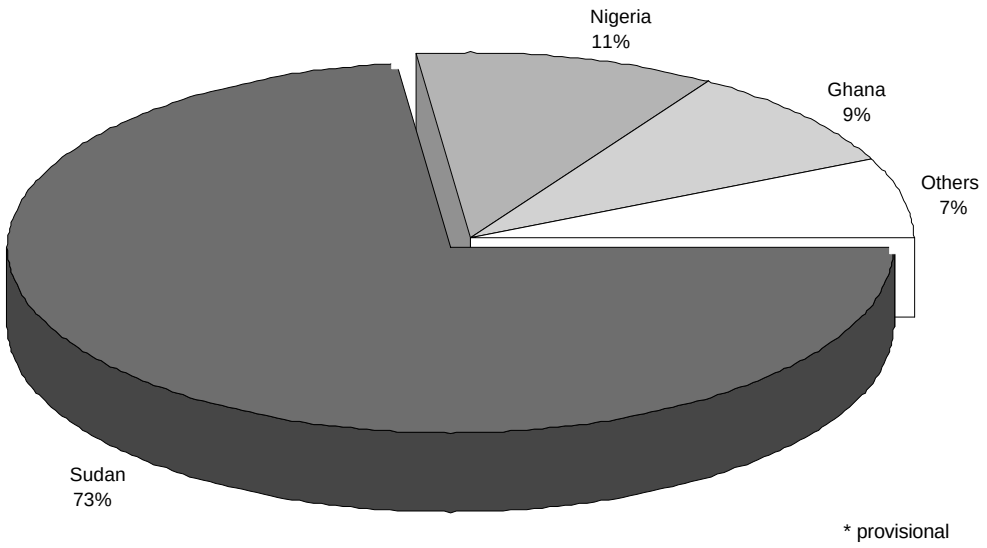


Table 1

Number of cases contained and number reported by month during 2000*
(Countries arranged in descending order of cases in 1999)

COUNTRY	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													%
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.
SUDAN	511 / 1261	602 / 1029	512 / 896	563 / 1309	1951 / 6061	3299 / 8572	3405 / 7408	3910 / 8668	3643 / 9806	2696 / 5405	498 / 1100	/	21590 / 51515	42
NIGERIA	709 / 1265	451 / 993	651 / 1137	368 / 755	346 / 630	324 / 449	337 / 512	321 / 493	274 / 365	228 / 283	202 / 284	365 / 652	4576 / 7818	59
GHANA	1737 / 1896	1214 / 1523	706 / 902	450 / 661	485 / 596	201 / 237	94 / 125	30 / 68	21 / 62	125 / 128	296 / 369	/	5359 / 6567	82
BURKINA FASO	7 / 12	7 / 17	19 / 36	93 / 181	231 / 341	196 / 306	53 / 236	/ 123	/ 10	/	/	/	606 / 1262	48
NIGER	1 / 1	2 / 2	0 / 0	2 / 3	23 / 39	67 / 106	116 / 177	187 / 363	148 / 222	108 / 146	40 / 63	28 / 43	722 / 1165	62
TOGO	63 / 90	39 / 51	36 / 55	16 / 35	50 / 73	45 / 55	46 / 69	20 / 28	31 / 47	52 / 74	101 / 114	96 / 137	595 / 828	72
BENIN	40 / 53	19 / 29	10 / 17	8 / 9	0 / 0	3 / 4	3 / 3	0 / 0	7 / 7	14 / 14	23 / 26	18 / 25	145 / 187	78
COTE D'IVOIRE	25 / 26	63 / 69	15 / 42	5 / 32	6 / 17	16 / 45	12 / 12	23 / 26	8 / 8	6 / 6	5 / 6	0 / 1	184 / 290	63
MALI	5 / 5	0 / 1	0 / 0	5 / 5	5 / 13	6 / 11	14 / 28	19 / 32	32 / 73	50 / 65	23 / 29	3 / 30	162 / 292	55
UGANDA	4 / 4	2 / 2	3 / 4	11 / 11	14 / 16	10 / 10	12 / 24	8 / 15	4 / 4	4 / 5	0 / 0	0 / 2	72 / 97	74
MAURITANIA	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	4 / 5	3 / 8	27 / 44	2 / 26	/	/	/	37 / 84	44
ETHIOPIA	0 / 0	0 / 0	2 / 2	26 / 26	11 / 12	4 / 4	9 / 9	1 / 2	1 / 1	2 / 2	1 / 1	0 / 0	57 / 59	97
C.A.R.^	0 / 13	0 / 6	0 / 1	0 / 0	0 / 1	0 / 8	0 / 4	0 / 0	0 / 0	/	/	/	0 / 33	0
CAMEROON	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	2 / 2	/	/	3 / 3	100
CHAD	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	0 / 0	
TOTAL*	3102 / 4626	2399 / 3722	1954 / 3092	1547 / 3027	3123 / 7800	4175 / 9812	4104 / 8615	4547 / 9863	4171 / 10631	3287 / 6130	1189 / 1992	510 / 890	34108 / 70200	49
% CONTAINED	67	64	63	51	40	43	48	46	39	54	60	57	49	

* Provisional

Shaded cells denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were reported that month.

^ So far, 3 of the 33 cases reported by Central African Republic as Guinea worm disease were confirmed to be onchoceriasis. One case of dracunculiasis was imported from Sudan in January.

Table 2

SUDAN GUINEA WORM ERADICATION PROGRAM
ANALYSIS BY STATE: JANUARY - NOVEMBER 2000

State	Number Endemic Villages	Number of Cases*		Percent of Cases Contained	Percent of Endemic Villages				
					Reporting	Health Education	Full Filter Coverage	Safe Water	Abate
Warab	1813		18338	44	18	32	14	38	0
Jongoli	2229		16074	31	23	37	37	29	0
Buheirat (Lakes)	1198		7579	47	46	72	29	50	3
Bahr Al Jabal	360		2912	54	54	84	34	36	9
East Equatoria	295		1693	64	54	59	8	56	4
Upper Nile	200		1788	33	31	49	19	19	3
W. Bahr Al Gazal	257		1179	64	85	89	77	98	4
N. Bahr Al Gazal	804		1073	54	63	69	58	81	0
W. Equatoria	446		445	49	47	96	31	36	17
Unity	194		344	36	49	51	37	29	1
W. Kordufan	38	(20)	30	77	100	71	68	92	26
Sinnar	9	(2)	22	82	99	56	56	67	56
N. Darfur	10	(15)	15	100	100	100	100	100	100
S. Kordufan	13	(4)	12	67	65	85	92	100	15
White Nile	6	(6)	6	100	100	100	33	83	17
S. Darfur	6	(2)	4	25	100	100	17	50	50
Blue Nile	5	(1)	1	100	100	100	20	100	40
Khartoum	1		0	0	100	100	0	100	0
Totol Sudan	7884		51515	42	36	53	26	44	3

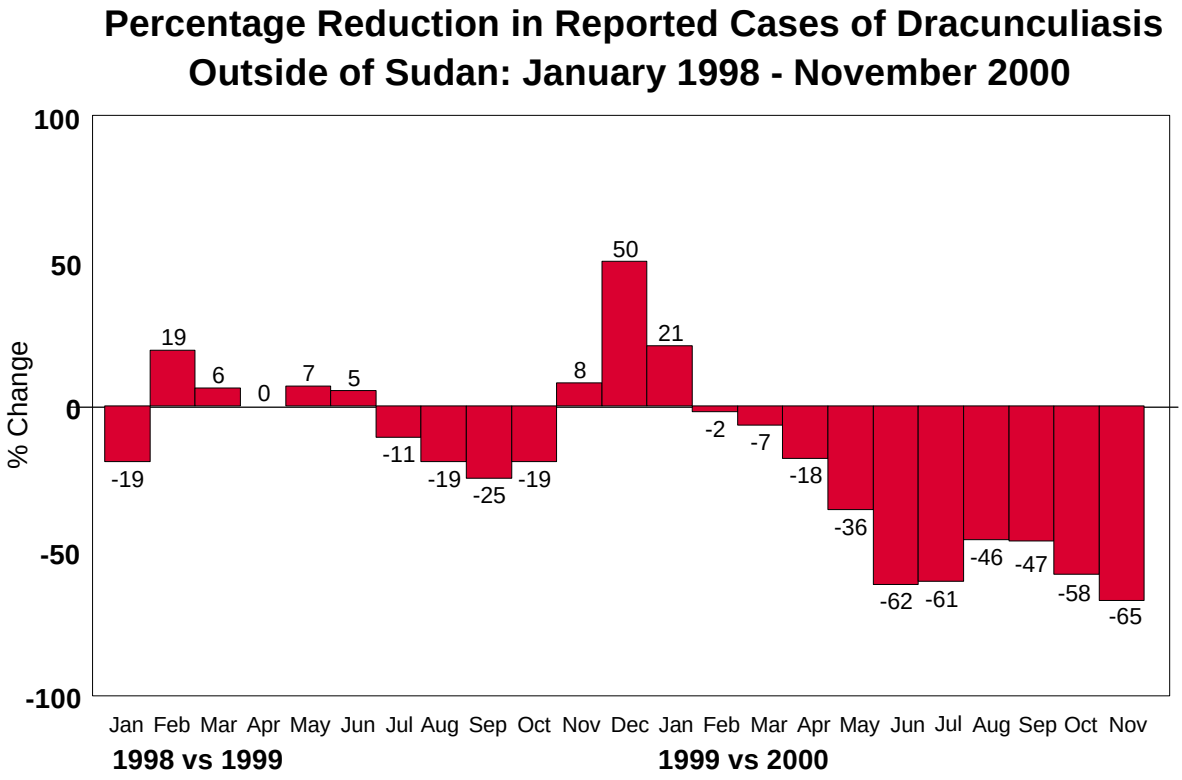
* (#) = number of cases imported from other (southern) states. Included in total.

The latest status of interventions against dracunculiasis in all of Sudan is summarized in Table 2. A total of 678,122 cloth filters for household use and 134,051 pipe filters for personal use were distributed in Sudan in January-December 2000. Operations in much of the endemic southern areas of Sudan continue to suffer from disruptions caused by withdrawal of several NGOs in the controversy over signing a Memorandum of Understanding, and increased bombings and evacuations in 2000. Cases were exported internationally to Ethiopia (7), Uganda (5), Kenya (3), and Central African Republic (1). The Sudan GWEP held its first quarterly Coordination Meeting of 2001 in Khartoum on January 15th-16th, Mr. Craig Withers, Director of Program Support at Global 2000 headquarters, participated. Outside of Sudan, dracunculiasis cases were reduced by –65% in November 2000, and by –34% for January-November 2000 (figure 2).

Hydro-Polymers, a subsidiary in the petro chemical division of the Norwegian agro-chemical company Norsk Hydro, has announced that its employees will donate their time, and the company will match their contribution, in order to donate over 1,500 kilometers of PVC piping for 9 million pipe filters to the Sudan Guinea Worm Eradication Program in 2001! Production of the pipe filters is scheduled to begin on January 17th in Khartoum, Sudan and Nairobi, Kenya. This catalytic donation was stimulated and facilitated by Health and Development International (HDI), which is also donating the one ton of filter cloth pieces for these filters. Norsk Hydro has donated t-shirts for Guinea worm programs in Cote d'Ivoire, Ghana, Nigeria and Uganda in the past.

The Government of Finland has announced a donation of $150,000 to The Carter Center in support of Guinea worm eradication efforts in Sudan in 2000 – 2001. This follows a previous donation by Finland of $150,000 for the same purpose in 1998.

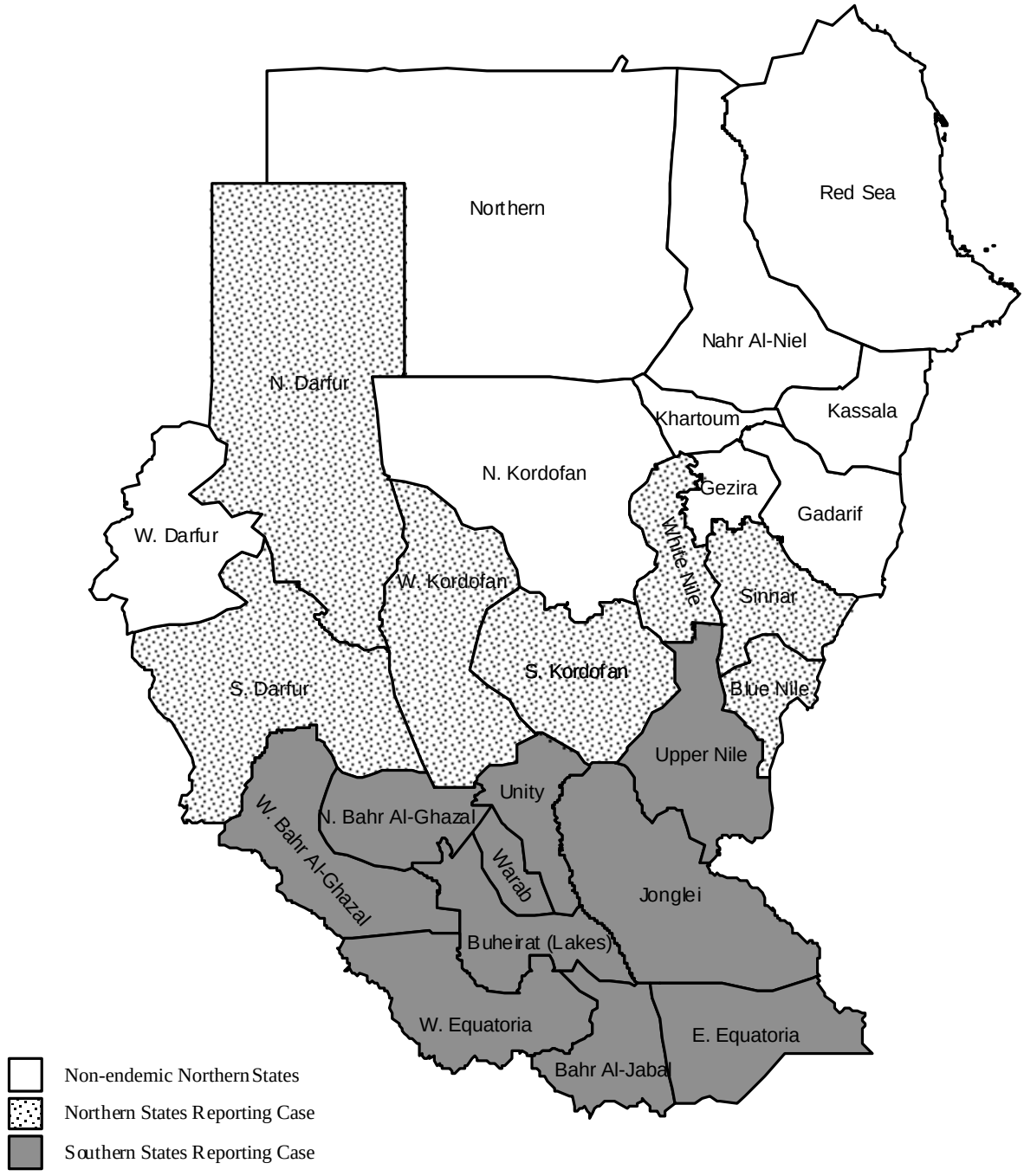
Figure 2



Map 1

Sudan Guinea Worm Eradication Program

States Reporting Cases of Dracunculiasis During 2000



COTE D'IVOIRE PREPARING FOR 2001

Cote d'Ivoire has reported a provisional total of 290 dracunculiasis cases in 54 villages in 2000, of which 179 cases (62%) were reportedly contained. This is a reduction of –38% from the 476 cases reported in 1999, in 89 villages. Only one case has been reported provisionally for December 2000, and that case was imported, from Burkina Faso. 79% of Cote d'Ivoire's cases in 2000 occurred in only 10 villages. The status of interventions in these 10 villages is summarized in Table 3. This program held the first meeting of its steering committee in 2001 on January 4th, chaired by the National Program Coordinator, Dr. Henri Boualou. Participants included senior program headquarters staff as well as representatives of The Carter Center/Global 2000, UNICEF, and MAP International. MAP International will assist the national program in areas that include villages #2, #4, #5, #6, and #9. While in Cote d'Ivoire for this meeting, Dr. Donald Hopkins of The Carter Center also met with the minister of health, WHO and US
Peace Corps.

Map 2

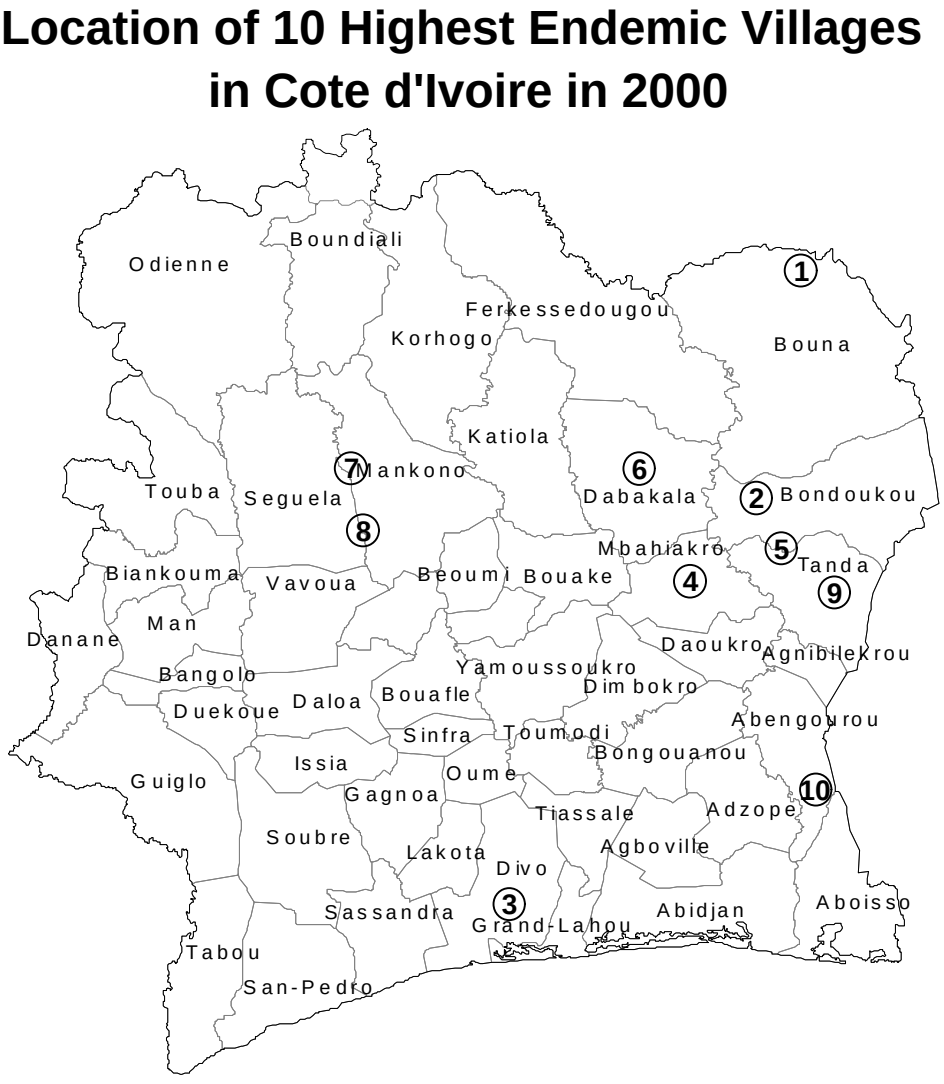


Table 3

Line-Listing Of 10 Highest Endemic Villages In Cote d'Ivoire In 2000

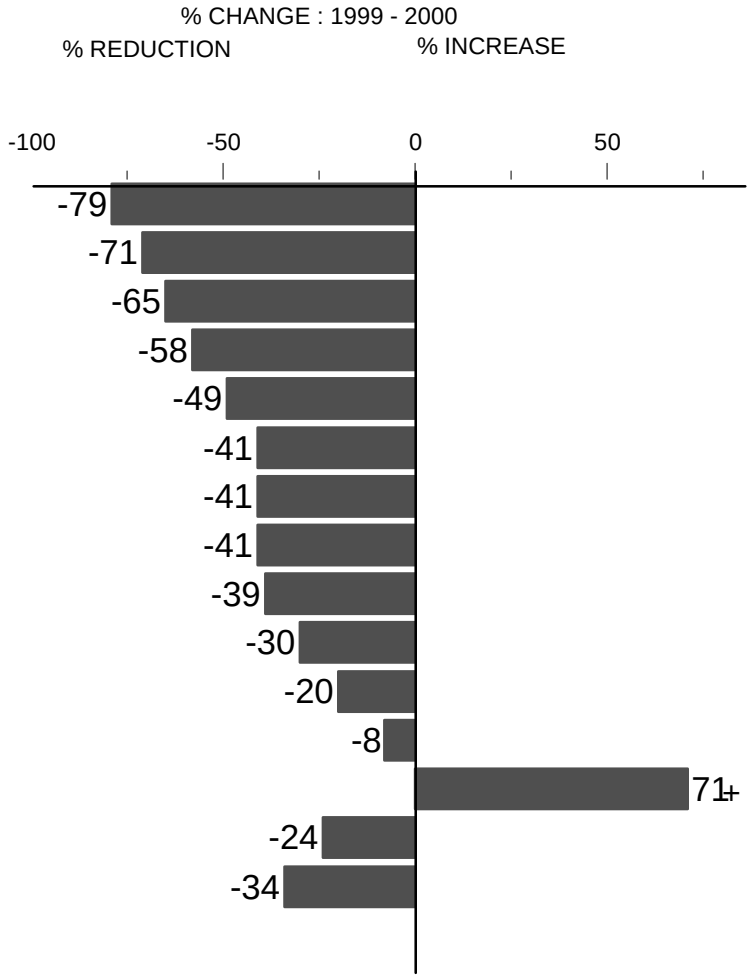
Village Name (District) Peak Transmission Month(s)	Population	# of Cases 2000	Filters	# of Abate Treatments	Water Supply**	# of IEC Sessions
Lenagnora (Bouna) June-September	380pop.; 50 h/h	46	290	47	1+	45
Kouakou Krakro (Bondoukou) January-February	2455 pop.; 350 h/h	43	160	2	1+,2-	44
Wankro (Divo) March-May	200 pop.; 33 h/h	40	105	26	1+	36
Timbo (M'bahiakro) April-June	1200 pop.; 300 h/h	40	115	15	1+	21
Ouroutara (Bondoukou) January-April, June	1300 pop.; 201 h/h	12	20	21	1+	27
Tedene-Bambara (Dabakala) June-July	1380 pop.; 230 h/h	12	200	11	2+, 1-	8
Korokopla (Seguela) January-March	961 pop.; 250 h/h	11	198	15	3+	13
Bambalouma (Seguela) February-March	1998 pop.; 250 h/h	8	140	17	1+	25
Koguinan (Bondoukou) January-February	290 pop.; 49 h/h	7	?	?	1-	?
Ebilassokro (Abengourou) April-June, August	113 pop.;	190	190	0	0	8

**1+ = 1 well, working; 1- = 1 well, not working. Villages #1 and #3 received new wells in 2000.
Cases in Ebilassokro were imported from Ghana.
Villages #2, #5, and #9 held "Worm Week" community mobilization sessions organized by US Peace Corps in 2000. Peace Corps volunteers are assigned in villages #2, #4, #5, #7, and #9.

Figure 3

Percentage of Endemic Villages Reporting and Percentage Change in Number of Indigenous Cases of Dracunculiasis During 1999 and 2000*, by Country

COUNTRY	ENDEMIC VILLAGES		CASES REPORTED	
	REPORTING 1+ CASES 1999 - 2000	% REPORTING**	1999	2000
ETHIOPIA (12)	38	100	249	53
UGANDA(12)	130	100	316	92
BENIN (12)	167	95	473	162
MAURITANIA (9)	41	100	202	84
TOGO (12)	212	98	1594	812
NIGERIA (12)	1393	100	13247	7818
COTE D'IVOIRE (12)	112	100	467	276
BURKINA FASO (9)	198	NR	2119	1259
NIGER (12)	180	100	1912	1159
MALI (12)	116	82	404	281
SUDAN** (11)	4761	36	64172	55515
GHANA (11)	1513	99	7140	6567
CENT. AFRICAN REP. (9)	32	NR	17	29
TOTAL*	8893	58	92312	70110
TOTAL (without Sudan)*	4132	98	28140	18595



* provisional

** 2,596 (34%) of 7,632 endemic villages are not accessible to the program

Table 4

Dracunculiasis Eradication Campaign

Reported Importations and Exportations of Cases of Dracunculiasis: 2000

From »»» To	Month and number of cases imported													Number of caes exported
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total	
Ghana »»» Benin	3	2	4	0	0	1	0	0	0	0	0	1	11	Ghana = 27
Ghana »»» Cote d'Ivoire	0	0	0	0	3	3	0	0	0	0	0	0	6	
Ghana »»» Togo	0	3	1	0	0	3	1	1	1	0	0	0	10	
Burkina Faso »»» Cote d'Ivoire	1	0	0	0	3	1	0	0	1	0	1	1	8	Burkina Faso = 18
Burkina Faso »»» Ghana													1	
Burkina Faso »»» Mali	0	0	0	0	0	0	2	4	1	0	0	0	7	
Burkina Faso »»» Niger	0	0	0	0	1	0	0	0	1	0	0	0	2	
Sudan »»» CAR	1	0	0	0	0	0	0	0	0	0	0	0	1	Sudan = 16
Sudan »»» Ethiopia	0	0	0	1	0	1	3	0	1	0	0	1	7	
Sudan »»» Kenya	0	0	0	0	0	0	1	0	1	0	1	0	3	
Sudan »»» Uganda	0	0	0	0	0	2	1	0	0	0	0	2	5	
Nigeria »»» Benin	0	0	1	0	0	0	0	0	0	0	0	0	1	Nigeria = 8
Nigeria »»» Cameroon	0	0	0	0	0	0	0	1	0	2	0	0	3	
Nigeria »»» Niger	0	0	0	0	3	0	0	0	0	0	0	0	3	
Nigeria »»» Togo	0	0	0	0	1	0	0	0	0	0	0	0	1	
Togo »»» Benin	3	1	0	0	0	1	1	0	1	0	0	1	8	Togo = 8
Benin »»» Togo	0	0	0	0	0	1	0	1	0	3	0	0	5	Benin = 5
Niger »»» Mali	0	0	0	0	0	0	1	1	1	0	0	1	4	Niger = 4
Mali »»» Niger	0	0	0	0	1	0	0	0	1	0	0	0	2	Mali = 4
Mali »»» Burkina Faso	0	0	0	0	2	0	0	0	0	0	0	0	2	
Cote d'Ivoire »»» Burkina Faso	0	0	0	0	0	1	0	0	0	0	0	0	1	Cote d'Ivoire = 1
Total	8	6	6	1	14	14	10	8	9	5	2	7	91	

* Provisional

WHO ASSISTS YEMEN DURING PRE-CERTIFICATION OF ERADICATION

From 8 to 30 November 2000, Dr. Ahmed Tayeh, A WHO staff member, visited Yemen as a follow-up to an earlier consultation (Guinea Worm Wrap-Up #107, page 8) which investigated over 330 rumors of cases of dracunculiasis generated by questions about the presence of the disease during polio National Immunization Days. Upon further investigation, based on interviews, reports and description from the patients, their relatives and close contacts, Dr. Tayeh found two additional alleged cases. One such case was said to have occurred in September 1999 in Al-Hodeidah Governorate and the other in October 2000 in Al-Mahweet Governorate. During the 1994-1997 campaign, cases of dracunculiasis were never confirmed in these Governorates. These findings have prompted WHO to support extra efforts for dracunculiasis surveillance and other interventions. Some 600 Village Health Workers will be trained in early January 2001 in the detection of cases, the reporting of rumors, and the dissemination of information on dracunculiasis prevention. The development and production of information/education/communication materials, and TV and radio programs will be completed by December 2000. These materials will describe the disease and its prevention, and announce a reward of US $200 for information on new confirmed cases. A follow-up visit will be carried out in early 2001.

(Editorial note) The last indigenous case of dracunculiasis in Yemen was reported in September 1997 (Guinea Worm Wrap-Up #85, page 3). The current investigation of alleged cases occurring since that time is essential and applauded. It is, however, also critical that the accepted definition of a case of Guinea worm disease (a person with a skin lesion and a Guinea worm protruding from that lesion) be applied in a regorous and active manner. The current findings of alleged cases should not be the basis for declaring that transmission is occurring in Yemen, or elsewhere, but rather, as is indicated by the WHO, it should be the basis for making sure that active surveillance is occurring to determine if ongoing transmission sill exists, and for the institution of interventions, should transmission be documented. This situation should be a strong clarion call to all countries in the end stages of their eradication programs. This fervent message is that maintenance of an active and sensitive surveillance system is as fundamental to the late stages of the program as it was to the establishment of the program. This must be the basis of the eventual certification process. In countries that claim that transmission of dracunculiasis no longer occurs, the burden of proof about alleged sporadic cases needs to be higher than an historical report alone. In regard to such cases in Yemen, it will be important to determine the presumed chain of transmission of isolated cases in disparate localities, and whether there were other concurrent cases that had not been reported. Beyond the follow-up of these alleged cases, it will be even more critical to establish prospective, enhanced surveillance in areas both previously known to be endemic and those that were not considered so. The establishment of standard rumor registries and a policy for their immediate follow-up would be most useful in such settings.

IN BRIEF

Uganda reported zero indegenous cases in December 2000 for the second month in a row. An Interdistrict Meeting will be held on January 22-23, 2001.

Representatives of different levels of the Guinea Worm Eradication Programs of Burkina Faso, Mali, and Niger met at Gao, Mali, on December 19-20, 2000. The next meeting will be held in Niger in October 2001.

Health and Water sector participants from the five endemic regions in Niger's Guinea Worm Eradication Program met at Tillabery on November 13-15, 2000. At the meeting, it was agreed to modify the case containment definition being used in Niger to allow only 24 hours for detection after worm emergence (versus the 72 hours Niger had been using).

Nigeria At Nigeria's steering committee meeting on December 6, 2000 the Federal Ministry of Water Resources reported that it had concluded arrangements with UNICEF to jointly provide 3,000 safe water sources in 1,904 dracunculiasis endemic villages during 2001.

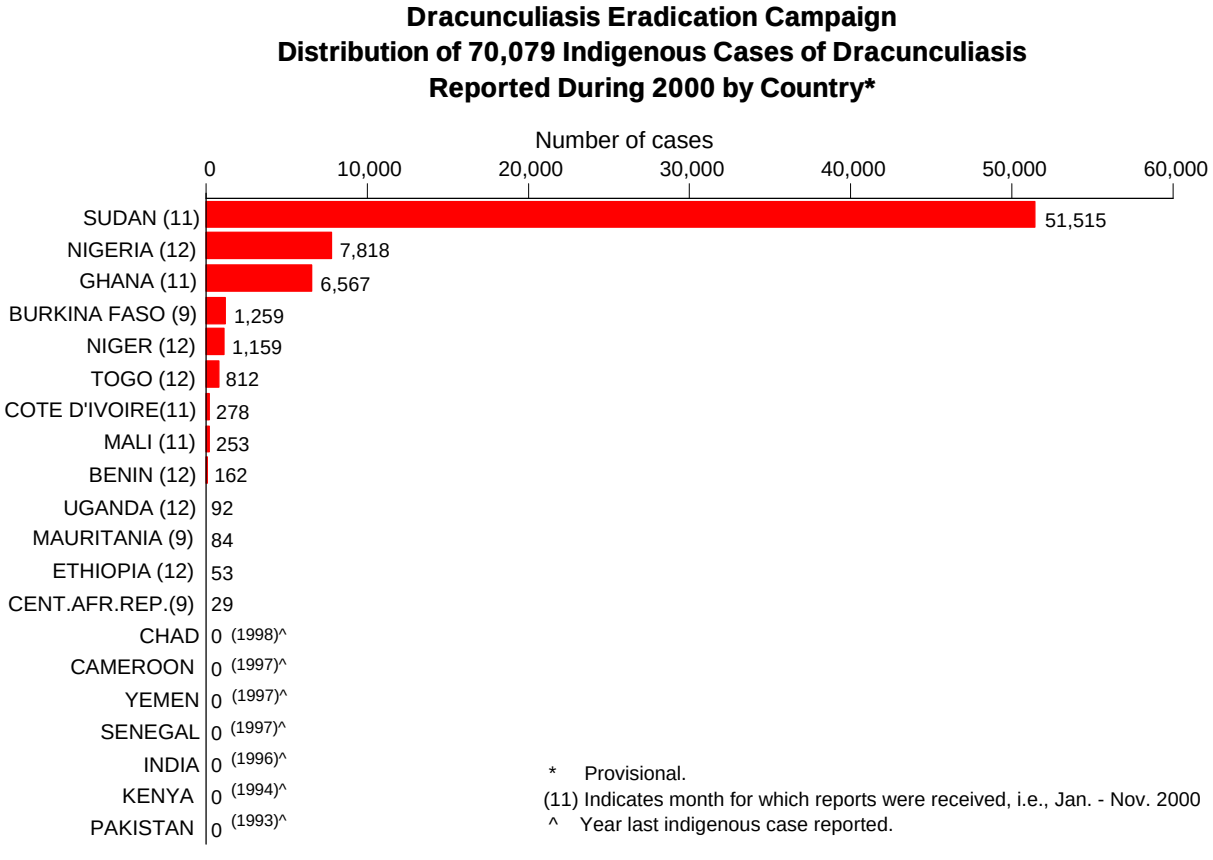
Ghana will hold its next national review at Ho, Volta Region during the week of March 19-23, 2001. Global 2000 has recently provided 60,000 prefabricated filters, six new engines to rehabilitate 4 wheel drive vehicles, and is producing another 400,000 filters for the program locally.

Burkina Faso convined a national review of its Guinea Worm Eradication Program in Ouahigonga on January 16 – 18. The main purpose was to review the Plan of Action for the program for 2001.

RECENT PUBLICATIONS

WHO, 2001. Dracunculiasis, Yemen. Wkly Epidemiol. Rec. 76: 22-23.

Figure 4



Inclusion of information in the Guinea Worm Wrap-Up does not constitute "publication" of that information.
In memory of BOB KAISER.

For information about the GW wrap up, contact Dr. Daniel Colley, Acting Director, WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, NCID, Centers for Disease Control and Prevention, F-22, 4770 Buford Highway, NE, Atlanta, GA 30341-3724, U.S.A. FAX: (770) 488-4532. The GW Wrap-Up web location has changed to http://www.cdc.gov/ncidod/dpd/parasites/guineaworm/default.htm

CDC is the WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis.