



Date: July 7, 2008



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

Subject: GUINEA WORM WRAP-UP #182

To: Addressees

"While others are reaching the moon, we are trying to reach the villages." Julius Nyerere

SUDAN AND GHANA REDUCE CASES BY -73% IN JANUARY-MAY 2008

Sudan and Ghana, which together have reported 94% of all cases of dracunculiasis so far this year, have collectively recorded 1,331 cases in January-May 2008, compared to 4,936 cases during the same period of 2007, yielding a combined reduction of -73% thus far. As illustrated in Figure 1, the cumulative number of cases reported by all five remaining endemic countries is reduced by -72% so far this year, compared to a reduction of -48% between January-May 2006 and the same period of 2007.

Figure 1

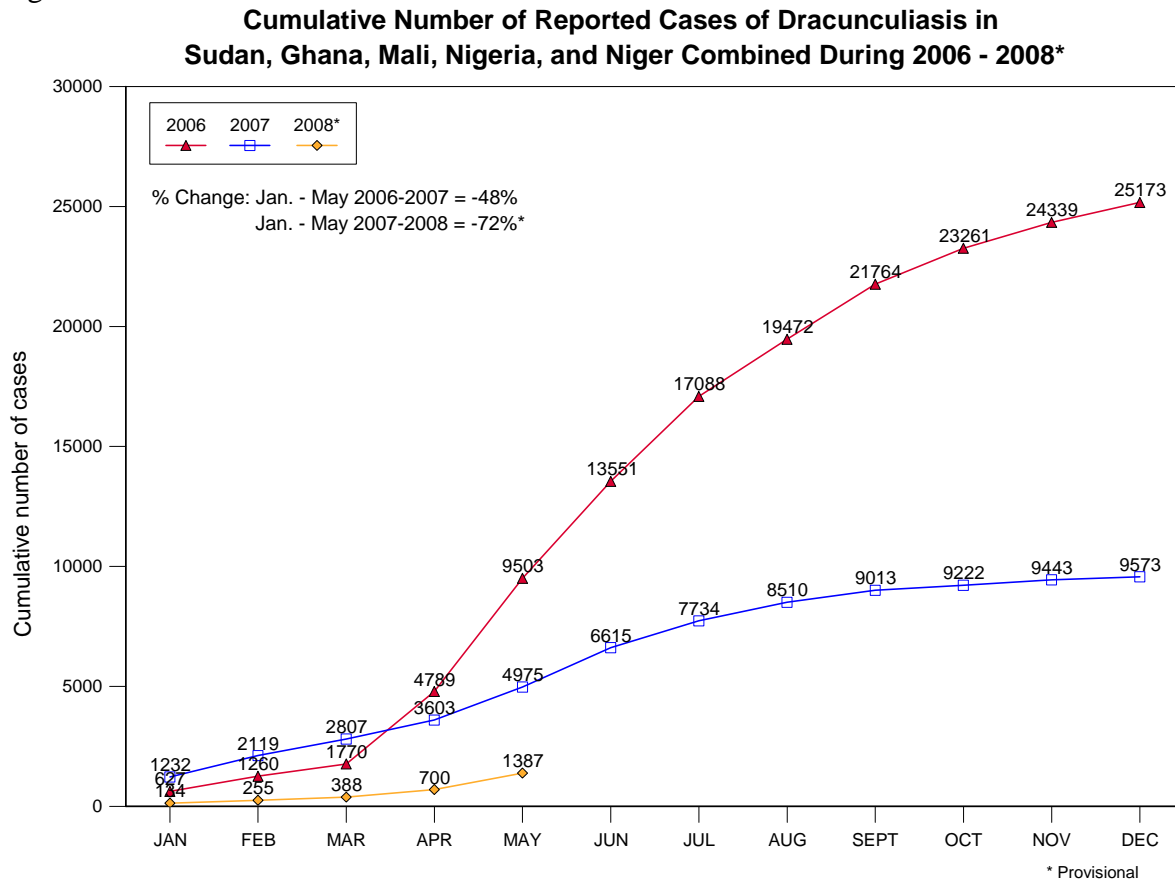


Table 1

Dracunculiasis Eradication Campaign: Status of Interventions: January - May 2008*

Country	Number of reported cases (indigenous) in 2008*	Number of reported imported cases (from another country) in 2008*	% of all cases reported that were contained during 2008*	Overall % change in cases in endemic villages/localities reporting cases during 2007-2008	Villages/Localities								
					2008*			Status of Interventions during 2007-2008					
					No. reporting one or more cases	No. reporting only imported cases**	No. reporting indigenous cases	Endemic villages 2007-2008	% reporting monthly^	% with filters in all households^	% using Abate^	% with one or more sources of safe water^	% provided health education^
Sudan	989	0	32%	-54%	373	97	276	1,818	77%	43%	10%	16%	100%
Ghana	342	0	79%	-88%	88	61	37	190	100%	75%	56%	45%	100%
Mali	18	0	100%	1700%	6	0	6	75	100%	100%	13%	18%	100%
Nigeria	37	0	100%	-12%	4	0	4	3	100%	100%	25%	100%	100%
Niger	0	1	100%	-100%	1	1	0	6	100%	100%	50%	33%	100%
Burkina Faso	0	1	100%	-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethiopia***	0	1	100%	-	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total	1,386	3	61%	-80%	472	159	323	2,092	80%	48%		19%	100%

* Provisional: January - May

** From another endemic village or from another endemic country

*** Ethiopia alleges that 36 cases of GWD were imported from Southern Sudan into Gambella Region: 2 cases in March, 25 in April, 7 in May, and 2 in June. The origin of these cases is unresolved, but being investigated.

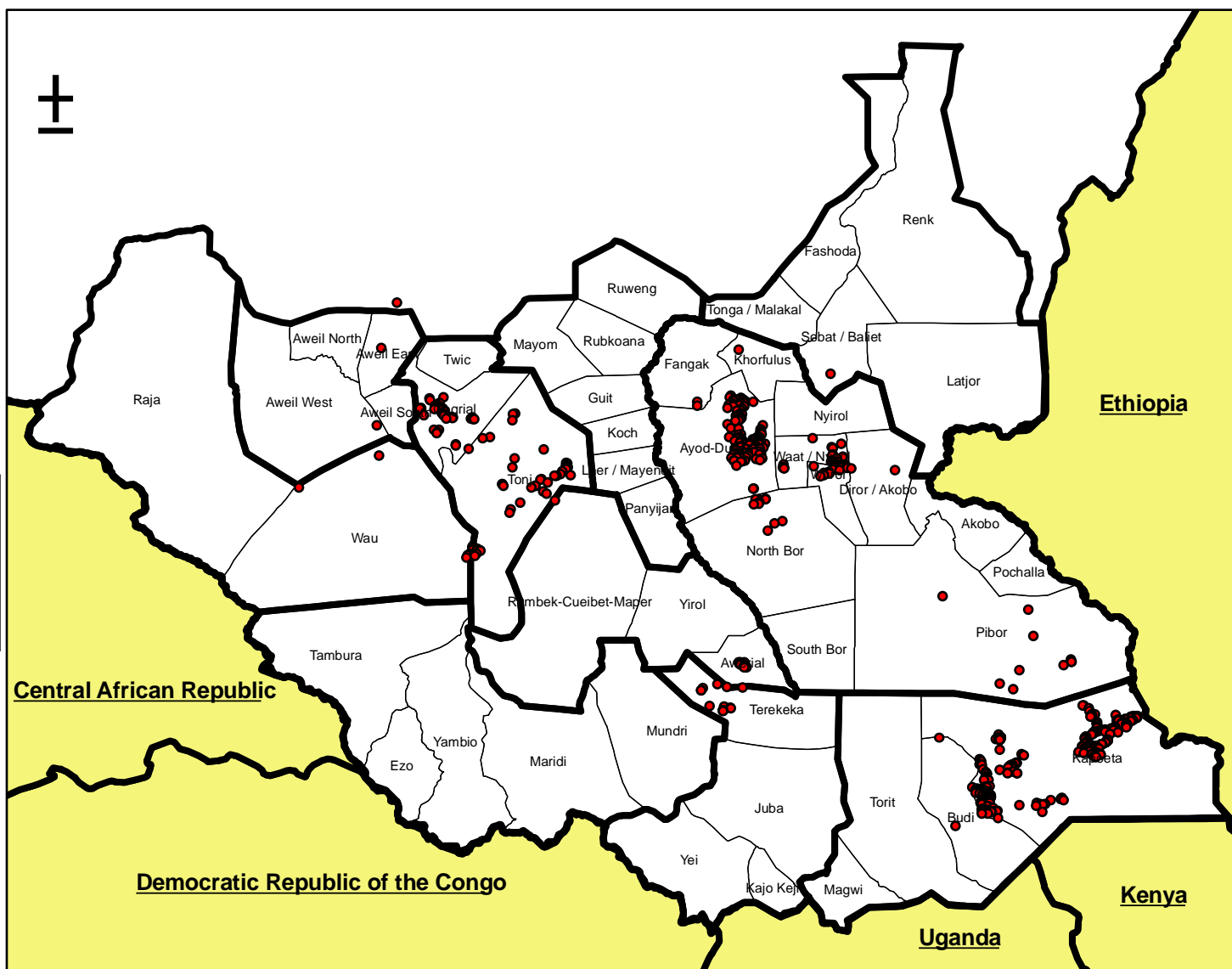
^ The base of the percentage is the number of villages/localities where the program applied interventions during 2007-2008

NR = No report; NA = Not applicable

Figure 4

Southern Sudan Guinea Worm Eradication Program

Villages with known geographic coordinates reporting one or more cases, Jan - Dec 2007



- 1+ Villages with coordinates (May update)*
- Country
- State boundary
- County

*769 villages (38%) with known geographic coordinates reporting 3,251 cases (56%) of Guinea worm disease reported during Jan-Dec 2007

0 100 200 300 400 Kilometers

Note: This map is provisional and is not an authority on boundaries or roads or exact locations. This map was created for the purpose of the Guinea Worm Eradication Program.

Drs. Ernesto Ruiz-Tiben of The Carter Center and Gautam Biswas of the World Health Organization (WHO) conducted a joint supervisory visit to Kapoeta, Juba and Terekeka Counties in the South Sudan Guinea Worm Eradication Program (SSGWEP) on June 1-13. Ms. Junerlyn Agum and Mr. Evans Liyosi of WHO/Geneva also visited the SSGWEP during May 13-June 22 to assist with WHO's assessment of the program and of surveillance capacity in areas free of GWD. The SSGWEP has reported 989 cases in January-May 2008 (vs. 2,136 in January-May 2007), from 373 villages, with a reporting rate of 77% (vs. 70% reporting in 2007). Seven of the ten states, 28 of 58 counties, and 65 of 148 payams under surveillance in South Sudan are endemic, but 93% of cases so far in 2008 were reported from only 38 payams. An updated map showing the locations of villages that reported one or more cases in 2007 and with known geographic coordinates is provided in Figure 2.

The SSGWEP has provided health education to 100% of endemic villages, of which 43% have cloth filters in all households, and 16% have at least one source of safe drinking water, 10% were protected with ABATE® Larvicide, and 32% of cases have reportedly been contained (Table 1). UNICEF has provided 128 borehole wells in South Sudan in January-March 2008, of which 47 are in known Guinea worm-endemic villages, and of which 36 are currently functional. The endemic areas in Kapoeta North, South, & East (E. Equatoria State) and Ayod (Jongoli State) Counties, where these 36 functioning wells are located, reported an estimated 832 (14%) of Sudan's 5,815 cases in 2007. Continuing insecurity in counties of Warrap State has constrained full implementation of interventions against GWD in some of the most endemic areas West of the Nile during 2008, so far.

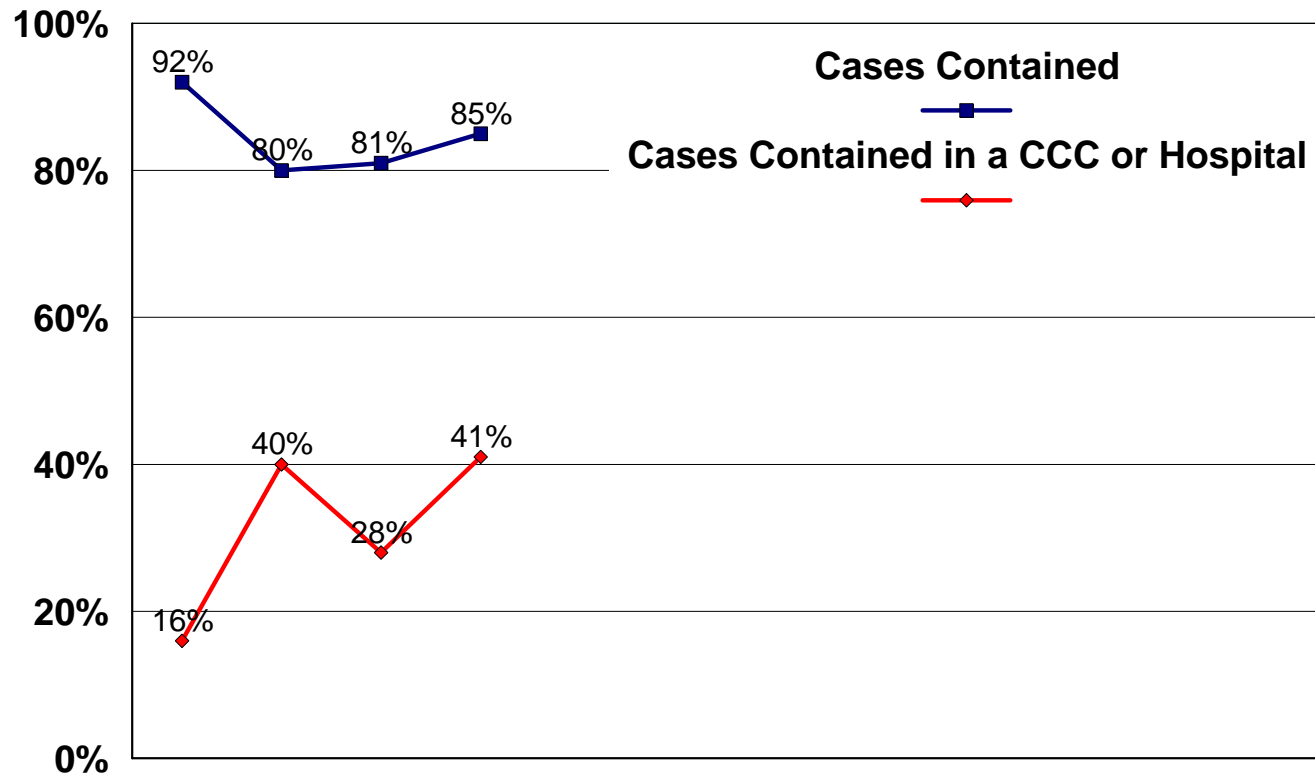
"The success of the GWEP now depends on decisions made day to day, not on resources." Makoy Samuel Yibi Logora, Director SSGWEP

The **Ghana Guinea Worm Eradication Program** has reported 73 cases of dracunculiasis for May 2008 (vs. 272 cases in May 2007), marking its fourteenth consecutive month of reductions greater than 70%. Transmission has been interrupted in five of Ghana's ten regions (Central, Eastern, Greater Accra, Upper East & Western) already, but indigenous cases have been reported only from Northern and Brong-Ahafo Regions so far this year. Brong-Ahafo Region's first outbreak of the year was detected on June 10 in the village of Agege in Kintampo North District. The outbreak is attributed to contamination of a local water source last year by a teenage girl from a village in Saboba Chereponi District (Northern Region). Interventions began before June 16, ABATE® Larvicide was applied on June 17, and a team from the national secretariat of the program made a follow up visit and investigation on June 20. Another patient who had also drunk from the water source in Agege was discovered in a nearby village, Wala. All four cases in the two villages were isolated in a temporary case containment center at a nearby clinic. Drs. Ernesto Ruiz-Tiben of The Carter Center, Alhousseini Maiga and Gautam Biswas of WHO, and Sharon Roy of CDC will participate in the Program Review that will be held in Tamale on July 23-24, and Drs Ruiz, Biswas, and Maiga will also make oversight field visits regarding other aspects of the program, including the status of surveillance in areas that are now Guinea worm-free.

A provisional total of 271 (79%) of the 342 cases reported so far this year have been contained (compared to 84% contained in all of 2007), with 25 cases pending as of May 31st. On May 21, the program began implementing a strategy of bringing patients occurring outside of Tamale District to containment centers in Tamale. The patients' response to offers to "come to the hospital in Tamale", rather than "Will you go to the Case Containment Center?" has been very positive. There are three case containment centers in Tamale District, and seven in other parts of Northern Region. The rates of cases contained overall and those contained in a hospital, clinic or a case containment center each month so far in 2008 are summarized in Figure 3. The European Commission and the United Nations Children's Fund (UNICEF) have recently provided 40 motorcycles to nine districts in the Northern Region in support of UNICEF's integrated support of Guinea worm eradication, water supply, hygiene and sanitation. A provisional total of 71 additional cases have been reported during June (Table 2, Figure4).

Figure 3

Ghana Guinea Worm Eradication Program 2008*



	J	F	M	A	M	J	J	A	S	O	N	D	Total
#GW cases	73	80	47	68	73								342
# Uncontained GW cases	6	16	9	10	30								71

* provisional: Data for May not plotted, as determination of containment status of 30 cases is still pending

Table 2

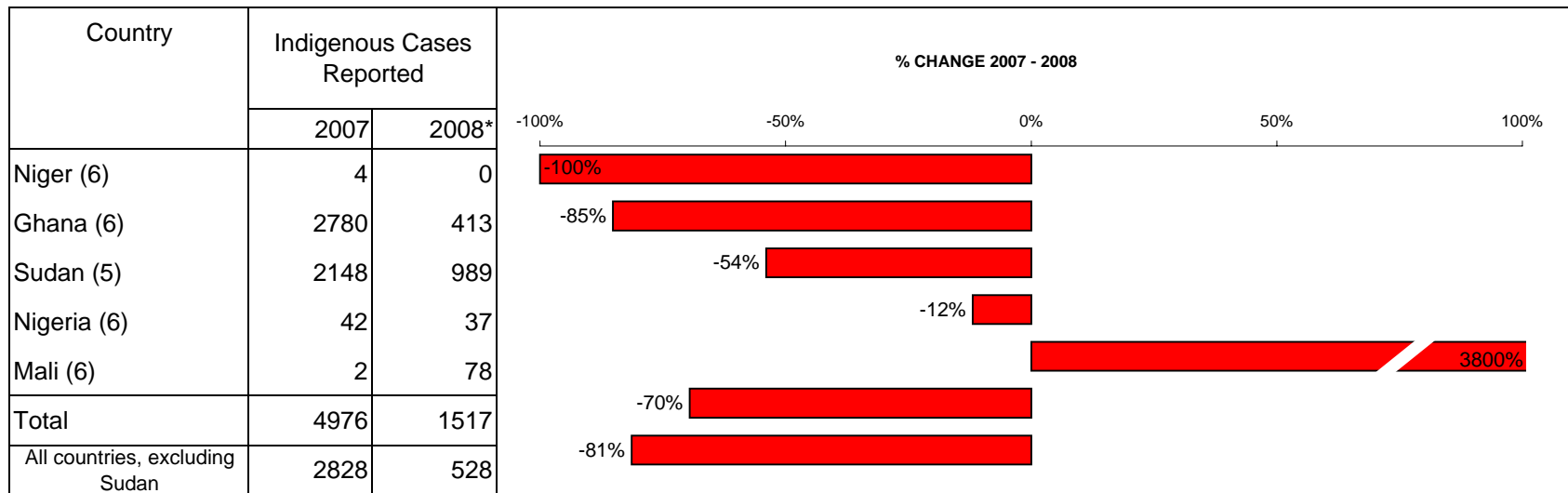
Number of Cases Contained and Number Reported by Month during 2008*
(Countries arranged in descending order of cases in 2007)

COUNTRIES REPORTING CASES	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SUDAN	4 / 32	11 / 32	30 / 82	78 / 245	190 / 598	/	/	/	/	/	/	/	313 / 989	
GHANA	67 / 73	64 / 80	39 / 48	58 / 68	43 / 73	/ 71	/	/	/	/	/	/	271 / 413	66
MALI	1 / 1	0 / 0	0 / 0	1 / 1	16 / 16	59 / 60	/	/	/	/	/	/	77 / 78	99
NIGERIA	28 / 28	8 / 8	1 / 1	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	37 / 37	100
NIGER	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	/	1 / 1	100
ETHIOPIA	0 / 0	0 / 0	2 / 2	20 / 25	7 / 7	2 / 2	/	/	/	/	/	/	31 / 36	86
BURKINA FASO	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	/	/	/	/	/	/	1 / 1	100
TOTAL*	100 / 134	84 / 121	72 / 133	158 / 340	256 / 694	61 / 133	/	/	/	/	/	/	731 / 1555	47
% CONTAINED	75	69	54	46	37	46							47	
% CONT. OUTSIDE SUDAN	94	82	82	84	69	46							74	

* provisional

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

Figure 4
 Number of Indigenous Cases Reported During the Specified Period in 2007 and 2008*, and Percent Change in Cases Reported

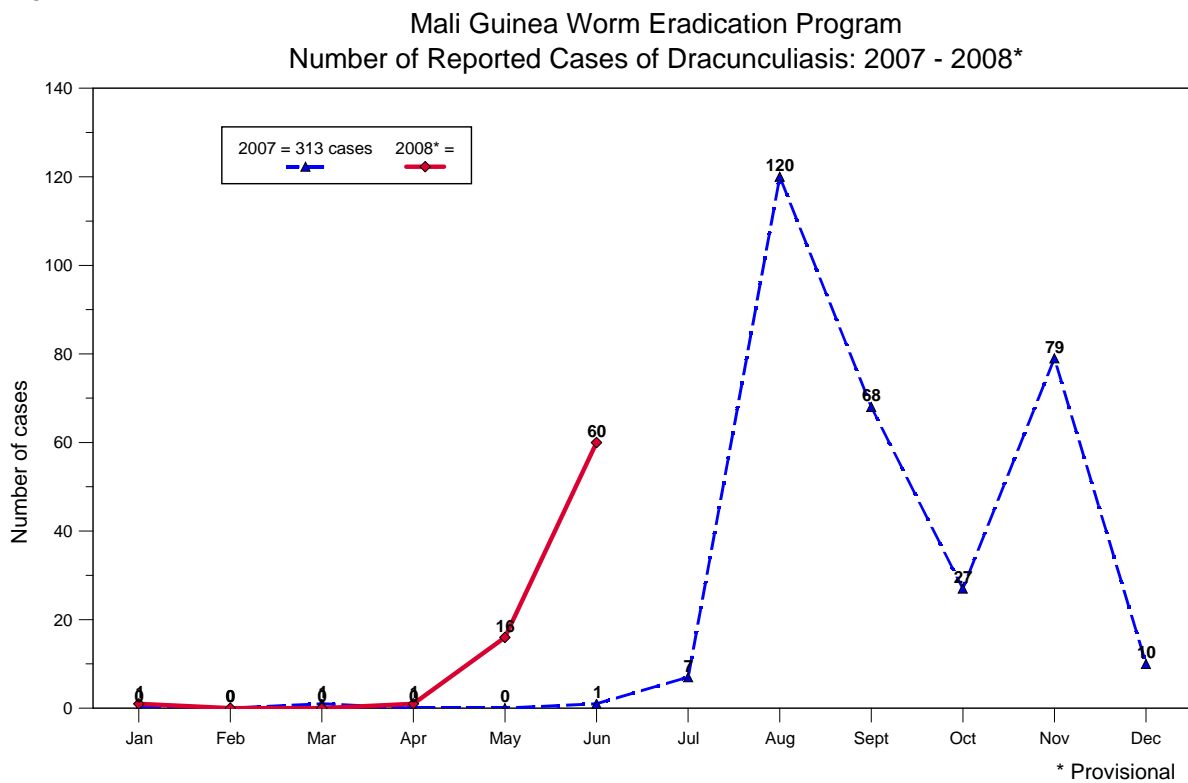


* Provisional: excludes cases exported from one country to another
 (5) Indicates months for which reports were received, i.e., Jan.-May. 2008

MALI: INCREASED GW CASES AND INSECURITY IN KIDAL

The Malian GWEP has reported 18 cases of dracunculiasis, 16 of which occurred in May, in January-May 2008 (Figure 5). One case occurred in Gao District in April; the other 17 cases were reported from Kidal (1 in January, 16 in May). All 18 cases were reportedly contained. This compares to one indigenous case reported during January-May 2007. A provisional total of 60 additional cases have been reported (59 from Kidal and one case from Gao) for June 2008 (Table 2). The status of interventions is shown in Table 1. The program's Action Plan for 2008 will increase the numbers of vehicles, camels, motor cycles, medical students, technical assistants and village volunteers deployed in Gao, Ansongo and Kidal Districts during this year's peak transmission season, beginning now. Mr. Philip Downs of Carter Center headquarters made an oversight visit to Mali on June 18-July 1. Additionally, the program is encouraging all cases detected in Gao and Ansongo to be contained in a hospital or health center.

Figure 5



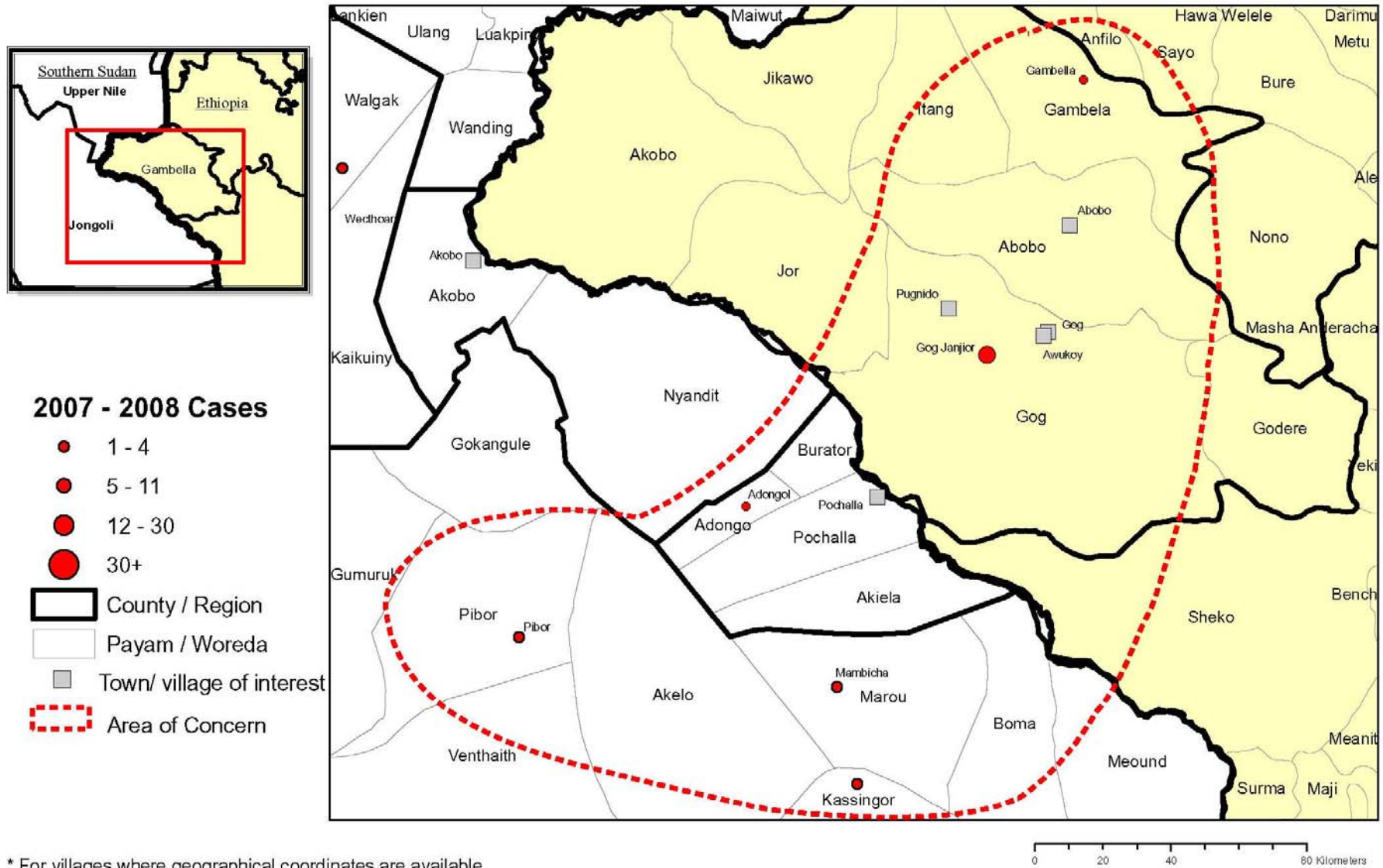
IN BRIEF

During January – May Ethiopia's Dracunculiasis Eradication Program (EDEP) has reported 34 cases (82% contained) from Awukoy village in Gog Woreda, Gambella Region and one case (contained) imported from South Sudan into Nyangatom, South Omo, South Nations and Nationalities Peoples Region (SNNPR) during April. Provisional reports for June indicate 2 additional cases of GWD reported from Gog Woreda and both allegedly imported from South Sudan (Table 2, Table 3). All of the cases in Gambella Region were being followed up in the Case Containment Center, most before their worms emerged, and were reportedly contained. All but one also reportedly gave a history of having traveled to South Sudan last year, but the EDEP needs to prepare a more complete line listing of these 35 cases that it has reported in January-May 2008 (see *Guinea Worm Wrap-Up #181*), that includes approximate dates of onset of cases, dates when interventions began, and all other key available data concerning these important cases. A revised map showing the location of Awukoy village, from which nearly all of the cases in 2008 have been reported, is in Figure 6.

Border Region of Southern Sudan and Ethiopia

Guinea Worm Eradication Program

Cases of Guinea worm disease reported Jan 2007 - Mar 2008*



* For villages where geographical coordinates are available

Note: This map is provisional and is not an authority on boundaries or roads or exact locations. This map was created for the purpose of the Guinea Worm Eradication Program.

Table 3

**Dracunculiasis Eradication Campaign
Reported Importations and Exportations of Cases of Dracunculiasis: 2008***

From	To	Month and number of cases imported														Number of cases exported
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total		
Ghana	Burkina Faso				1										1	1
	Togo														0	
Sudan	Ethiopia**				1										1	1
	Uganda														0	
Mali	Niger		1												1	1
Total		0	1	0	2	0	0	0	0	0	0	0	0	0	3	

* Provisional

** Ethiopia alleges that 36 cases of GWD were imported from Southern Sudan into Gambella Region: 2 cases in March, 25 in April, 7 in May, and 2 in June. The origin of these cases is unresolved, but being investigated.

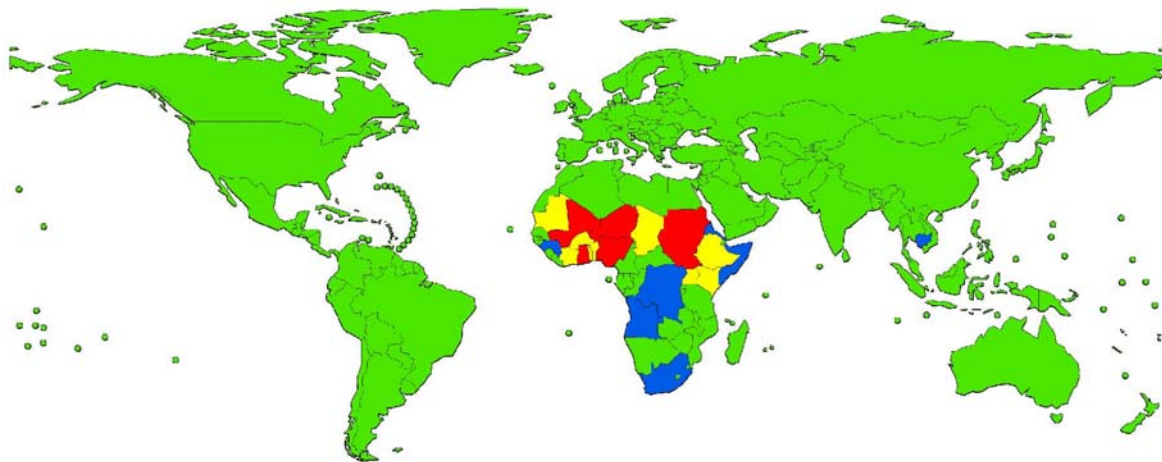
STATUS OF CERTIFICATION



As of January 2008, the World Health Organization (WHO) had certified 180 countries free of dracunculiasis (Figure 7); 7 countries (not endemic for dracunculiasis -Angola, Cambodia, Democratic Republic of Congo, Eritrea Guinea, Somalia, South Africa) remain to be certified; 9 formerly endemic countries (Benin, Burkina Faso, Chad, Cote d'Ivoire, Ethiopia, Kenya, Mauritania, Togo, and Uganda) are in the pre-certification stage of eradication: and transmission of the disease currently occurs in only 5 countries (Ghana, Mali, Niger, Nigeria, and Sudan).

Figure 7

**Certification of Dracunculiasis Eradication
Status as of January 2008**



- Countries and territories certified free of transmission
- Countries not yet certified
- Countries under pre-certification
- Endemic countries



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.
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Benin. A WHO appointed International Certification Team (ICT) composed of three international consultants and three national independent consultants, and supported by national and local facilitators conducted an assessment during April 14-30, 2008 of Benin's claim that it had stopped transmission of dracunculiasis (Guinea worm disease) nation wide. The aim of the mission was to review Benin's National Report of its Guinea worm eradication campaign and to verify and validate the information provided in the National Report. The team conducted surveys during 10 days in 87 localities; 25 health centres; 25 districts to validate the information and assess the quality of the surveillance system. The ICT concluded that Benin met the criteria for certification and has forwarded its report and recommendations to the International Commission for Certification of Dracunculiasis Eradication (ICCDE). The ICCDE is expected to review and approve the ICT's report during its next meeting in March 2009 and if so, to recommend to the Director General of WHO to declare Benin free of Guinea worm disease (GWD).

Ethiopia. During 20 consecutive months (July 2006-March 2008) the Ethiopian Dracunculiasis Eradication Program (EDEP) reported zero cases of GWD and claimed having stopped transmission in all remaining endemic areas. To validate that claim, WHO supported an external evaluation team which visited Ethiopia during May 6-19, 2008. The evaluation team which included an international consultant, international and national staff from WHO, national consultants, and national facilitators, conducted a survey in each of the two formerly endemic regions: South Omo and Gambella. The extent of the assessment in Gambella Region was constrained because of time, accessibility and security. The evaluation team concluded that whereas there is no evidence of indigenous transmission of dracunculiasis in South Omo, (SNNPR) it could not be conclusively ascertained in the Gambella Region, where some 28 cases were detected (all allegedly imported from Southern Sudan). The actual origin of these cases of GWD could not be unequivocally established. However, the evaluation team recommended the immediate implementation of interventions aimed at stopping transmission of GWD and the need for an active case search in the area.

Cote d'Ivoire. Cote d'Ivoire has reported zero cases of GWD since September 2006. To validate and confirm that status, Côte d'Ivoire, WHO conducted an external evaluation during May 12-29, 2008. The aim of the evaluation was to confirm interruption of local transmission of the disease and to formulate recommendations to ensure adequate implementation of pre-certification activities. The evaluation team was composed of four international consultants and four national independent consultants supported by national and local facilitators. The team conducted an assessment in 106 localities; 36 health centres; and 12 districts, and confirmed the absence of local transmission of Guinea worm disease since 2006.

Burkina Faso. The last indigenous case of GWD reported in Burkina was in November 2006. To validate and confirm whether transmission of GWD had been stopped nation wide, WHO provided technical and financial support for an external evaluation of the GWEP, which took place during June 9-25, 2008. The aim of the evaluation was to confirm interruption of local transmission of the disease and to formulate recommendations to ensure adequate implementation of pre-certification activities. The evaluation team was composed of four international consultants and three national independent consultants. The team was supported by national and local facilitators. The team conducted assessments of the program in 109 localities; 30 health centres; and 18 districts, and confirmed the interruption of local transmission of Guinea worm disease since 2006. The team also made recommendations to the GWEP regarding improvement of pre-certification activities underway.

During the remainder of 2008 WHO plans to send ICTs to Mauritania (September) and Chad (December) and to support an external evaluation of Togo's GWEP to confirm interruption of local transmission (October).

*Number of uncontained cases of dracunculiasis outside of Sudan so far in 2008:
71 in Ghana; 6 in Ethiopia; 1 in Mali, and zero in Nigeria and Niger.*

DEFINITION OF CASE CONTAINMENT

A case of Guinea worm disease is contained if all of the following conditions are met:

1. The patient is detected before or within 24 hours of worm emergence; **and**
2. The patient has not entered any water source since the worm emerged; **and**
3. The village volunteer has properly managed the case, by cleaning and bandaging until the worm is fully removed, and by giving health education to discourage the patient from contaminating any water source (if two or more emerging worms are present, the case is not contained until the last worm is pulled out); **and**
4. The containment process, including verification that it is a case of Guinea worm disease, is validated by a supervisor within 7 days of the emergence of the worm.

MEETINGS

The Carter Center will host a Program Review for the SSGWEP in Atlanta on October 16-17, 2008. The SSGWEP will hold its next in-country review at Juba on December 16-17, 2008.

The International Commission for the Certification of Dracunculiasis Eradication (ICCDE) will meet in Bamako, Mali during the first week of March 2009, just before or after the Mali GWEP's annual National Program Review.

RECENT PUBLICATIONS

Hopkins DR, Richards FO Jr, Ruiz-Tiben E, Emerson P, Withers PC Jr, 2008.
Dracunculiasis, onchocerciasis, schistosomiasis and trachoma. Ann NY Acad Sci 1136:45-52

*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 the WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, NCZVED, Centers for Disease Control and Prevention, F-22, 4770 Buford Highway, NE, Atlanta, GA 30341-3724, U.S.A. FAX: 770-488-7761. The GW Wrap-Up web location is <http://www.cdc.gov/ncidod/dpd/parasites/guineaworm/default.htm>.



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