




# Memorandum

Date October 10, 1996

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

Subject GUINEA WORM WRAP-UP #60

To Addressees

## Detect Every Case, Contain Every Worm!

### BURKINA FASO, COTE D'IVOIRE NOW AMONG HIGHEST ENDEMIC NATIONS

As shown in Figure 1, Table 1, and Table 2, Burkina Faso and Côte d'Ivoire have reported the 4th and 5th highest numbers of cases of dracunculiasis, respectively, so far in 1996. However, the percentage of endemic villages reporting monthly in Burkina Faso has averaged only 11% so far this year (Figure 2), suggesting that many more cases have probably occurred in that country in 1996 than have been reported.

Figure 1

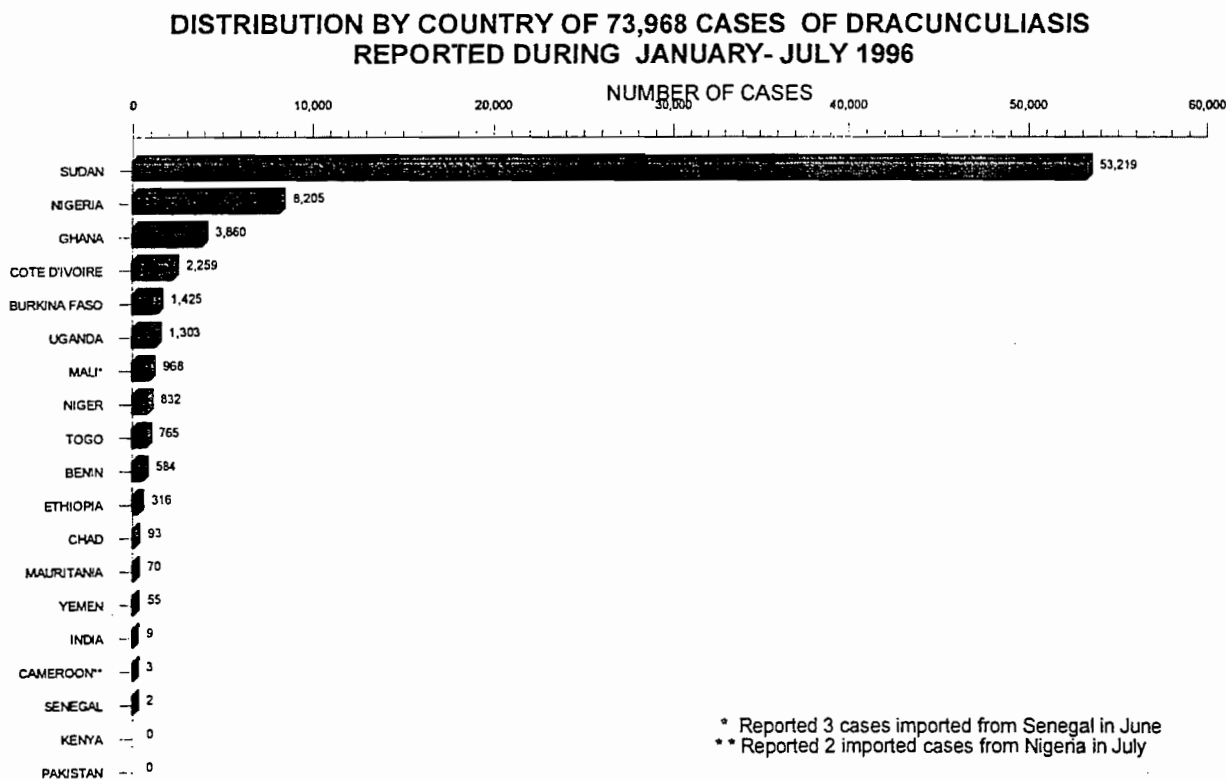


Table 1

NUMBER OF CASES CONTAINED AND NUMBER REPORTED BY MONTH, 1996  
(COUNTRIES ARRANGED IN DESCENDING ORDER OF CASES IN 1995)

COUNTRY	# OF ENDEMIC VILLAGES: 1/1/96	NUMBER OF CASES IN 1995	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED												TOTAL*	
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC		
SUDAN	1932	64608	416 / 1,535	430 / 1,003	1515 / 3626	1560 / 1,0415	4808 / 1,5604	7564 / 13,000	5491 / 8,036	1212 / 1,875	/	/	/	/	/	22996 / 55094
NIGERIA	1846	16374	778 / 1,264	926 / 1,023	562 / 675	559 / 801	523 / 1,153	803 / 1,870	546 / 1,419	769 / 1,009	/	/	/	/	/	5466 / 9214
NIGER	750	13821	17 / 25	2 / 5	0 / 0	9 / 10	28 / 74	167 / 210	344 / 508	434 / 886	/	/	/	/	/	1001 / 1718
GHANA	1057	8894	467 / 611	657 / 863	538 / 728	388 / 535	340 / 502	231 / 386	142 / 235	61 / 100	/	/	/	/	/	2824 / 3960
BURKINA FASO	516	6281	25 / 28	37 / 57	72 / 128	46 / 152	230 / 355	326 / 498	159 / 207	/	/	/	/	/	/	895 / 1425
UGANDA	810	4810	39 / 46	22 / 24	28 / 40	232 / 276	329 / 444	264 / 310	146 / 163	58 / 70	/	/	/	/	/	1118 / 1373
MALI**	534	4218	54 / 76	8 / 15	14 / 19	55 / 153	78 / 86	132 / 215	202 / 404	252 / 433	/	/	/	/	/	795 / 1401
COTE D'IVOIRE	252	3801	241 / 369	303 / 598	146 / 271	153 / 313	137 / 331	127 / 249	89 / 128	111 / 160	/	/	/	/	/	1307 / 2419
TOGO	302	2073	200 / 227	168 / 194	38 / 96	53 / 53	61 / 61	78 / 78	56 / 56	/	/	/	/	/	/	654 / 765
BENIN	491	2273	133 / 256	56 / 94	14 / 23	43 / 53	48 / 81	15 / 22	48 / 55	/	/	/	/	/	/	357 / 584
MAURITANIA	255	1762	7 / 8	4 / 4	9 / 10	0 / 2	1 / 1	19 / 24	20 / 21	11 / 15	/	/	/	/	/	71 / 85
ETHIOPIA	77	514	0 / 1	1 / 4	2 / 2	17 / 29	58 / 64	88 / 110	97 / 106	25 / 25	/	/	/	/	/	288 / 341
CHAD	39	149	24 / 24	34 / 34	23 / 23	4 / 4	0 / 0	4 / 4	4 / 4	/	/	/	/	/	/	93 / 93
YEMEN	21	82	0 / 1	7 / 8	12 / 12	14 / 14	5 / 5	6 / 10	4 / 5	/	/	/	/	/	/	48 / 55
SENEGAL	15	76	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	2 / 2	1 / 1	3 / 3	/	/	/	/	6 / 6
INDIA	24	60	0 / 0	0 / 0	0 / 0	2 / 2	4 / 4	0 / 0	3 / 3	0 / 0	0 / 0	/	/	/	/	9 / 9
KENYA	0	23	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	0 / 0
CAMEROON***	4	15	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	1 / 1	2 / 2	1 / 1	/	/	/	/	/	5 / 5
PAKISTAN	0	0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	0 / 0
TOTAL*	8925	129834	2401 / 4471	2655 / 3926	2974 / 5654	3135 / 12812	6650 / 18765	9825 / 16987	7355 / 11354	2935 / 4575	3 / 3	0 / 0	0 / 0	0 / 0	0 / 0	37933 / 78547

\* Provisional  
 \*\* 3 cases imported from Senegal in June  
 \*\*\* 2 cases imported from Nigeria in July

Table 2

**Dracunculiasis Eradication Campaign  
Status of Program Indicators: January - July 1996**

Country	Cases: Jan - Jul 1996		Endemic villages		Estimated Number of cases		Total estimated number of cases not contained in 1996
	Reported	Contained %	Number	Average reporting %	Reported but not contained ***	Not reported and not contained ****	
Sudan	53219	41	4361	44	31399	67733	99132
Burkina Faso	1425	63	516	11	527	11530	12057
Nigeria	8205	57	2138	79	3528	2181	5709
Côte d'Ivoire	2259	53	222	75	1062	753	1815
Ghana	3860	71	1245	99	1119	39	1158
Mali*	968	58	532	84	407	184	591
Mauritania	70	84	255	14	11	430	441
Benin	584	61	395	82	228	128	356
Niger	832	68	776	99	266	8	275
Uganda	1303	81	871	99	248	13	261
Togo	765	85	305	100	115	0	115
Ethiopia	316	83	79	99	54	3	57
Yemen	55	87	21	90	7	6	13
Chad	93	100	40	91	0	9	9
Senegal	2	100	15	100	0	0	0
India	9	100	24	100	0	0	0
Cameroon**	3	100	4	100	0	0	0
Total	73968	47	11799	73	38971	83019	121989
Total (without Sudan)	20749	64	7483	84	7571	15285	22857

\* Reported 3 cases imported from Senegal in June.

\*\* Reported 2 cases imported from Nigeria in July.

\*\*\* = (% cases not contained) (cases 1996).

\*\*\*\* = (endemic villages not reporting) (cases 1996 / endemic villages reporting).

Between 1994 and 1995, Burkina Faso reduced its incidence of dracunculiasis by 8%, from 6,861 cases to 6,281 cases and, between 1993 and 1994, by 17%, from 8,281 cases reported in 1993. So far in 1996, 63% of the cases have reportedly been contained, as compared to 58% of cases in 1995. Peak transmission of dracunculiasis occurs in June-September. The poor rate of reporting so far in 1996 and the low rates of decline of dracunculiasis achieved in the country over the past two years, give cause for concern that Burkina Faso may now be the third most highly endemic country remaining, after Sudan and Nigeria (Table 2). The acting national program coordinator is Mr. Robert K. Yameogo (the former NPC, Dr. Joseph Cabore, is away for a year's study).

In Côte d'Ivoire, incidence of the disease was reduced by 37% between 1993 and 1994 (from 8,034 cases reported in 1993) and by 29% between 1994 and 1995 (from 5,349 cases to 3,801). So far in 1996, the rate of reduction is 28%, compared to the same period of 1995. Côte d'Ivoire contained 2% of its cases in 1995, and 55% so far in 1996. The most highly endemic districts of Bondoukou, Bouafle, and Seguela have recently strengthened control measures, including a retraining of health workers that was sponsored by WHO in August. Fully 38% of cases reported in the first half of 1996 occurred in only seven villages located in the districts of Abengourou, Bondoukou (2 villages), Dabakala, Bouafle, Bouake, and Gagnoa. The peak transmission season in Côte d'Ivoire is December-May.

Figure 2

PERCENTAGE BY COUNTRY OF CASES CONTAINED, REDUCTION IN CASES COMPARED TO SAME PERIOD IN 1995, AND ENDEMIC VILLAGES REPORTING: JANUARY - JULY 1996 †

	% OF REPORTED CASES OF DRACUNCULIASIS CONTAINED	CASES 1996	% CHANGE 1995-1996	% AVERAGE REPORTING
Chad	100	93	+4	91
India	100	9	-79	100
Cameroon *	100	3	0	100
Senegal	100	2	-67	100
Yemen	87	55	+25	90
Mauritania	86	70	-81	14
Togo	85	765	-27	100
Ethiopia	83	316	-29	99
Uganda	81	1303	-69	99
Ghana	72	3860	-53	99
Niger	68	832	-89	99
Burkina Faso	63	1425	-59	11
Benin	61	584	-35	82
Nigeria	57	8205	-35	79
Mali**	56	968	-30	84
Côte d'Ivoire	53	2259	-31	75
Sudan	41	53219	+36	44
Kenya***	NA	0	0	100
Average	47	73968	-11	73

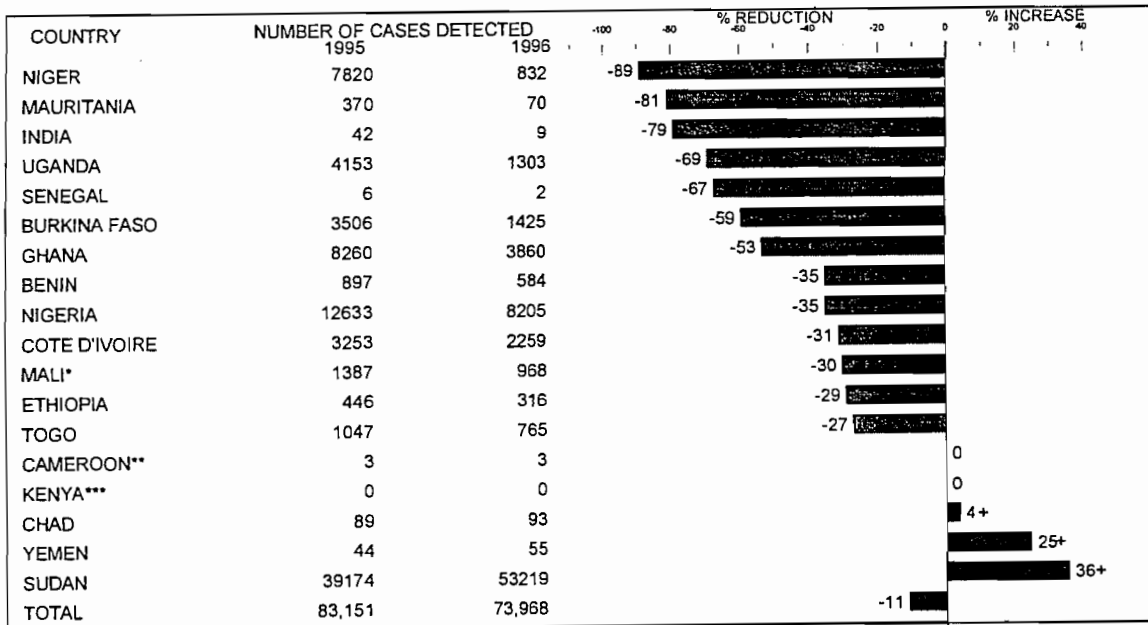
† Provisional  
 \* Reported 2 imported cases from Nigeria in July  
 \*\* Reported 3 cases imported from Senegal in June  
 \*\*\* Reports from 19 villages under surveillance  
 NA Not applicable

Côte d'Ivoire marked its National Guinea Worm Eradication Day this year on August 11, by ceremonies in the most highly endemic village in the country: Kouassi-Datekrou, in the district of Bondoukou. Festivities began with a luncheon hosted by the mayor of the village, who is also the minister of foreign affairs. Other distinguished guests included the minister of health, ambassadors from 16 countries, representatives of WHO and UNICEF, and the country director of U.S. Peace Corps. Village-based health workers competed in answering a written quiz on Guinea worm and in a soccer match, which was followed by a theater presentation produced and directed by PCV Jenny Work. School children under the direction of PCV Kelly Callahan also sang (in French and in the local Agni language) a Guinea worm song written by PCV Catherine Nesbit. The national program coordinator is Dr. Henri Boualou.

Table 2 shows how the four key indicators (number of cases reported, proportion of cases contained, number of endemic villages, and proportion of endemic villages reporting) can be used to estimate the total number of cases not contained during January - July 1996; i.e., the sum of (1) the number of cases reported but not contained (calculated as the product of the % of cases reported but not contained times the number of cases reported), and (2) the number of cases not reported and not contained (calculated as the product of the number of endemic villages not reporting times the average number of cases per endemic village reporting). These estimates of uncontained cases so far in 1996 suggest the relative case burdens that countries may expect next year. Note also that any cases occurring in currently unknown endemic villages are not included in these estimates.

Figure 3

PERCENTAGE CHANGE IN NUMBER OF CASES OF DRACUNCULIASIS REPORTED DURING JANUARY - JULY 1995 AND JANUARY - JULY 1996,† BY COUNTRY



† Provisional  
 \* Reported 3 cases imported from Senegal in June  
 \*\* Reported 2 imported cases from Nigeria in July  
 \*\*\* Reports from 19 villages under surveillance

## SEVEN ENDEMIC COUNTRIES ATTEND PROGRAM REVIEW IN NAIROBI

National Program Coordinators and other representatives from Ethiopia, Ghana, Kenya, Nigeria, Sudan, Uganda, and Yemen participated in the 1996 Program Review for endemic anglophone countries, which was held in Nairobi, Kenya, September 23-26. Summaries of the current status of those seven Guinea Worm Eradication Programs are as follows (Table 1, Figures 1, 2, and 3).

Sudan. 53,219 cases reported in 4,361 endemic villages, January-July 1996. This program now has 70% of dracunculiasis reported globally through July and 37% of endemic villages. 2,545 endemic villages have been added during 1996 so far, causing the program to have to work much harder in order to increase intervention indices. Of the 4,361 endemic villages, 42% have trained village-based health workers (VBHWs), 54% have received health education, 34% have provided all households with a filter (nearly 400,000 filters have been distributed so far in 1996, vs. 230,000 in all of 1995), 1% are using Abate, 6% are known to already have or be targeted for a safe water source in 1996, and 35% have VBHWs trained in case containment. Monthly reporting has increased to 42% of known endemic villages. Despite the severe constraints of insecurity in some endemic areas, this program could do more even under current circumstances if additional funding were available. Equatoria Zone (on the side of the Government of Sudan) has launched a quarterly newsletter, The Eradicator.

Nigeria. 8,205 cases reported from 1,035 (48%) of 2,138 endemic villages through July 1996. Fully 77% of the cases are reported from only 25 Local Government Areas (LGAs). Case containment (57% of cases in 1996) and use of Abate (35% of endemic villages) are increasing rapidly. Twelve states have reported no indigenous cases in January-July 1996.

Ghana. 3,960 cases reported through August from 561 (45%) of 1,252 endemic villages. 77% of cases are from 8 districts in the eastern part of Northern Region. 271 of the endemic villages in 1996 reported no cases in 1995. During 1996, case containment rates in Northern Region have declined from 78% of 475 cases in January to 50% of 60 cases in August.

Uganda. 1,373 cases reported from 278 (32%) of 873 endemic villages through August 1996 - a reduction of 69% from the same period in 1995. 81% of cases so far in 1996 were contained. 98% of cases are reported from Kotido (51%), Moroto (28%), and Kitgum (19%) Districts. Abate is now being used in 84% of endemic villages.

Ethiopia. 341 cases reported through August 1996 from 55 (70%) of 79 endemic villages. During 1996, provision of safe water sources and Abate use have increased significantly in South Omo, where 89% of cases were reported. A Knowledge, Aptitude, and Practices (KAP) survey is planned for South Omo.

Yemen. 55 cases reported from 7 ? of 21 endemic villages through July 1996. Health education and cloth filters have been extended to all 21 villages that were considered endemic at the beginning of 1996. Safe water sources were provided in 9 ? endemic villages by March 1996. Abate is being used in 14 of 21 officially endemic villages.

Kenya. No indigenous cases reported since May 1994. Rewards for reporting of cases have been introduced in at least three of the former endemic districts.

## CERTIFICATION AND PRE-CERTIFICATION ACTIVITIES



Dr. Philippe Ranque, chief of the Dracunculiasis Eradication Unit at WHO headquarters, reports that a certification team commissioned by the International Commission for the Certification of Dracunculiasis Eradication visited Pakistan in September. Their report will be submitted to the next meeting of the International Commission, which is proposed to be held in Geneva on 23-25 January 1997, immediately following the meeting of the WHO Executive Board. (Dracunculiasis eradication is on the agenda for the January 1997 meeting of WHO's Executive Board, and for the May 1997 World Health Assembly.)

Other recently endemic countries which now appear to be at or entering the pre-certification stage include Cameroon, Central African Republic, The Gambia, Guinea, Kenya, India, and Senegal. As indicated in Figure 1, several other countries will likely reach that stage next year.

## NORWAY AND CANADA DONATE \$3.7 MILLION FOR ENDEMIC COUNTRIES VIA UNICEF



The Royal Ministry of Foreign Affairs of Norway announced in August a donation of almost US \$2.7 million in support of dracunculiasis eradication to Niger for 1996, to Burkina Faso for 1996-97, to Mali for 1997, and to Benin (for 1997-98). The funding, which to assist in the implementation of case containment and other interventions, will be provided through the UNICEF missions in the four endemic countries. In September, the Norwegian Agency for Development (NORAD) also agreed in principle to provide US \$1.03 million through UNICEF for the Guinea Worm Eradication Program of Uganda in 1996-1997.



The Canadian International Development Agency (CIDA) has also announced a donation of US \$715,328 through UNICEF to: Uganda (\$656,934); Ethiopia (\$29,197); and Kenya (\$29,197) for their Guinea Worm Eradication Programs in 1996-1997.

## IN BRIEF:

Ghana reports that eight volunteer workers from Belgium, Denmark, Finland, Norway, Switzerland, and the United States joined the program in August. They have all been assigned to the Northern Region, after orientation and training.

Togo obtained its Abate from Ghana in August during their border conference. Mali obtained its Abate from Ghana in early October.

The program in Benin was evaluated by a team from the OCCGE in July. A similar evaluation by the OCCGE is scheduled for Togo in October.

Dr. Donald Hopkins of Global 2000 attended the 46th meeting of the African Regional Committee in Brazzaville in early September. Dr. Hopkins summarized the current status of the dracunculiasis eradication effort.

## RECENTLY IMPORTED/EXPORTED CASES

- Senegal to Mali: 3 cases in June, contained (?), cross-notified (?).  
Sudan to Central African Republic: >1 cases in 1996, status unknown.  
Sudan to Ethiopia: 1 case in August, contained, not yet cross-notified.  
Benin to Nigeria: 5 cases in August, contained (?), cross-notified.  
Nigeria to Niger: 2 cases in June, 1 contained, both cross-notified.  
Burkina Faso to Niger: 2 cases in August, neither contained, both cross-notified.

## McCONNON, NETHERLANDS DONATIONS TO GLOBAL 2000



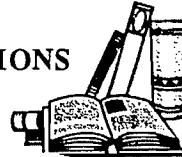
Mr. Henry McConnon, already a significant supporter of Global 2000's eradication efforts, has recently donated additional stock equivalent to over \$475,000 to Global 2000 for use in the dracunculiasis eradication campaign.

GLOBAL 2000



The Government of the Netherlands has also agreed in principle to continue support for Global 2000's assistance in Sudan. The expected new grant, in the amount of \$250,000, reflects the on-going commitment by the Government of the Netherlands and Minister for Development Cooperation, the Honorable J.P. Pronk, to promote peace and improved health in Sudan.

## RECENT PUBLICATIONS



Hopkins DR, 1996. Eradicating dracunculiasis. Atlanta Medicine, 70:43-45.

Hopkins DR, Ruebush TK, 1996. Coalition against guinea worm. World Health, 49(May-June):25.

Nakajima H, 1996. Leprosy and guinea-worm disease. World Health, 49(May-June):3.

\* \* \* \* \*

*Inclusion of information in the Guinea Worm Wrap-Up does not constitute "publication" of that information.*

*The GW Wrap-Up is published in memory of BOB KAISER.*

*For information about the GW Wrap-Up, contact Trenton K. Ruebush, MD, 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.*



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