DEPARTMENT OF HEALTH & HUMAN SERVICES

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

Date: August 15, 2008

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

Subject: GUINEA WORM WRAP-UP #183

To: Addressees

Number of uncontained cases of dracunculiasis outside of Sudan so far in 2008: 72 in Ghana; 10 in Mali; 6 in Ethiopia; 0 in Nigeria and Niger.

Countdown to Glory
Consecutive months with zero indigenous cases:
Niger 8
Nigeria 4

MALI INTENSIFIES GUINEA WORM WORK

On July 8-17, 2008, the National Director of Health of Mali's Ministry of Health, Professor Toumani Sidibe, visited endemic areas of Ansongo District in Gao Region and Mopti and Douentza Districts of Mopti Region. The mission, which included the national director of Mali's Guinea Worm Eradication Program, Dr. Gabriel Guindo; the regional director for Gao Region and the *medecin chef* of Ansongo District, among others, split into two teams and visited eight sites that reported a combined total of 91 cases in 2007. The national director charged all health workers to assist in the eradication effort. He also met with the governors of Gao and Mopti Regions to solicit their support for eradication as well. On July 30, during a regular session held in the presence of President Amadou Toumani Toure ("ATT"), the Government of Mali's Council of Ministers discussed the issue of Guinea worm eradication, and the goal to stop transmission of the disease by the end of 2009. The ministers agreed to intensify action in Mali and to revive the Intersectorial Group for Eradication of Dracunculiasis, which was established on March 23, 1993, and was chaired originally by then-General ATT.

Figure 1

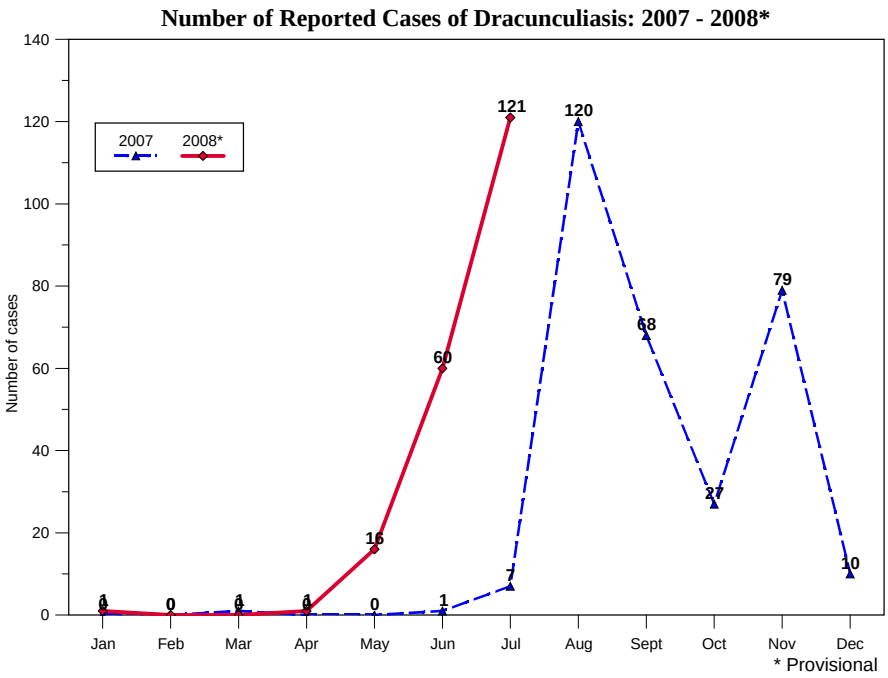
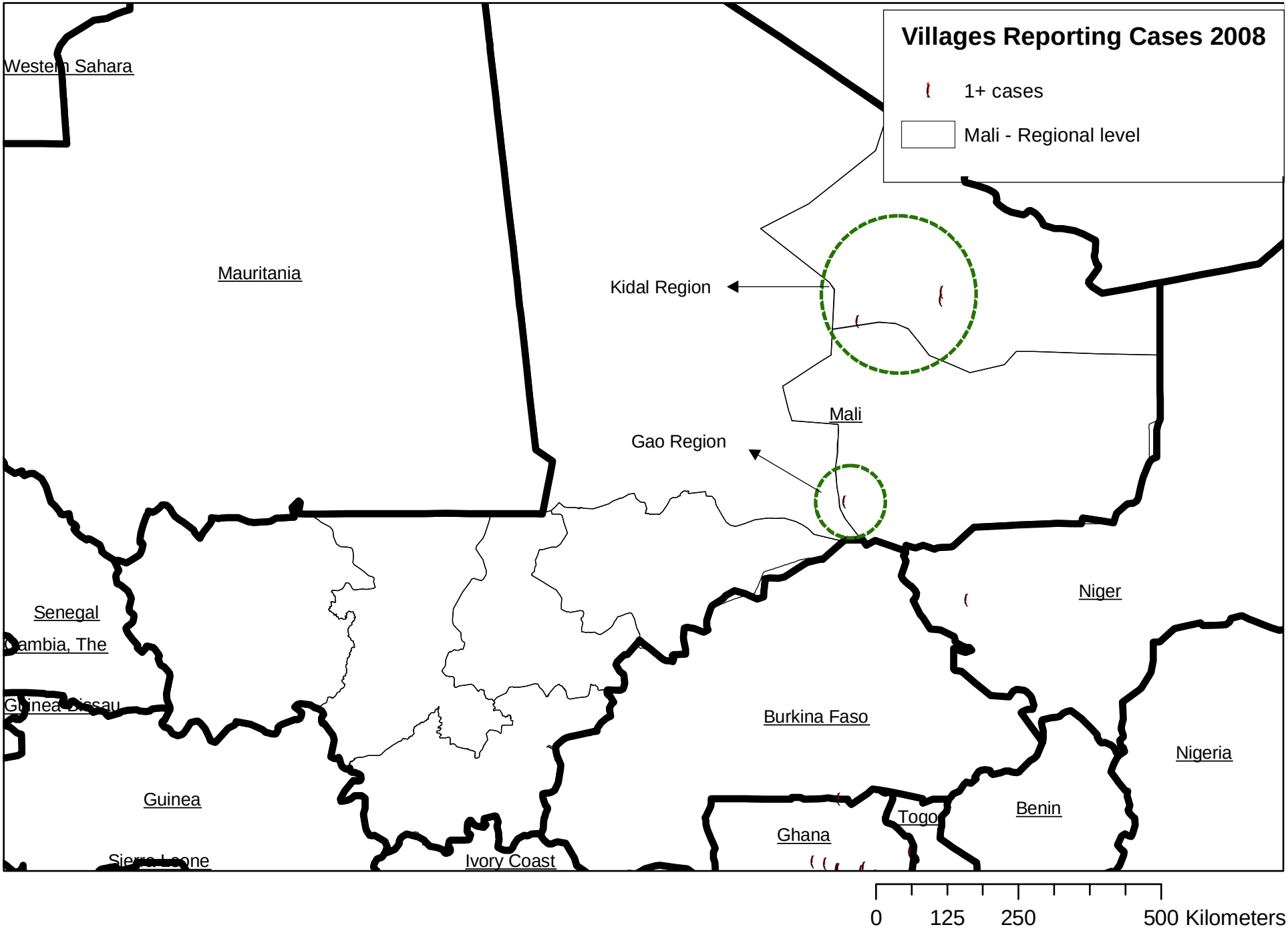


Figure 2

Distribution of Villages Reporting 1+Cases of Dracunculiasis, 2008 (Jan-June)*



Mali reported 313 cases (110 contained) of dracunculiasis in 2007, of which 86 (none contained) derived from an outbreak in Kidal Region that was confirmed in August 2007. Whereas Mali reported only nine cases in January-July 2007, it has reported 199 cases in the same period of 2008 (Figure 1), of which 191 (96%) have been reported from Kidal Region, and 6 from Gao Region (plus two cases of uncertain origin detected elsewhere in Mali). One hundred and eighty-nine (95%) of this year's cases have reportedly been contained. It remains to be seen whether the control measures implemented by Mali's GWEP following discovery of the outbreak in Kidal (in August 2007) and two smaller outbreaks last year in Ansongo District were sufficient to reduce the numbers of cases reported in the remainder of 2008. The latest status of interventions in 79 endemic villages of Mali as of June is 100% covered by health education, 100% have cloth filters in all households, 29% have had ABATE® Larvicide applied this year, and 17% have at least one source of safe drinking water. As of the end of June 2008, 79 villages or hamlets were under active surveillance, having reported at least one case in 2007 or so far in 2008. Dr. Ernesto Ruiz-Tiben of The Carter Center and Drs. Gautam Biswas and Alhousseini Maiga of the World Health Organization will make a supervisory visit to Mali's GWEP on August 17-30, 2008.

MINISTER OF HEALTH ADDRESSES GHANA GWEP MID-YEAR REVIEW

Ghana's Minister of Health Maj. Courage Quashigah (rtd.) opened the annual mid-year review of Ghana's Guinea Worm Eradication Program (GWEP), which was held in Tamale on July 23-24. The minister expressed his satisfaction with the reductions in cases of dracunculiasis in Ghana so far this year. Other participants at the meeting included minister of the Northern Region Alhaji Ali Idris, the director-general of Ghana Health Service Dr. Elias Sory, Dr. Ernesto Ruiz-Tiben of The Carter Center, and Drs. Gautam Biswas and Alhousseini Maiga of WHO. Ghana has reported 448 cases of dracunculiasis in January-July 2008, which is a cumulative reduction of -84% from the 2,890 cases it reported during the same period of 2007. The 32 cases reported by Ghana in July 2008 represent a reduction of -72% from the 110 cases reported in July 2007. Ghana has contained a provisional total of 84% of its cases reported through June 2008, which is the same as the proportion of cases contained during 2007, although it should be even higher than it was last year (Figure 3). About one-third of Ghana's cases so far in 2008 were physically isolated in a health facility or a Case Containment Center.

Figure 3

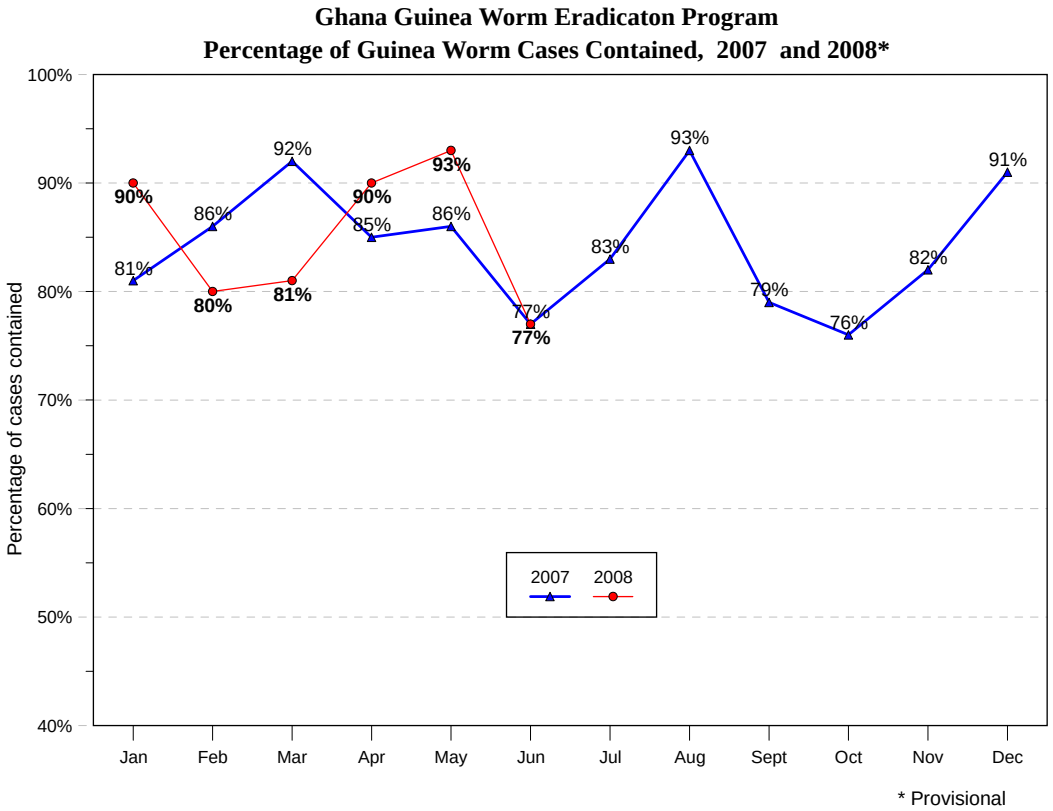
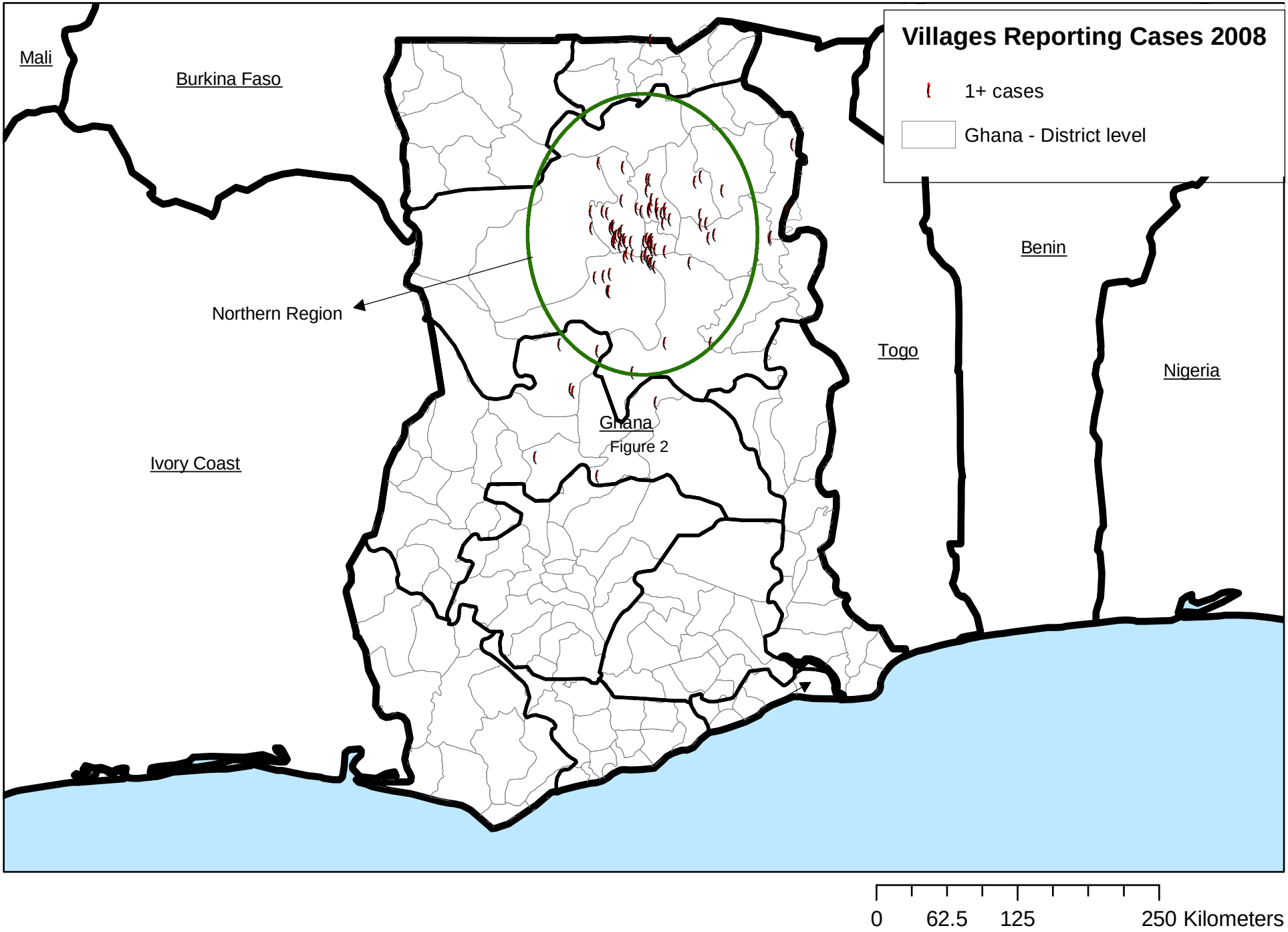


Figure 4

Distribution of Villages Reporting 1+Cases of Dracunculiasis, 2008 (Jan-June)*



The latest status of interventions in 190 endemic villages in Ghana as of June is100% covered by health education, 75% have cloth filters in all households, 56% have had ABATE® Larvicide applied this year, and 45% have at least one source of safe drinking water. Some communities in Tolon/Kumbungu District of the Northern Region have passed by-laws mandating possession of pipe filters while villagers are away from their household, and radio messages have reinforced the idea that preventing Guinea worm disease is a social problem that can be solved collectively and not an individual or individual household issue that can be neglected.

SUDAN REPORTS 51% FEWER CASES IN JANUARY-JUNE

The South Sudan Guinea Worm Eradication Program (SSGWEP) has reported 1,626 cases in January-June 2008, of which 43% were reportedly contained. This is a reduction of -54% from the 3,546 cases that the SSGWEP reported during the first six months of 2007 (Figure 5), with reporting rates of 70% in 2007 and 86% over this period in 2008. A provisional and partial report by the SSGWEP for July 2008 indicates 655 additional cases but only 68 (10%) reportedly contained (Table1). The SSGWEP's reported containment rate of 43% during the first six months of 2008 is even lower than the program's reported rate of containment in 2007 (49%), and is cause for serious concern as the SSGWEP should be *increasing* its case containment rate this year in order to accelerate the reduction in cases of dracunculiasis in 2009. A map showing the locations of villages in southern Sudan that have reported cases in 2008 for which geographic coordinates are known is in Figure 6. The latest status of interventions in 1,993 endemic villages in southern Sudan as of June is: 91% covered by health education, 89% have cloth filters in every household; and 15% have at least one source of safe drinking water. There is no report to date about the coverage endemic villages with vector control (ABATE® Larvicide). Of 128 borehole wells provided by UNICEF in January-May 2008, 47 (37%) are in villages where Guinea worm disease is endemic, and those 47 villages reported 442 (8%) of the 5,815 cases that the SSGWEP reported in 2007. According to age/sex data compiled on 889 cases reported in January- May 2008, 57% were female and 40% were 15 years old or younger. Mr. Evans Lyosi of WHO is being assigned (in August 2008), to assist the ministry of health, government of Southern Sudan and Southern Sudan's GWEP to develop capacity for surveillance reporting and response in areas free of Guinea worm disease.

Figure 5

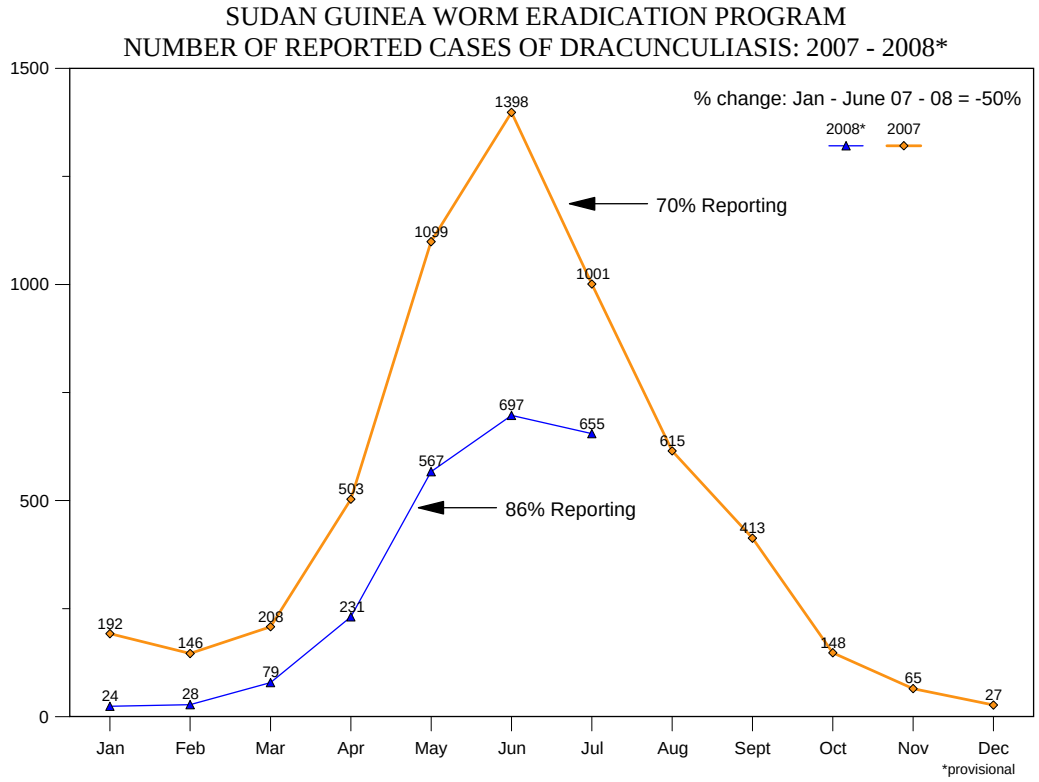


Figure 6

Distribution of Villages Reporting 1+ Cases of Dracunculiasis, 2008 (Jan-Jun)*

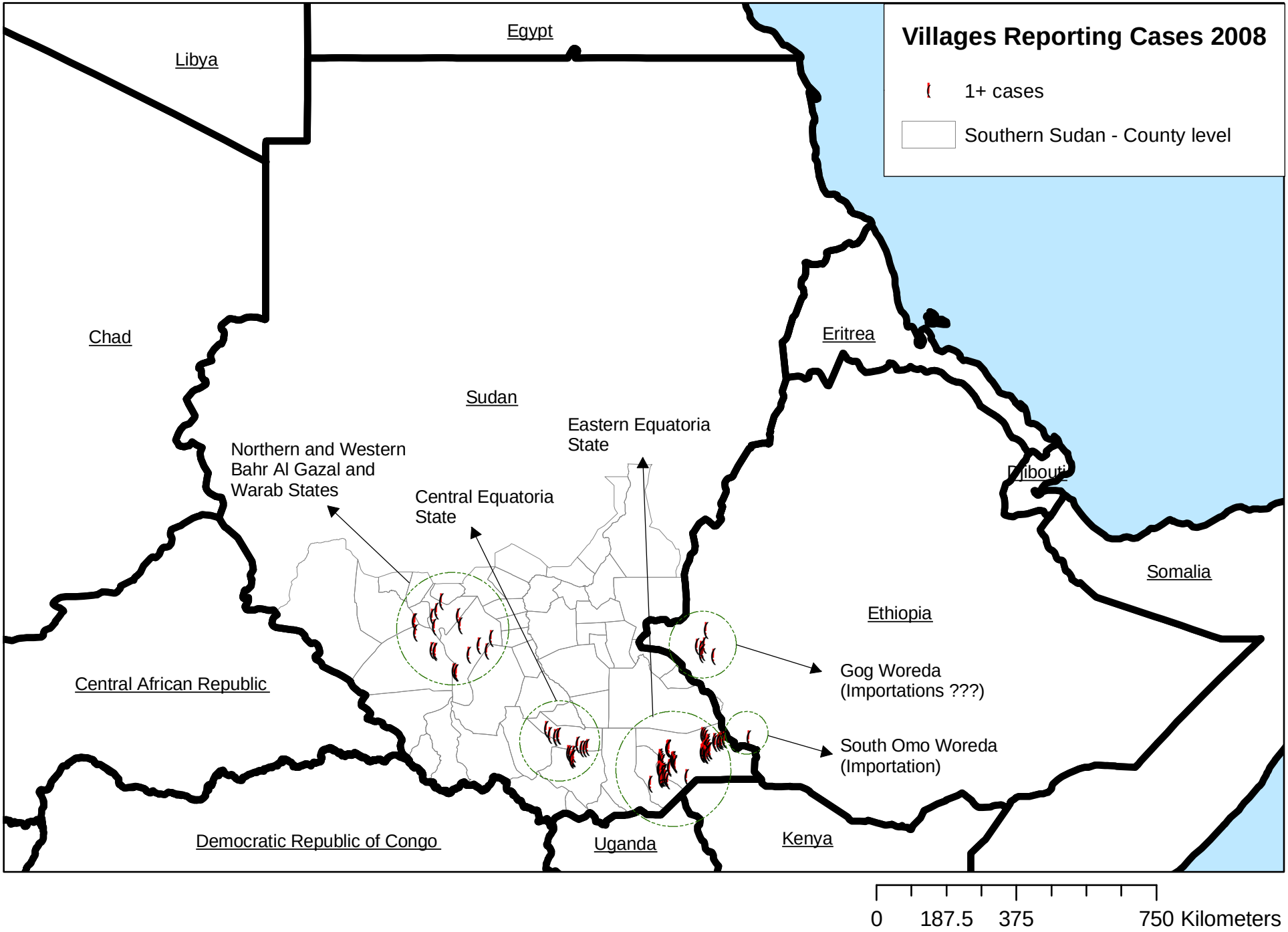


Table 1

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													%
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.
SUDAN	3 / 24	9 / 28	27 / 79	84 / 231	229 / 567	354 / 697	68 / 655	/	/	/	/	/	774 / 2281	
GHANA	66 / 73	64 / 80	39 / 48	61 / 68	68 / 74	56 / 73	22 / 32	/	/	/	/	/	376 / 448	84
MALI	1 / 1	0 / 0	0 / 0	1 / 1	16 / 16	59 / 60	112 / 121	/	/	/	/	/	189 / 199	95
NIGERIA	28 / 28	8 / 8	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	37 / 37	100
NIGER	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	1 / 1	100
ETHIOPIA**	0 / 0	0 / 0	7 / 10	21 / 23	2 / 2	2 / 2	0 / 1	/	/	/	/	/	32 / 38	84
BURKINA FASO	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	/	/	/	/	/	/	1 / 1	100
TOTAL*	98 / 126	82 / 117	74 / 138	168 / 324	315 / 659	471 / 832	202 / 809	/	/	/	/	/	1410 / 3005	47
% CONTAINED	78	70	54	52	48	57	25						47	
% CONT. OUTSIDE SUDAN	93	82	80	90	93	87	87						88	

* provisional

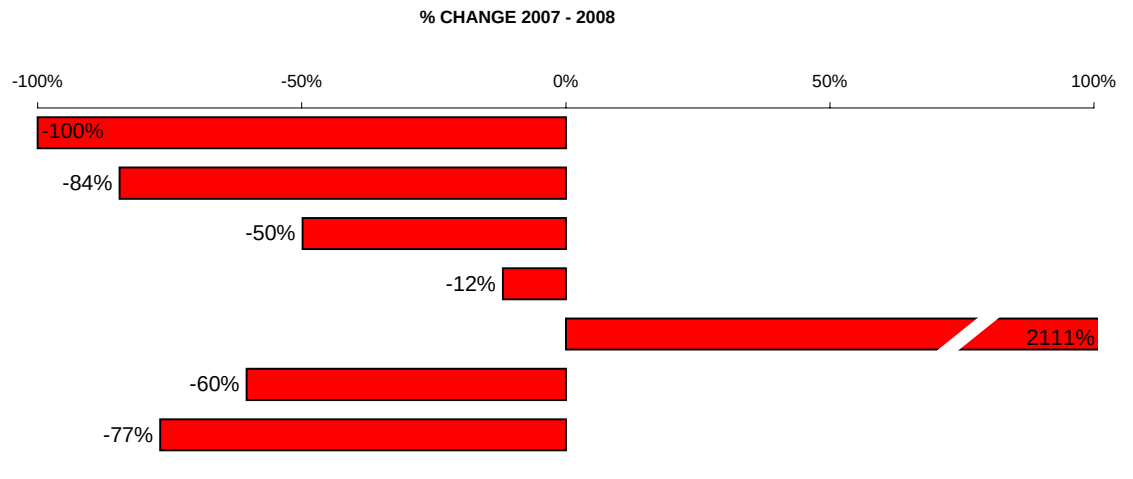
** The origin of infection of 37 alleged cases imported from Southern Sudan is under investigation. One other case imported from Southern Sudan into South Omo Region in March is not in dispute.

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

Figure 7

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

Country	Indigenous Cases Reported	
	2007	2008*
Niger (7)	5	0
Ghana (7)	2890	448
Sudan (7)	4547	2281
Nigeria (7)	42	37
Mali (7)	9	199
Total	7493	2965
All countries, excluding Sudan	2946	684



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

Table 2

List of Guinea Worm Cases and Interventions Against Transmission (End of July 2008-Ethiopia)

Case #	# Worms	Age	Sex	Ethnic Group	Profession	Village	District	Region	Date: Suspect Case Identified	Date: Worm Began to Emerge	Date: Village Volunteer, or Case Containment Center, began	Date: **Case Confirmed by a Supervisor**	Detected <24 hrs? (Yes / No)	Water Contaminated? (Yes / No)	ABATE Applied? (Yes / No)	Case Contained? (Yes / No)	Admitted to a Case Containment Center? (Yes /	Patient had Guinea worm last year?	Imported Case? (Yes / No)	Probable Origin of Infection (name of village, zone, or country)
March																				
1	1	17	F	Agnuak	house lady	Gambella	Gambella town	Gambella	17/03/08	17/03/08	17/03/03	17/03/08	Yes	No	No	Yes	Yes	No	Yes	Ebot, Pochalla, S/Sudan
2	3	25	M	Agnuak	Farmer	Awukoy	Gog	Gambella		19/03/08	19/03/08	19/03/08	Yes	No	Yes	Yes	Yes	No	Yes	Adongol, Pochalla,S/Sudan
3	5	16	F	Agnuak	Student	Awukoy	Gog	Gambella		16/03/08	20/03/08	20/03/08	No	Yes	Yes	**No**	Yes	No	Yes	Adongol, Pochalla,S/Sudan
4	9	25	M	Agnuak	Farmer	Awukoy	Gog	Gambella		21/03/08	21/03/08	21/03/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla
5	4	16	F	Agnuak	Student	Awukoy	Gog	Gambella	21/03/08	21/03/08	25/03/08	25/03/08	No	Yes	Yes	**No**	Yes	No	Yes	Aleri, Pochalla, S/Sudan
6	3	15	F	Agnuak	Student	Gambella	Gambella town	Gambella	24/03/08	24/03/08	25/03/08	25/03/08	Yes	No	No	Yes	Yes	No	Yes	Ebot, Pochalla, S/Sudan
7	1	20	F	Agnuak	Student	Awukoy	Gog	Gambella	26/03/08	27/03/08	26/03/08	27/03/08	Yes	No	Yes	Yes	Yes	No	Yes	Ela, Pochalla, S/Sudan
8	2	12	F	Agnuak	Student	Awukoy	Gog	Gambella	15/04/08	31/03/08	15/04/08	31/03/08	No	No	Yes	Yes	Yes	No	Yes	Obodi, Pochalla, S/Sudan
April																				
9	3	12	F	Agnuak	Student		Gog	Gambella	31/03/08	31/03/08	31/03/08	01/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Ela, Pochalla, S/Sudan
10	1	11	F	Agnuak	Student	Awukoy	Gog	Gambella	01/04/08	02/04/08	01/04/04	02/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Adongol, Pochalla,S/Sudan
11	2	40	F	Agnuak	Farmer	Awukoy	Gog	Gambella	01/04/08	03/04/08	01/04/08	03/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Adongol, Pochalla,S/Sudan
12	2	10	F	Agnuak	Student	Awukoy	Gog	Gambella	02/04/08	03/04/08	02/04/08	03/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Ela, Pochalla, S/Sudan
13	1	10	F	Agnuak	Student	Awukoy	Gog	Gambella	02/04/08	03/04/08	03/04/08	03/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Adongol, Pochalla,S/Sudan
14	2	20	F	Agnuak	Student	Awukoy	Gog	Gambella	02/04/08	03/04/08	03/04/08	03/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Adongol, Pochalla,S/Sudan
15	4	16	F	Agnuak	Student	Awukoy	Gog	Gambella	29/03/08	04/04/08	29/03/08	04/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Ela, Pochalla, S/Sudan
16	1	10	M	Agnuak	Student	Awukoy	Gog	Gambella	02/04/08	04/04/08	02/04/08	04/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
17	1	28	M	Nyangatom	Farmer	Lorenkacho	Nyangatom	SNNPR	03/04/08	04/04/08	04/04/08	04/04/08	Yes	No	No	Yes	Yes	No	Yes	Lotimor, Kapoeta, S/Sudan
18	3	9	F	Agnuak	Student	Awukoy	Gog	Gambella	02/04/08	05/04/08	02/04/08	05/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Adongol, Pochalla,S/Sudan
19	4	17	F	Agnuak	Student	Awukoy	Gog	Gambella	04/04/08	06/04/08	04/04/08	06/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Adongol, Pochalla,S/Sudan
20	1	10	M	Agnuak	Student	Awukoy	Gog	Gambella	04/04/08	06/04/08	04/04/08	06/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Ela, Pochalla, S/Sudan
21	1	10	M	Agnuak	Farmer	Awukoy	Gog	Gambella	05/04/08	06/04/08	06/04/08	06/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
22	1	25	F	Agnuak	Farmer	Awukoy	Gog	Gambella	05/04/08	08/04/08	05/04/08	08/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Ela, Pochalla, S/Sudan
23	1	17	M	Agnuak	Student	Awukoy	Gog	Gambella	07/04/08	09/04/08	07/04/08	09/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Aleri, Pochalla, S/Sudan
24	2	12	F	Agnuak	Student	Awukoy	Gog	Gambella	09/04/08	11/04/08	09/04/08	11/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Adongol, Pochalla,S/Sudan
25	1	16	M	Agnuak	Farmer	Awukoy	Gog	Gambella	12/04/08	12/04/08	12/04/08	12/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
26	1	14	M	Agnuak	Student	Awukoy	Gog	Gambella	12/04/08	14/04/08	12/04/08	14/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
27	1	8	M	Agnuak		Akumed	Gog	Gambella	12/04/08	14/04/08	12/04/08	14/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
28	1	9	F	Agnuak		Awukoy	Gog	Gambella	13/04/05	15/04/08	13/04/08	15/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
29	1	8	F	Agnuak		Awukoy			13/04/08	15/04/08	13/04/08	15/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
30	4	45	M	Agnuak	Farmer	Awukoy	Gog	Gambella	16/04/08	16/04/08	20/04/08	20/04/08	No	Yes	Yes	**No**	Yes	No	Yes	Adongol, Pochalla,S/Sudan
31	2	25	F	Agnuak	Farmer	Awukoy	Gog	Gambella	20/04/08	18/04/08	20/04/08	20/04/08	No	No	Yes	**No**	Yes	No	Yes	Aleri, Pochalla, S/Sudan
32	3	46	m	Agnuak	Farmer	Awukoy	Gog	Gambella		03/04/08	21/04/08	21/04/07	No	Yes	Yes	**No**	Yes	No	Yes	Pochalla, S/Sudan
33	1	6	M	Agnuak		Awukoy	Gog	Gambella	17/04/08	27/04/08	17/04/08	27/04/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
May																				
34	1	26	F	Agnuak	Farmer	Olane	Gog	Gambella	30/04/08	01/05/08	01/05/08	01/05/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
June																				
35	1	33	M	Agnuak	Farmer	Refugee Ca.	Gog	Gambella	03/06/08	03/06/08	03/06/08	03/06/08	Yes	No	No	Yes	Yes	No	Yes	Tier lul, Pochalla, S/Sudan
36	1	6	M	Agnuak		Abawiri	Gog	Gambella	06/05/08	15/05/06	06/05/08	15/06/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
37	1	7	F	Agnuak		Atheti	Gog	Gambella	16/06/08	17/06/08	17/06/08	17/06/08	Yes	No	Yes	Yes	Yes	No	Yes	Pochalla, S/Sudan
July																				
38	1	22	F	Agnuak	Farmer	Awukoy	Gog	Gambella	05/07/08	20/06/08	05/07/08	06/07/08	No	No	Yes	**No**	Yes	No	Yes	Ajiango & Wogoda, S/Sudan

ETHIOPIA CONDUCTS GUINEA WORM WEEK IN AFFECTED DISTRICT

In a continuation of its efforts to prevent any further transmission of dracunculiasis from Gog District of Ethiopia's Gambella Region, where a total of 37 cases have been reported from 6 villages/localities since March 2008, the Ethiopian Dracunculiasis Eradication Program (EDEP) conducted a Guinea Worm Week in all former endemic villages of Gog District on July 4-9, 2008. Over 1,100 people (including 755 females) attended the coffee ceremony that was associated with the event. Awukoy village, which has been the center of the outbreak, was the site for celebration of Guinea Worm Day on the last day of the worm week, which was attended by officials from the regional health bureau and the district council. National and local radio stations conveyed messages, including in Agnua and Nuer languages used in the district. The most recent case was a 22 year old female who was admitted to a local Case Containment Center on July 5, but whose worm began to emerge on about June 21. Of the 37 cases, all were Agnuak ethnic group, all are residents of Ethiopia, 31 were contained, and 30 occurred in Awukoy Village (from which Ethiopia's last indigenous case reported in June 2006 had originated). Twenty-three were females, and 16 were 15 years old or younger (Table2). Staff from The Carter Center office in Addis Ababa assisted in conducting a field visit in Gambella Region from June 30-July 18. The Federal Ministry of Health of Ethiopia has assigned a new person as National Coordinator for the EDEP: Mr. Gole Ejeta. He plans to travel to Gambella Region in August. The EDEP has also prepared a more complete line-listing of the cases reported in Ethiopia in 2008 (Table 2). It is not certain that all 38 cases were infected in southern Sudan.

NIGERIA CONDUCTS PILOT CASE SEARCH IN CONJUNCTION WITH IMMUNIZATION PLUS DAYS

The Nigerian Guinea Worm Eradication Program (NIGEP) assisted by WHO conducted a pilot case search in Kaduna and Bauchi States ending July 4, 2008 in conjunction with Immunization Plus Days. A total of 43 allegations of cases of Guinea worm Disease (GWD) were investigated (38 in Kaduna and 5 in Bauchi States), and none concluded these were cases of GWD.

RECENT PUBLICATIONS

Okwa OO, 2007. *Tropical parasitic diseases and women.* Annals of African Medicine. 6:157 -63.

Hakim FA, 2007.*Dracunculiasis. An incidental diagnosis in a Saudi female*. Saudi Medical Journal. 28:1438-40.

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.