DEPARTMENT OF HEALTH & HUMAN SERVICES

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

Date: November 12, 2008

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

Subject: GUINEA WORM WRAP-UP #185

To: Addressees

"Without a struggle, there can be no progress."
~Frederick Douglass

Number of uncontained cases of dracunculiasis outside of Sudan in 2008:
69 in Ghana, 54 in Mali, 9 in Ethiopia, 1 in Niger, and 0 in Nigeria

SUDAN PROGRAM REVIEW: INTERVENTIONS IN FOUR FOCAL AREAS AND SURVEILLANCE IN GUINEA WORM-FREE AREAS

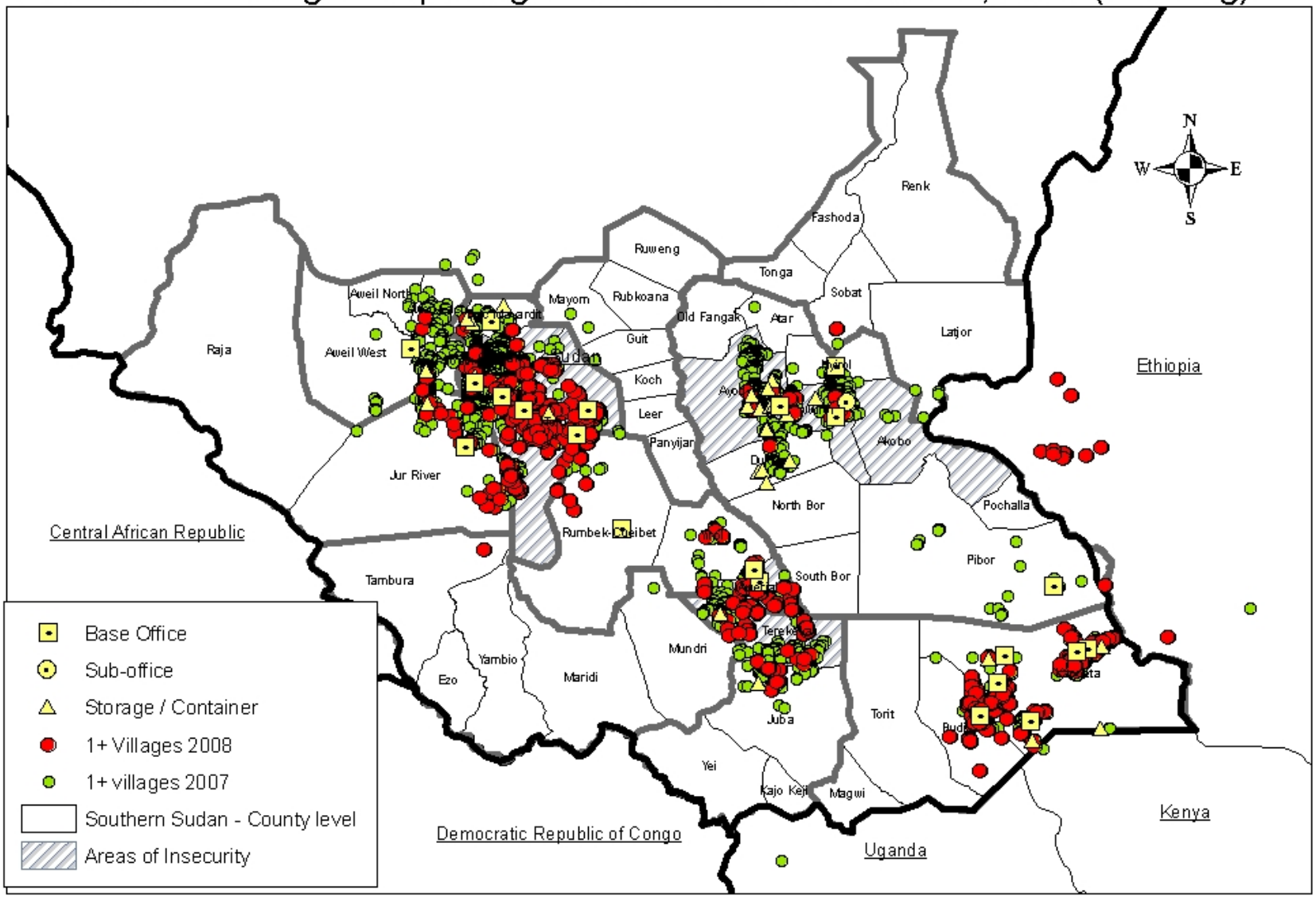
The Carter Center hosted a Program Review of the Southern Sudan Guinea Worm Eradication Program (SSGWEP) in Atlanta, USA on October 16-17, 2008. Participants included the Undersecretary of Health of the Ministry of Health of Southern Sudan, Dr. Kuol MONYWIIR Arop; the Director General, Preventive Medicine, Dr. Joseph P. RUMUNU Karlino; and the Director, SSGWEP, Mr. MAKOY Samuel Yibi; as well as representatives from the World Health Organization, UNICEF, the Centers for Disease Control and Prevention, and The Carter Center. Former U.S. President and Mrs. Jimmy Carter participated in the final summary session on the second day of the Review.

In January-August 2008, 93% of Sudan's cases of dracunculiasis were located in only ten of Southern Sudan's approximately 79 counties, which coalesce into four Focal Areas: Greater Kapoeta; Greater Tonj; Central Equatoria & Lakes; and Northern Jongolei (Figure 1, Table 1). A total of 27 counties are endemic. The status of interventions in Southern Sudan in 2007 and so far in 2008 is summarized in Figure 2. The SSGWEP currently has deployed 17,427 village volunteers in 15,590 villages under active surveillance; 1,420 area supervisors; 151 county field officers; 12 national program officers; 14 technical advisors; and 6 state ministry of health field coordinators. Southern Sudan's overall rate of case containment (49%) is still unacceptably low, but two pilot Case Containment Centers have been established at Jie in Kapoeta East County and Machi II in Kapoeta South County; another is planned for Nakore in Kapoeta North County. Figure 3 shows the numbers of cases reported in Southern Sudan by month during 2007 and so far in 2008.

Figure 1

Southern Sudan Guinea Worm Eradication Program

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

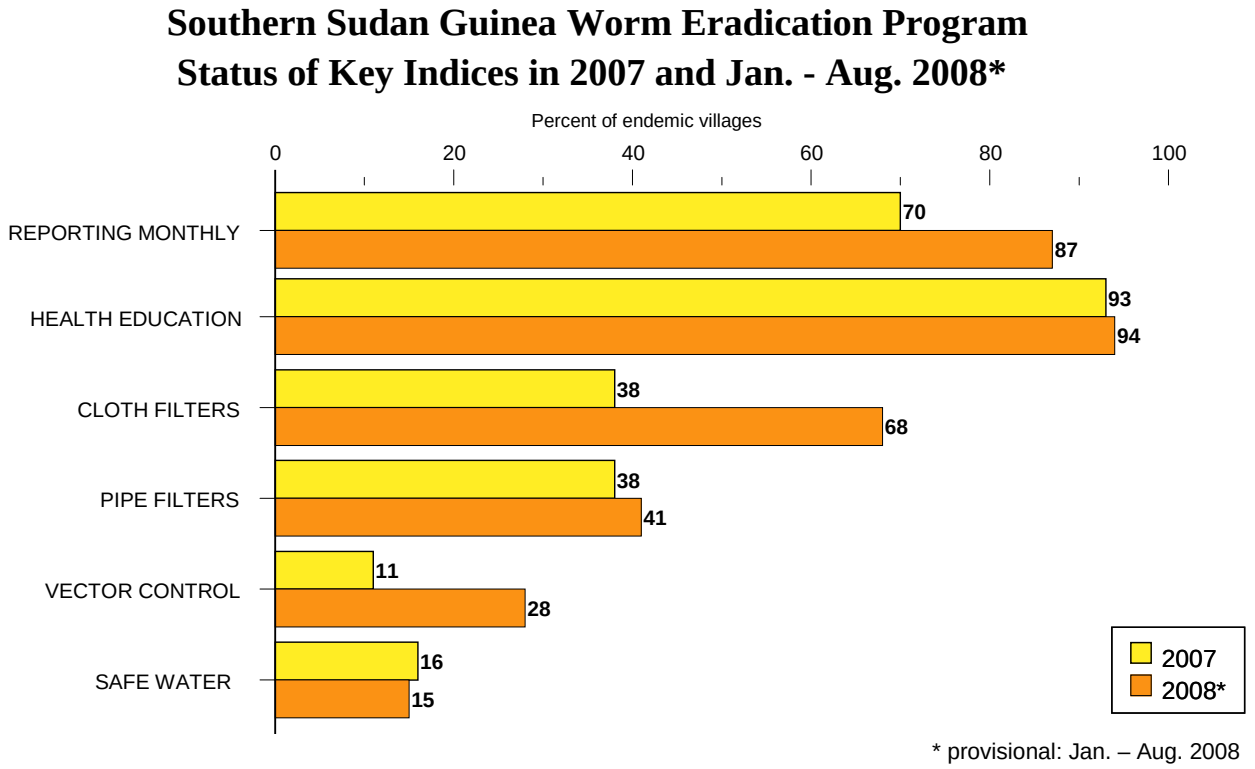


*Jan - Aug 2008 database reflects 1,105 villages reporting a total of 3,102 cases; Villages with geographic coordinates 895 (81%); Cases reported from villages with geographic coordinates 2,472 (80%)

0 60 120 240 Kilometers

*Jan - Dec 2007 database reflects 1,958 villages reporting a total of 5,815 cases; Villages with geographic coordinates 1,912 (98%); Cases reported from villages with geographic coordinates 5,722 (98%)

Figure 2



Participants in the Review engaged in intensive discussions concerning the urgent need to accurately define and designate a) currently (2007-2008) endemic villages (N=856), b) formerly (2005-2007) endemic villages (N= 3,391), and c) all other villages in Southern Sudan (N=10,645+), for the purposes of establishing clear lines of responsibility and accountability for developing and sustaining appropriate epidemiologic surveillance, active supervision, and response to any reports of suspected cases of dracunculiasis. Already, vast areas of Southern Sudan, including three of the ten states (Western Equatoria, Unity and Upper Nile) are Guinea worm-free, for example.

The senior leaders from the Ministry of Health of the Government of Southern Sudan who were at the meeting promised to articulate the SSGWEP's strategies for 2009 in the form of a comprehensive work plan, call a meeting of stakeholders from all the states, communicate necessary messages to different levels of the program, and discuss the needs and goals of the program at the next meeting of the Government of Southern Sudan Health Assembly which was held during October 26 - 29, 2008, ten days after this Program Review. The SSGWEP will hold an in-country Program Review at Juba, Southern Sudan on December 11-12, 2008.

Table 1

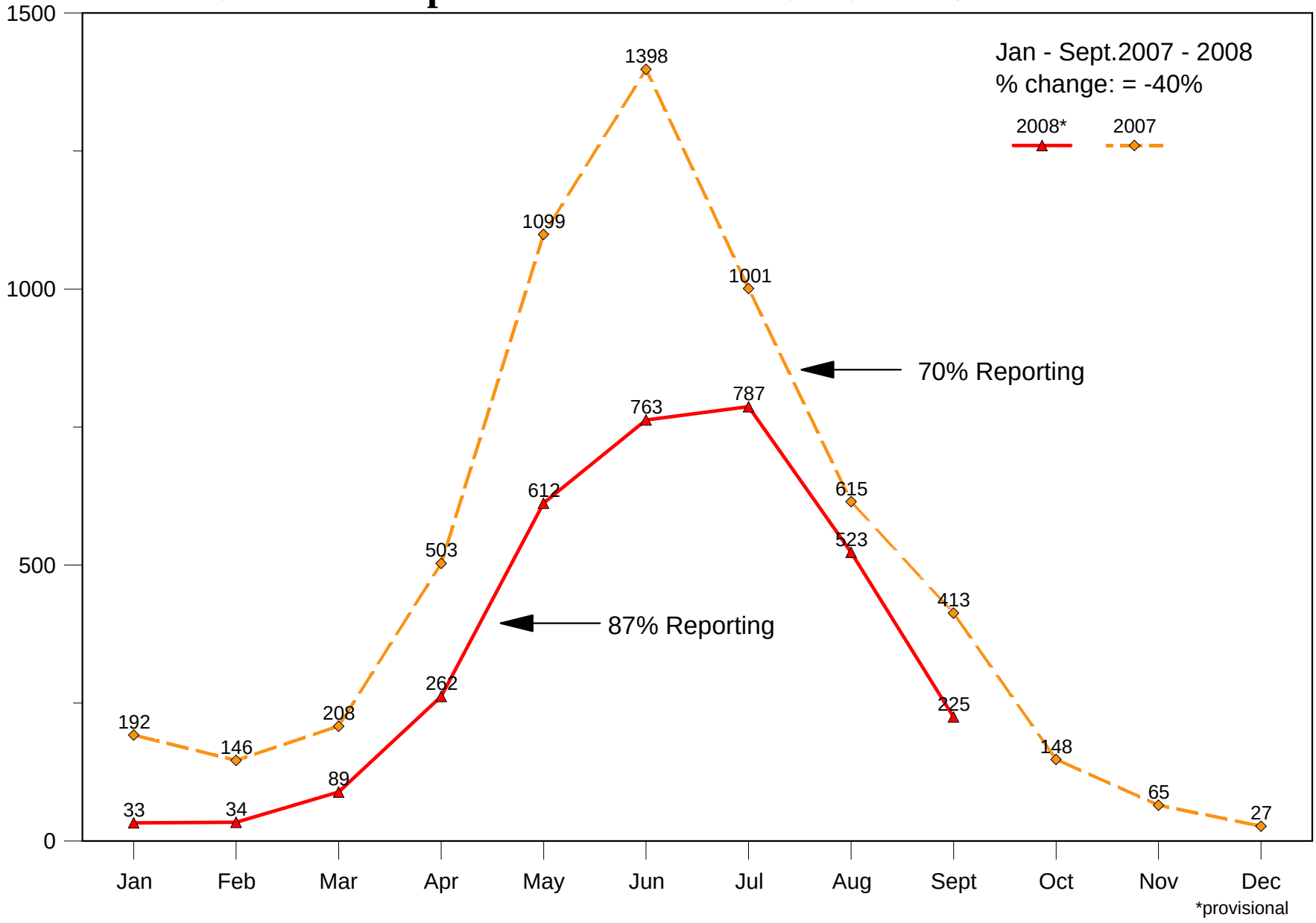
SOUTHERN SUDAN GUINEA WORM ERADICATION PROGRAM
FOUR FOCAL AREAS (JANUARY - AUGUST 2008)

Parameter	Greater Kapoeta	Greater Tonj	Central Equatoria & Lakes	Northern Jongolei
Cases (% of Sudan's total)	1,310 (42%)	1,103 (36%)	525 (17%)	32 (1%)
Number of endemic villages*	696	843	176	257
Number of villages under active surveillance	2,076	7,687	802	893
% cases 0-15 years	49%	34%	39%	21%
% females	55%	53%	56%	60%
Main ethnicity	Toposa	Dinka	Bari, Mundari, Dinka	Nuer, Dinka
% case containment	55%	38%	58%	53%
% coverage of endemic villages:				
Reporting monthly	94%	83%	89%	89%
Provided health education	99%	94%	88%	94%
With cloth filters in 100% of households	71%	65%	88%	77%
Protected with ABATE® Larvicide	57%	14%	55%	0%
With 1+ safe sources of drinking water	18%	11%	34%	16%
With trained village volunteers	95%	94%	95%	92%

Greater Kapoeta includes: Kapoeta East, Kapoeta North, Kapoeta South, and Budi Counties of Eastern Equatoria State
Greater Tonj includes: Tonj and Gogrial Counties of Warrab State, and Jur River of Western Bahr Al Ghazal State
Central Equatoria and Lakes includes: Awerial County, Lakes State, and Terekeka and Juba Counties of Central Equatoria State
Northern Jongolei includes: Ayod, Duken, and Akobo Counties of Jongolei State
* reported one or more cases in 2007-2008.

Figure 3

Sudan Guinea Worm Eradication Program
Number of Reported Cases of Dracunculiasis: 2007 - 2008*



MALI REPORTS 72% INCREASE IN CASES, 86% CONTAINMENT

Mali's GWEP has reported 386 cases of dracunculiasis in January-October 2008, of which 254 (67%) were located in Kidal Region. Overall, 332 (86%) of the 386 cases were reportedly contained, including 104 (27%) patients who were admitted to a case containment center. This is an increase of 72% from the 224 cases that Mali reported during the same ten months of 2007.

During October 11-14 the level of security permitted the national GWEP coordinator to make a supervisory visit to Kidal, while other GWEP staff visited Gao District. Afterwards, both teams continued to Ansongo and Gourma Rharous Districts. The Mayor of Kidal informed the GWEP about residents travelling to Algeria. Nine persons visited the village of Bordj, just across the border into Algeria (see Figure 4) during August and had their Guinea worms emerge while there. These 9 persons were cared for by the Algerian primary health care unit in Bordj and no contamination of water is alleged to have occurred. In September, 12 other residents of Kidal moved to the town of Gardaia in northeastern Algeria (about 1,000 kilometers away), where at least two of them are said to have had Guinea worm disease (GWD). No contamination of water is alleged to have resulted. Also during September, 2 additional residents of Kidal travelled to Tindouf in northwestern Algeria, where their Guinea worms emerged. So far 23 persons to have travelled to Algeria, and 13 cases of GWD have been reported. The World Health Organization is investigating this reported exportation. These 23 nomads plus the cases in Kidal in 2007 and so far in 2008 mean that a total of 360 cases are attributable to the single undiagnosed and uncontained koranic student who imported the disease into Kidal from Ansongo District in 2006!

Kidal Region has reportedly contained 98% (254) of the 260 cases reported there so far in 2008. Gao Region has recorded a -37% reduction in cases so far this year compared to the same period of 2007, but with containment of only 18/33 (55%) cases. Ansongo District reports an increase of 16% in cases and contained 65% (46/71) of this year's cases, having now recognized that it missed some hidden cases in 2007. Gourma Rharous has also had an increase in cases of 16%, and contained 65% (11/17). Mopti district, which reported a total of 4 cases last year, has so far reported no cases this year. Potentially of concern is that 3 cases whose origin(s) are being investigated have been reported in non-endemic Segou Region, and that one of the three was not contained.

IN BRIEF

The reference data for countries mentioned below are found in Table 2, and Figures 5, 6 and 7.

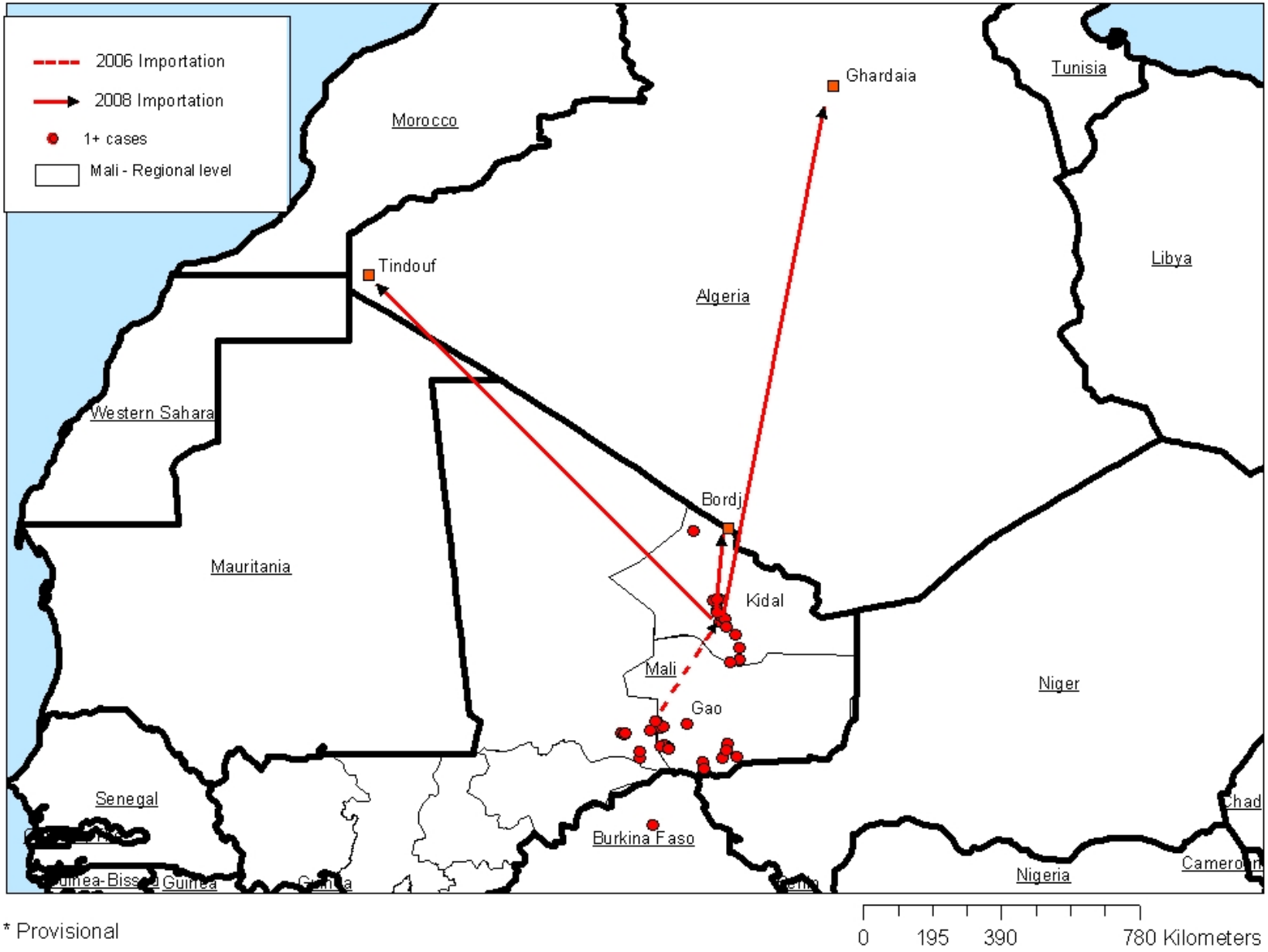
Ghana has reported only 5 cases in September and 8 cases in October, yielding a cumulative reduction in cases of -85% so far this year, with a case containment rate of 85%. These are the first months with single digit case totals since Ghana's program began.

After nine consecutive months with zero indigenous cases, Niger has reported a single indigenous case, which was contained, in September, in a woman who apparently infected herself from the water source in her own compound which she contaminated when her Guinea worm emerged last year. Niger reported another case in October, the source of which is still under investigation, and it is not clear whether it is indigenous or imported. The latter case was not contained.

Figure 4

Mali Guinea Worm Eradication Program

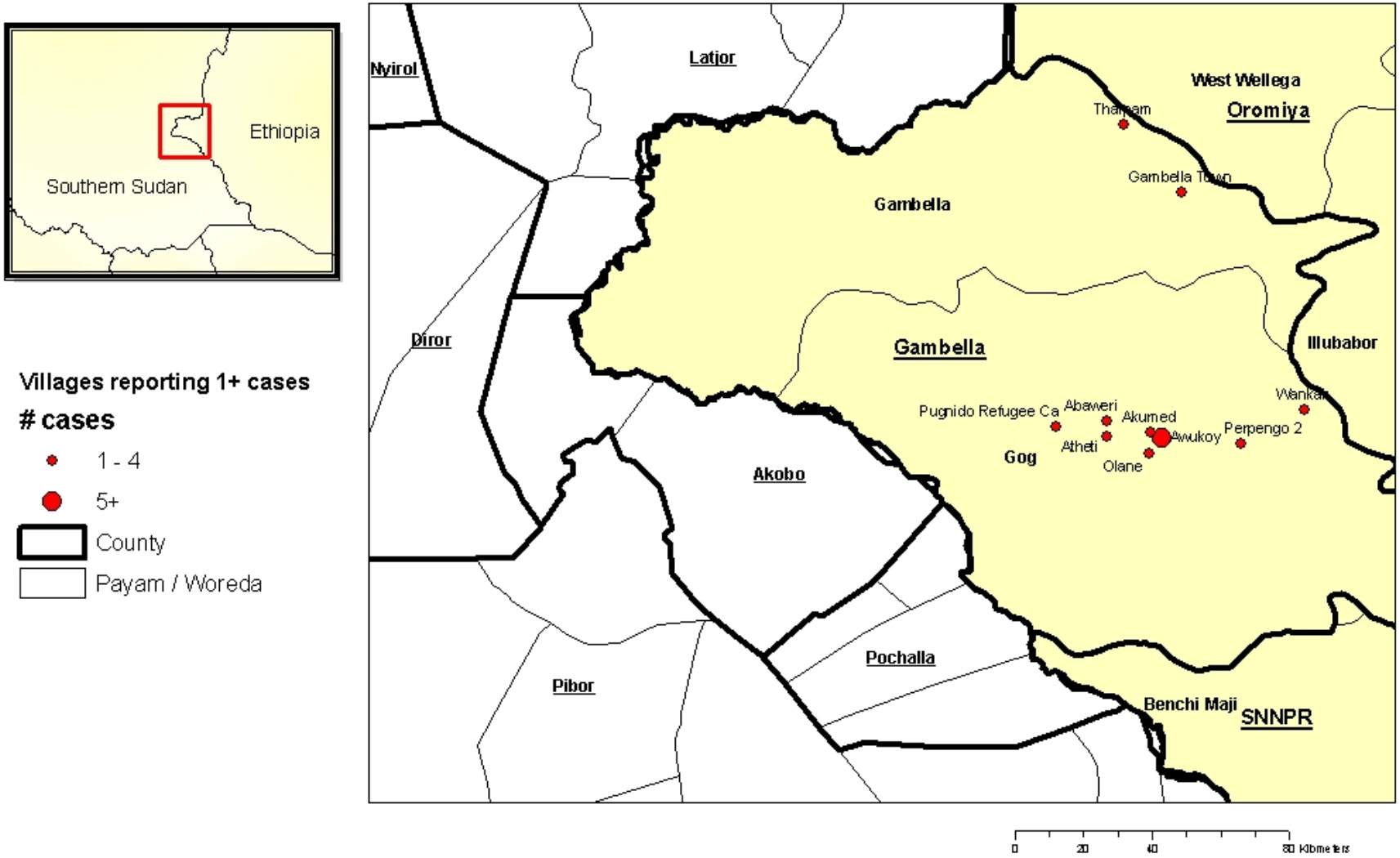
Distribution of Villages in Mali Reporting 1+Cases of Dracunculiasis, 2008 (Jan-Sep)*



* Provisional

Figure 5

Border Region of Southern Sudan and Ethiopia
Guinea Worm Eradication Program
Cases of Guinea worm disease reported Jan - Oct 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 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													%
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.
SUDAN	8 / 32	11 / 34	36 / 89	115 / 262	253 / 621	397 / 766	394 / 791	314 / 529	116 / 225	/	/	/	1644 / 3349	49
GHANA	66 / 73	63 / 80	37 / 48	60 / 68	69 / 74	57 / 73	27 / 30	12 / 13	4 / 5	8 / 8	/	/	403 / 472	85
MALI	1 / 1	0 / 0	0 / 0	1 / 1	16 / 16	59 / 60	112 / 120	51 / 60	48 / 72	44 / 56	/	/	332 / 386	86
NIGERIA	28 / 28	8 / 8	1 / 1	0 / 0	0 / 0	0 / 0	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	0 / 0	1 / 1	0 / 1	/	/	2 / 3	67
ETHIOPIA**	0 / 0	0 / 0	5 / 8	22 / 25	1 / 1	3 / 3	0 / 1	0 / 1	0 / 1	1 / 1	/	/	32 / 41	78
BURKINA FASO	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	1 / 1	100
TOTAL*	103 / 134	83 / 123	79 / 146	199 / 357	339 / 712	516 / 902	533 / 942	377 / 603	169 / 304	53 / 66	/	/	2451 / 4289	57
% CONTAINED	77	67	54	56	48	57	57	63	56	80			57	
% CONT. OUTSIDE SUDAN	93	81	75	88	95	88	92	85	67	80			86	

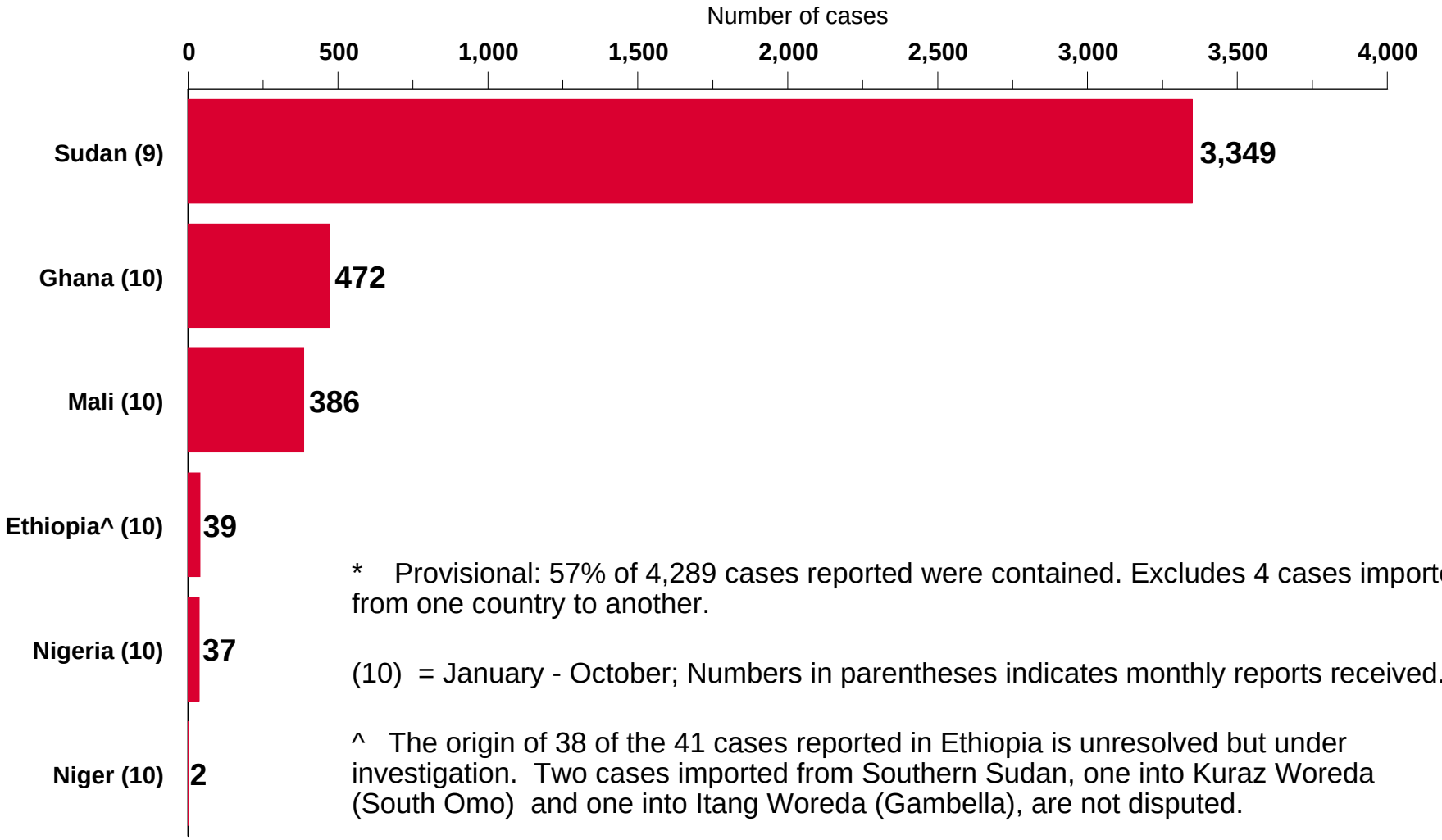
* provisional

** The origin of infection of 38 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 6

Distribution by Country of 4,285 Indigenous Cases of Dracunculiasis Reported: 2008*



* Provisional: 57% of 4,289 cases reported were contained. Excludes 4 cases imported from one country to another.

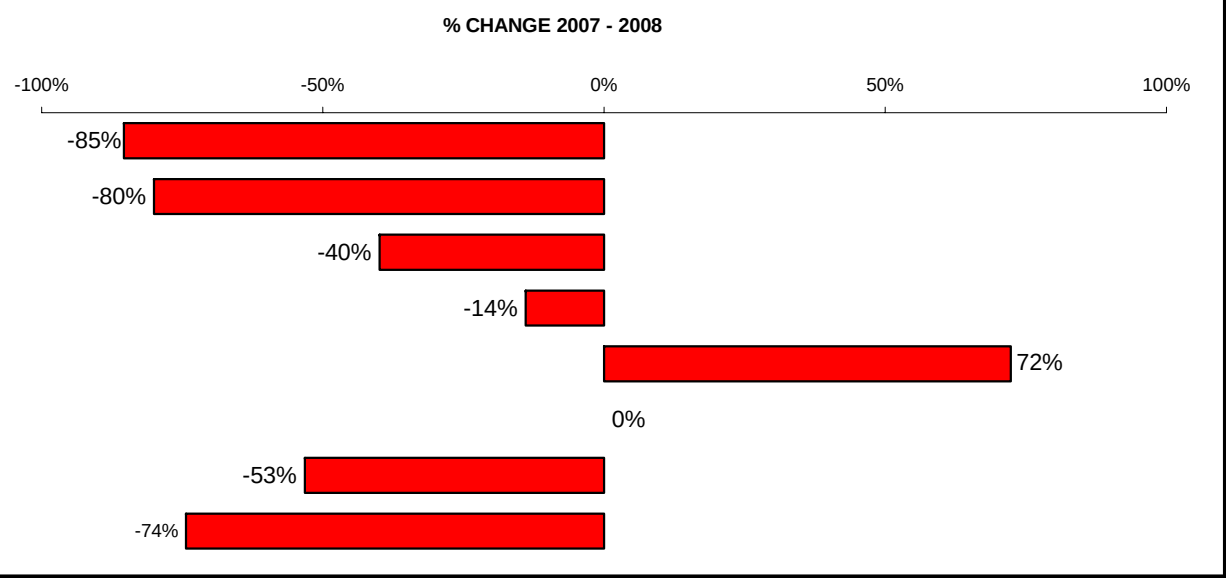
(10) = January - October; Numbers in parentheses indicates monthly reports received.

^ The origin of 38 of the 41 cases reported in Ethiopia is unresolved but under investigation. Two cases imported from Southern Sudan, one into Kuraz Woreda (South Omo) and one into Itang Woreda (Gambella), are not disputed.

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*
Ghana (10)	3220	472
Niger (10)	10	2
Sudan (9)	5575	3349
Nigeria (10)	43	37
Mali (10)	224	386
Ethiopia** (10)	0	1
Total	9072	4247
All countries, excluding Sudan	3497	898



* Provisional: excludes cases exported from one country to another
(10) Indicates months for which reports were received, i.e., Jan.-Oct. 2008
** The origin of 38 of the 41 cases reported in Ethiopia is unresolved but under investigation. Two cases were imported from Southern Sudan, one into Kuraz Woreda (South Omo) and one into Itang Woreda (Gambella), are not disputed.

The latest case of dracunculiasis reported from Abobo Woreda in Gambella Region of Ethiopia in October, is a 60 year-old man, resident of Perpengo-2 village, who gives no history of travel outside of Ethiopia. The source of his infection is not yet known. The last known case of dracunculiasis in this village occurred in 2005. It thus appears that endemic transmission of Guinea worm disease has not yet been interrupted in Ethiopia (See Guinea Worm Wrap-Up # 184).

Nigeria has now passed seven consecutive months (April-October 2008) without detecting an indigenous case of dracunculiasis.

ITFDE REVIEWS GUINEA WORM ERADICATION CAMPAIGN

During its thirteenth meeting at The Carter Center on October 29, the International Task Force for Disease Eradication (ITFDE) reviewed the status of the global Guinea Worm Eradication Program. Dr. Ernesto Ruiz-Tiben of The Carter Center made the presentation on progress achieved since the campaign was last reviewed by the ITFDE in 2003. The Task Force commended the results so far, but stressed the importance of strengthening surveillance and publicizing the impact of the program, among a few other recommendations. Drs. Dirk Engels and Gautam Biswas of WHO participated in the meeting, which was chaired by Dr. Donald Hopkins of The Carter Center.

RECENT PUBLICATIONS

Hopkins DR, Ruiz-Tiben E, Eberhard ML, Roy S. 2008. Update: Progress toward global eradication of dracunculiasis, January 2007-June 2008. MMWR 57:1173-1176.

Hochberg N, Ruiz-Tiben E, Downs P, Fagan J, and Maguire JH. 2008. The Role of Case Containment Centers in the Eradication of Dracunculiasis in Togo and Ghana. Am J Trop Med Hyg, 79(5):722-728.

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.