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

Subject: GUINEA WORM WRAP-UP #168

To: Addressees

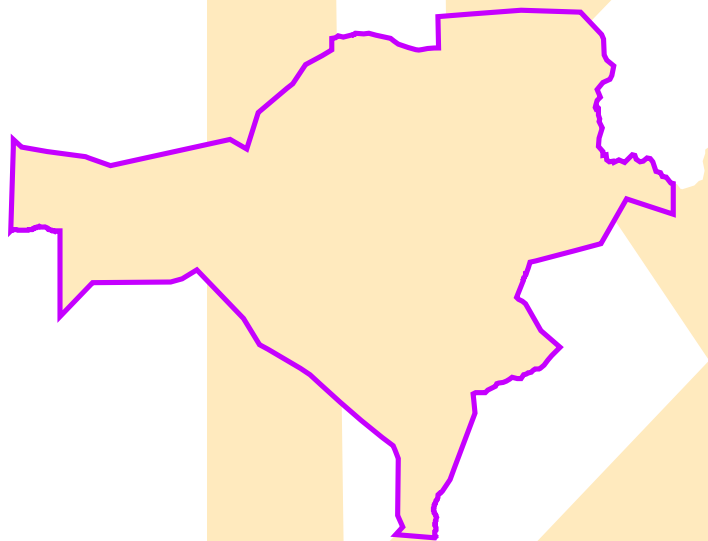
*Nigeria (653,000 cases in 1989) has had no indigenous cases for six months.  
Uganda (126,000 cases in 1992) has had no indigenous cases for three years.*

#### **FIRST PROGRAM REVIEW HELD IN SOUTHERN SUDAN**

The Ministry of Health of the Government of South Sudan (GOSS) convened the first Program Review of the South Sudan Guinea Worm Eradication Program (SSGWEP) in Juba on December 5-6, 2006. The Vice President of the GOSS Dr. Riek Machar and the GOSS Minister of Health Dr. Theophilus Ochang Lotti opened the review meeting. The coordinator of the SSGWEP, Mr. Makoy Samuel, summarized the current status of the program during the opening ceremony, which was also attended by other MOH officials, representatives of The Carter Center, UNICEF, and the World Health Organization (WHO), and ministers of health of six southern states and program personnel from all ten southern states; as well as by the national program coordinator Dr. Nabil Aziz; a member of the Global Commission for the Certification of Dracunculiasis Eradication, Dr. Joel Breman; and representatives from the Ethiopian Dracunculiasis Eradication Program. (The Minister of Health for North Bahr Al-Ghazal state used to sew cloth filters for the Guinea worm program in southern Sudan as a member of the Sudanese Women's Association of Nairobi during the civil war.) In his opening remarks, the GOSS vice president reminded everyone that earlier this year, the President of the GOSS publicly stated his government's priority for the SSGWEP and for achieving eradication by the 2009 target date during a speech to the Legislative Assembly.

The SSGWEP has reported 20,300 cases of dracunculiasis from 3,310 villages in January-October 2006 (Figure 6). This is more than three times the number of cases reported in the same months of 2006er 203inde6eriAThi M





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So far in 2006 the reporting rate has improved to 63% (from 51% in 2005), the claimed case containment rate is 48% (<4%), and the use of Abate® to 16% (2%). 49% (30%) of endemic villages have cloth filters in all households, 79% (76%) have received specific health education, and 16% (27%) have at least one source of safe drinking water (Table 1). A total of 20,042 villages are under surveillance. The program distributed approximately 1.4 million pipe filters in 2006. Abate® larvicide is being targeted to the most easily abatable water sources in the highest endemic villages. UNICEF has drilled 8 functioning borehole wells in Kapoeta North County, which is the highest endemic county, where none of the endemic villages previously had any safe sources of drinking water. In most areas, reporting and interventions began in April or May 2006, as the revived program got underway. The program now has in place 13,637 trained village volunteers, 896 area supervisors, 82 county field officers, 7 state coordinators, and 19 technical assistants (Figure 2). The seven highest endemic states have each appointed and are paying the salary of a state GW coordinator. The GOSS has earmarked \$12 million for water supply projects in rural areas in 2007, with priority to GW endemic villages, and \$13 million for urban water projects.

The ranking of the top 23 Payams (Districts) according to cases reported, contained, percent contained, and status of interventions in endemic villages is shown in Table 2. These 23 payams reported 80% of the cases of dracunculiasis in South Sudan during January – October 2006.

The program intends to follow up on reports of suspected cases of dracunculiasis that were reported during the recent National Immunization Days for polio, and plans to assess the status of endemicity in remaining areas next year. It also plans to increase involvement of women and traditional leaders as it completes the transition to direct implementation by the GOSS ministry of health (from implementation by Non-Governmental Organizations previously). The SSGWEP will also complete its decentralization in 2007, in order to mitigate impediments to transportation and communication posed by the vast area, scarce infrastructure and long rainy season of southern Sudan. Increases in cases are expected in some areas during 2007 due to inaccessibility, late access, and/or incomplete implementation of interventions in 2006. *The SSGWEP has made an excellent start in 2006. The spirit of renewed momentum, enthusiasm and strong backing by government officials was palpable at this Program Review.*

Table 1

**SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM  
STATUS OF INTERVENTIONS**

ENDEMIC VILLAGES	JANUARY - OCTOBER	
	2005	2006
NUMBER OF ENDEMIC VILLAGES	1,085	3,310
REPORTING RATE	51%	63%
PROTECTED WITH ABATE	2%	16%
WITH FILTER CLOTH IN ALL HOUSEHOLDS	30%	49%
RECEIVING HEALTH EDUCATION	76%	79%
WITH 1+ SAFE SOURCES OF DRINKING WATER	27%	16%
<b>NUMBER OF VILLAGES UNDER SURVEILLANCE</b>		
	9,834	20,042
<b>REPORTING RATE</b>		
	41%	55%
<b>NUMBER OF CASES REPORTED</b>		
	5,306	20,300
<b>PERCENT OF CASES CONTAINED</b>		
	4%	48%

Table 2

SOUTH SUDAN GUINEA WORM ERADICATION PROGRAM  
RANKING OF TOP 23 PAYAMS ACCORDING TO CASES REPORTED, CONTAINED, PERCENT CONTAINED,  
AND STATUS OF INTERVENTIONS IN ENDEMIC VILLAGES: JANUARY - OCTOBER 2006

Rank	Payam	County	Cases			Endemic Villages					
			Number reported	Contained	% Contained	Number	Reporting Rate	Cloth Filters in 100% of households	1+ Abate Treatments	1+ Safe sources of drinking water	Monthly Health Education
1	JIE	KAPOETA NORTH	3886	1135	29%	147	81%	97%	93%	0%	100%
2	MOGOS	KAPOETA EAST	2406	2069	86%	145	88%	97%	0%	14%	100%
3	KAUTO	KAPOETA EAST	1953	929	48%	293	64%	99%	0%	16%	99%
4	KARUKOMUGE	KAPOETA NORTH	1471	1222	83%	18	96%	91%	6%	28%	100%
5	PARINGA	KAPOETA NORTH	829	492	59%	71	97%	91%	27%	14%	100%
6	PATHUON WEST	GOGRIAL EAST	755	165	22%	230	58%	63%	0%	10%	84%
7	RIWOTO	KAPOETA NORTH	600	345	58%	30	63%	78%	0%	20%	90%
8	NAJIE	KAPOETA NORTH	476	403	85%	30	46%	100%	0%	0%	3%
9	MACHI II	KAPOETA SOUTH	438	220	50%	54	68%	100%	7%	6%	83%
10	PIERI	WUROR	438	0	0%	9	89%	0%	0%	56%	0%
11	TOCH EAST	GOGRIAL EAST	382	87	23%	96	64%	34%	0%	3%	99%
12	LONGELEYA	KAPOETA SOUTH	372	233	63%	94	81%	10%	4%	10%	97%
13	MACHI I	KAPOETA SOUTH	304	146	48%	55	93%	100%	53%	0%	96%
14	TOCH NORTH	GOGRIAL EAST	288	92	32%	116	49%	23%	0%	9%	97%
15	LOKWAMOR	KAPOETA NORTH	280	198	71%	13	37%	100%	0%	23%	100%
16	LOMEYEN	KAPOETA NORTH	217	203	94%	11	59%	94%	0%	18%	100%
17	HIYALA	TORIT	168	5	3%	6	53%	33%	17%	50%	17%
18	MOGOK	AYOD	167	83	50%	20	41%	100%	0%	15%	60%
19	KURWAI	AYOD	165	49	30%	18	47%	94%	0%	0%	50%
20	PAJIEK	AYOD	165	23	14%	31	45%	77%	0%	0%	23%
21	TALI	TEREKEKA	161	18	11%	54	73%	89%	9%	13%	98%
22	PATHUON EAST	GOGRIAL EAST	148	36	24%	75	41%	73%	0%	11%	80%
23	LANKIEN	NYIROL	144	0	0%	7	89%	0%	0%	29%	0%
<b>TOTAL</b>			<b>16213</b>	<b>8153</b>	<b>50%</b>	<b>1623</b>	<b>68%</b>	<b>73%</b>	<b>12%</b>	<b>10%</b>	<b>83%</b>
<b>% OF GRAND TOTAL</b>			<b>80%</b>			<b>49%</b>					

## **ENDEMIC FRANCOPHONE COUNTRIES MEET AT CARTER CENTER**

The annual Program Review for the five endemic francophone countries remaining was held at The Carter Center in Atlanta on November 14-15, 2006. All five countries reported advances towards stopping transmission in 2006 or 2007, although the rate of reduction in Niger is unacceptably low. In addition to the respective national program coordinators, representatives from WHO, UNICEF, CDC and The Carter Center participated in the review. The major external partners (CDC, The Carter Center, WHO and UNICEF) held an interagency coordinating meeting immediately after the Review.

- **Mali** has reported 280 cases (including 235—84%--in Gao District) in January-October 2006, in 79 endemic villages/sites; a reduction of -53% from the same period of 2005. 86% of cases were reportedly contained; Abate® Larvicide used in 92% of affected villages/sites.
- **Niger** has reported 91 cases in 30 localities, all in Tillaberi Regi

Two Jimmy & Rosalynn Carter Awards for Guinea Worm Eradication were also presented during the ceremony to Nigerian former head of state General (Dr.) Yakubu Gowon and Carter Center Country Representative in Nigeria Dr. Emmanuel Miri

Table 3

Number of Cases Contained and Number Reported by Month during 2006\*  
(Countries arranged in descending order of cases in 2005)

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	0 1 9	6 29	23 104	238 2721	2016 4765	2195 3798	2159 3429	1304 2331	1171 2050	623 1064	/	/	9735 20300	48
GHANA	397 622	377 606	265 433	238 403	209 337	172 293	89 160	44 77	18 38	66 144	175 421	/	2050 3534	58
MALI	3 3	1 1	0 0	1 1	3 3	14 14	11 14	66 72	79 91	59 81	27 41	/	264 321	82
NIGERO	0 1	0 0	0 0				/	10 15	67					
TOGO	1 1	2 3	0 0	0 1	1 1	2 2	0 0	5 5	1 1	1 1	5 5	/	18 20	90
BURKINA FASO	0 0	0 0	0 0	0 0	0 0	0 0	1 1	0 1	0 1	1 1	1 1	/	2 5	0
COTE D'IVOIRE	0 0	0 0	0 0	0 0	0 0	2 2	2 2	0 0	1 1	0 0	0 0	/	5 5	100
ETHIOPIA	1 1	0 0	0 0	0 0	1 1	1 1	0 0	0 0	0 0	0 0	0 0	/	3 3	100
UGANDA	0 0	0 0	0 0	0 0	0 0	0 0	1 1	0 0	1 1	0 0	0 0	/	2 2	100
TOTAL*	404 638	396 653	288 537	478 3128	2236 5114	2393 4117	2274 3619	1436 2507	1286 2204	767 1311	220 485	0 0	12178 24313	50
% CONTAINED	63	61	54	15	44	58	63	57	58	59	45		50	
% CONT. OUTSIDE SUDAN	64	63	61	59	63	62	61	75	75	58	45		61	

\* provisional

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



**Table 4****Eradication of Dracunculiasis**

Cummulative Number of Countries	Countries	Year of Last Indigenous Case
1	Pakistan	1993
2	Kenya	1994
		1995
3	India	1996
4,5,6	Senegal, Yemen, Cameroon	1997
7	Chad	1998
		1999
		2000
8	Central African Republic	2001
		2002
9	Uganda	2003
10, 11	Benin, Mauritania	2004
		2005
		2006
	To come: Burkina Faso, Cote d'Ivoire, Ethiopia, Nigeria, Togo, Niger, Mali, Ghana, Sudan	2007
		2008
		2009
		2010

**Figure 4**

## GHANA: THE WORM MUST BE FOUGHT

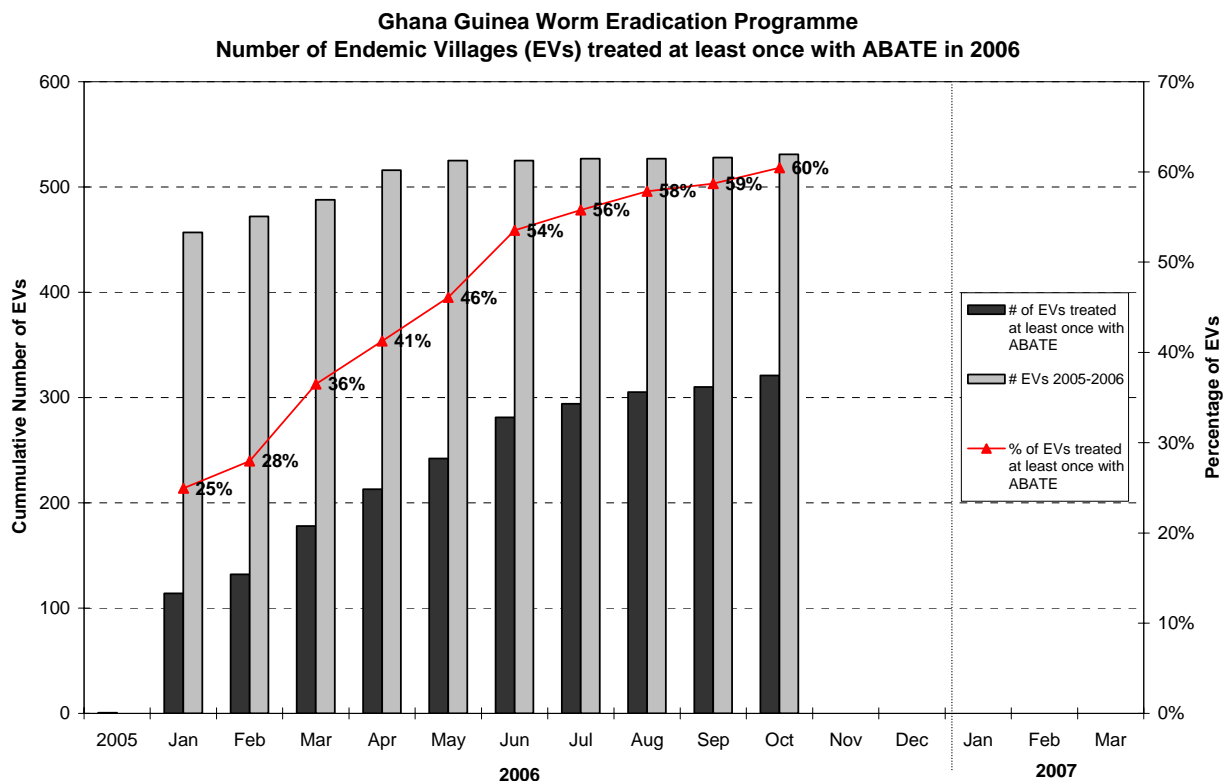


Ghana has reported 3,113 cases of dracunculiasis from 343 endemic villages in January-October 2006, which is a reduction of only -2% from the 3,167 cases Ghana reported during the same period of 2005. In October 2006, which is the first month of the current peak transmission season, Ghana reported -36% fewer cases. The top five endemic districts (Savelugu/Nanton, Tolon/Kumbungu, Tamale, Yendi and East Gonja) have reported 78% of all cases. The Northern Region has reported 90% of all cases so far in 2006.

The cumulative rate of reported containment of cases so far in 2006, 60% (1,875/3,113), is far below Ghana's target. The low rate of containment is more concerning than the current low rate of apparent reduction of cases, since the low case containment portends continued high numbers of cases in Ghana in 2007, which is the target year for achieving 100% case containment (by March 6<sup>th</sup>). The program reports that as of October 2006, 98% of endemic villages have received health education about dracunculiasis, 96% have filters in all households, 47% have at least one safe source of drinking water, and 60% of all endemic villages were treated with abate at least once (Figure 5). Five case containment centers were to be joined by 4 more that were due to open in mid-December. Worm weeks were recently held in six of the highest endemic districts. Two radio announcements about Guinea worm prevention are being read 30 times a day on four radio stations in four different languages covering endemic areas of the Northern Region.

Although Togo had not detected a single imported case of GWD from Ghana during 2006, two such imported cases were suddenly detected in Oti District, in December. Transmission from both imported cases could not be contained, as these persons were not detected within the 24 hour period after the Guinea worms emerged. These two importations underscore again the danger the remaining high incidence of GWD in Ghana poses to its neighbors, particularly as Ghana enters its peak transmission season (October – April). Togo's GWEP needs to remain on high alert during the coming months.

Figure 5



**Figure 6**

**SUDAN GUINEA WORM ERADICATION PROGRAM  
NUMBER OF REPORTED CASES OF DRACUNCULIASIS: 2005 - 2006\***





## IN MEMORIUM: PROFESSOR PHILIPPE RANQUE (1938 – 2006)



We regret to report the passing of Dr. Philippe Ranque on Thursday, November 23, 2006. Prof. Ranque joined the Filariasis Unit at the World Health Organization (WHO) headquarters in Geneva in early 1988, after more than two decades of medical research and teaching in Senegal and Mali. He was descended from parasitologists with long service in French colonial Africa. His father and grandfather were both professors of parasitology at the Faculty of Medicine in Marseilles, France where Philippe also began his academic career before moving on to teach a generation of African parasitologists. In 1984 he published results of the first study of the effectiveness of bed nets against malaria, when he was a professor of parasitology and public health in Bamako, and later helped evaluate the efficacy of ivermectin in people suffering from onchocerciasis. He made his first public appearance to join the Guinea worm eradication campaign at the Second African Regional Conference on Dracunculiasis Eradication, in Accra, Ghana in March 1988. A close friend and protégé of the late Dr. Fergus McCullough, Philippe was a nearly solitary advocate for Guinea worm eradication in WHO during much of his early tenure there. He became the first head of the Dracunculiasis Eradication Unit when it was established at WHO headquarters in August 1994. He retired from WHO in 1998. One of his two sons perpetuates the family tradition by teaching parasitology at Marseilles. We extend our sincere condolences to his family.

*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>.*



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