



Date: December 15, 2006



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

Subject: GUINEA WORM WRAP-UP #168

To: Addressees

<p style="text-align: center;"><u>Count Down to Glory</u> Consecutive months with zero indigenous cases: Nigeria 6 Ethiopia 5</p>
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*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.

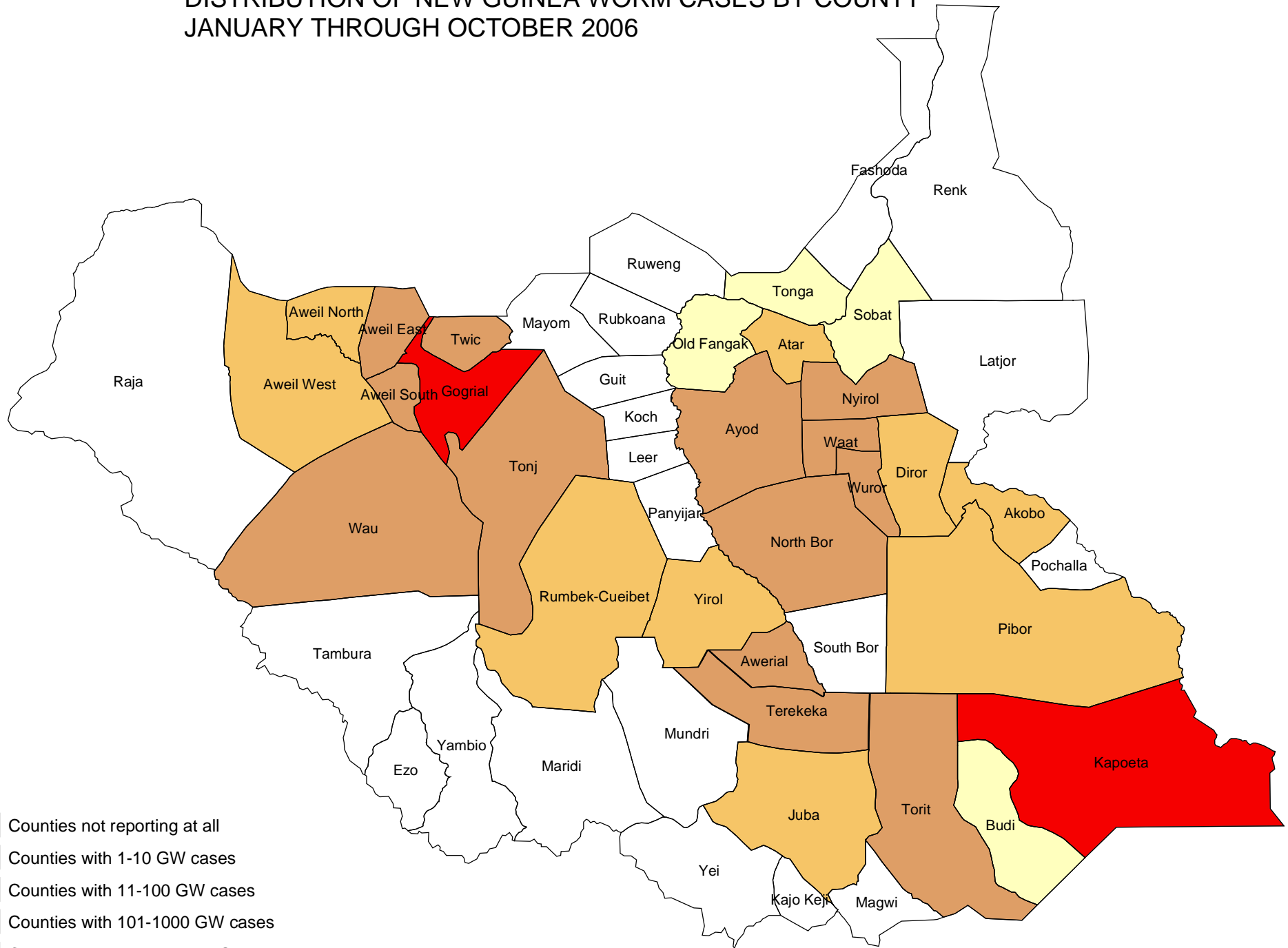
The SSGWEP has reported 20,300 cases of dracunculiasis from 3,310 villages in January-October 2006 (Figure 6). This is more than three times the number of cases reported in the same months of 2005, and reflects the recent access to previously inaccessible areas, especially in highly endemic East Equatoria, where the rainy season and the peak season for dracunculiasis transmission typically begin earlier in the year than in other endemic areas of southern Sudan. Three of the ten southern states (East Equatoria, Warrab, Jongolei) have reported 92% of all cases, and four states (West & North Bahr Al-Ghazal, Lakes, Central Equatoria) have reported 8% of all cases. The three other states (West Equatoria, Unity, Upper Nile) have reported very few indigenous cases (Figure 1). The program has specific information (e.g. age, gender) on 96% of cases reported so far in 2006.

SOUTHERN SUDAN GUINEA WORM ERADICATION PROGRAM

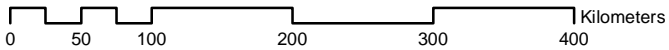
DISTRIBUTION OF NEW GUINEA WORM CASES BY COUNTY

JANUARY THROUGH OCTOBER 2006

1:5,300,000



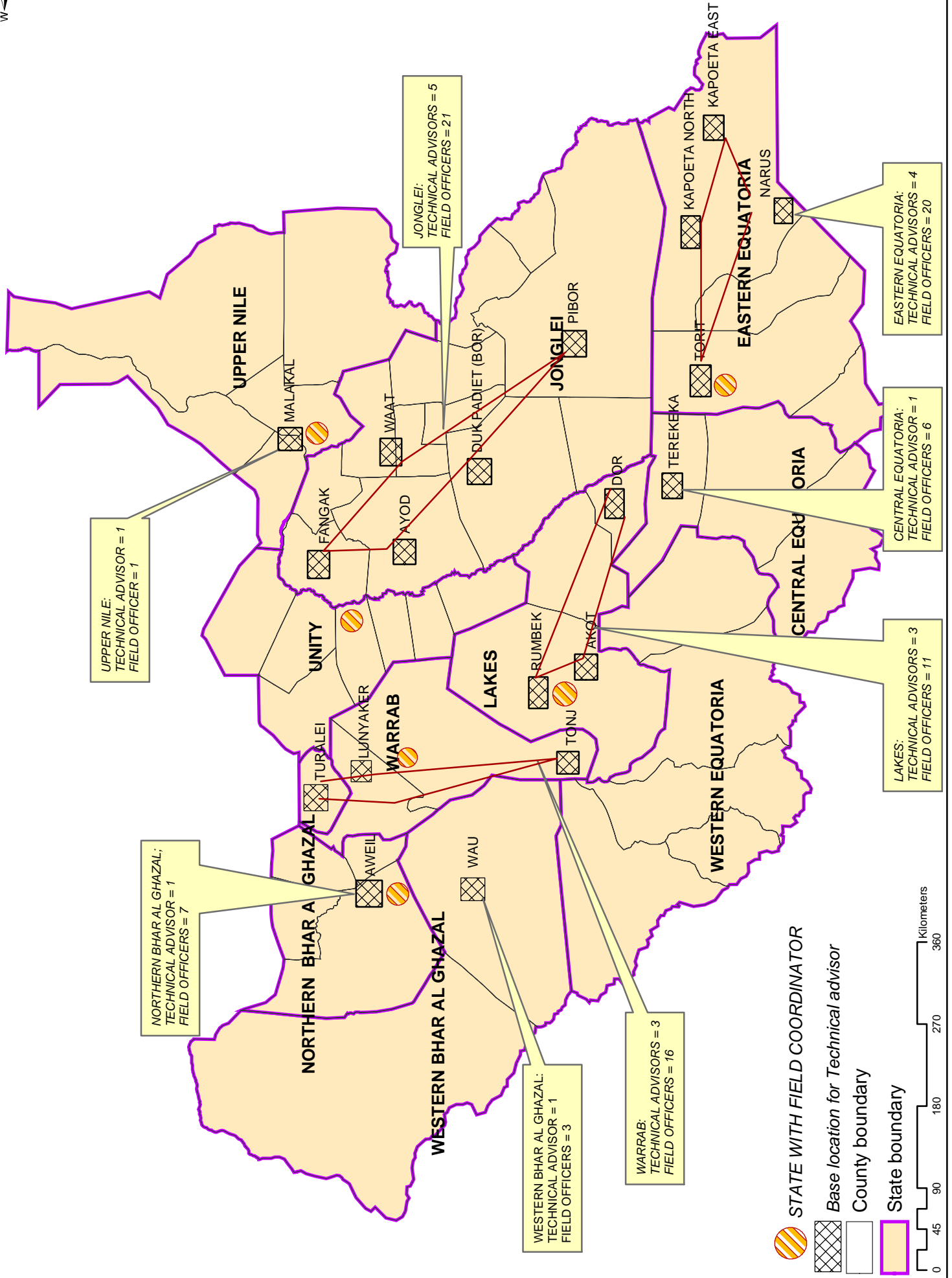
- Counties not reporting at all
- Counties with 1-10 GW cases
- Counties with 11-100 GW cases
- Counties with 101-1000 GW cases
- Counties with 1001-10,000 GW cases



Reports received from MOH
Guinea Worm field officers

**SOUTHERN SUDAN GUINEA WORM ERADICATION PROGRAM,
LOCATION OF FIELD OFFICES AND PROGRAM SUPERVISORY STAFF: OCTOBER 2006"**

1:5,300,000



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%
 		
NUMBER OF VILLAGES UNDER SURVEILLANCE	9,834	20,042
REPORTING RATE	41%	55%
 		
NUMBER OF CASES REPORTED	5,306	20,300
PERCENT OF CASES CONTAINED	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%
TOTAL			16213	8153	50%	1623	68%	73%	12%	10%	83%
% OF GRAND TOTAL			80%			49%					

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 Region; a reduction of -17%. 85% of cases reportedly contained; Abate® used in 100% of 19 endemic localities.



- **Togo** has reported 15 cases in 6 villages; a reduction of -75%. 87% of cases reportedly contained.



- **Cote d'Ivoire** reported 5 cases in one village (Lendoukro) in the rebel-held part of the country; a reduction of -50%. All five cases were reportedly contained. (See Burkina Faso)



- **Burkina Faso** reported 4 cases (including 2 cases apparently imported from Cote d'Ivoire) in 4 villages, including one village that was endemic in 2005; a reduction of -84%. The source of one case is unknown.

CARTER CENTER CEREMONY HONORS FOUR FORMERLY ENDEMIC COUNTRIES AND GENERAL GOWON AND DR. MIRI OF NIGERIA



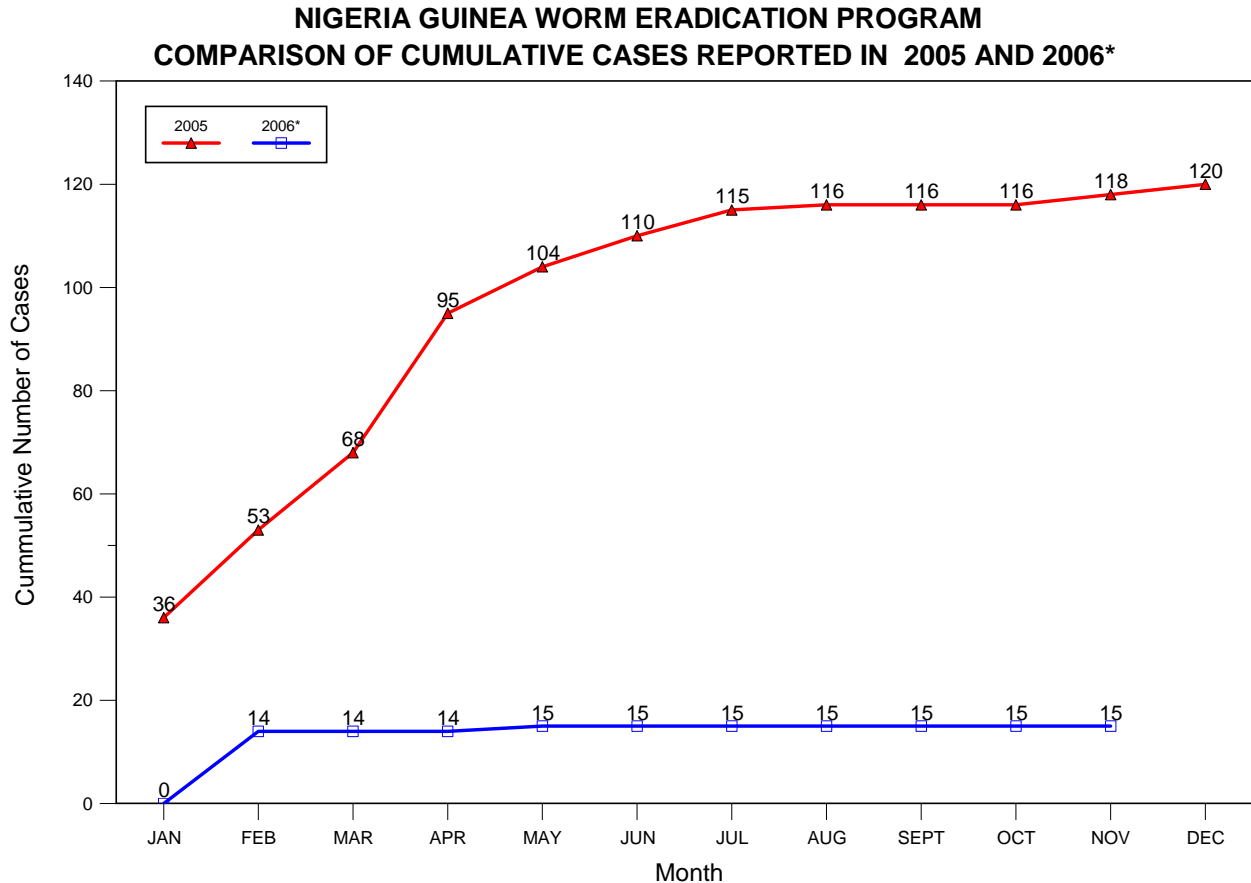
The Carter Center held a gala awards ceremony presided over by former U.S. President Jimmy Carter on November 15, 2006 to honor the four formerly endemic countries that have most recently achieved at least twelve consecutive months with no indigenous cases of dracunculiasis: Benin, Central African Republic, Mauritania, and Uganda. The ambassadors to the United States of Benin and Mauritania, and the former national coordinator of Uganda's Guinea Worm Eradication Program, Dr. John B. Rwakimari, accepted the Carter Center Award for Guinea Worm Eradication on behalf of their respective countries. The Central African Republic was not represented at the ceremony. Two identical awards were presented to each country, one for the head of state and one for the ministry of health. The awards were commissioned and sponsored by Mr. and Mrs. John Moores, and designed by the

Florida-based artist Ms. Kim Griffin. Matching certificates were provided for the national coordinators Mr. Julien Dossou-Yovo and Dr. Aristide Paraiso of Benin; Dr. Fluéri M. Yaya, Mr. Gregoire Melemoko Ndiala, and Dr. Augustine Mada of Central African Republic; Dr. Sidi Mohamed Ould Lemine, Dr. Abdurrahmane Ould Kharchi and Dr. Sidi Mhamed Ould Lebatt of Mauritania; and Dr. Gilbert Mpigika (posthumously), Dr. John B. Rwakimari and Dr. Peter Langi of Uganda.

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. Although Nigeria has not yet achieved a full year without any indigenous case of dracunculiasis, it is very close to doing so, and may have seen its last case already, once having counted more cases of the disease than any other country. Only 15 cases of guinea worm disease have been reported during January through November 2006, and zero cases reported during the last six consecutive months (Figure3). General Gowon, who has made 69 visits to 123 endemic villages on behalf the Nigerian GWEP since 1999, was cited “In recognition and gratitude for his exceptional commitment and profound contributions since 1999 to the eradication of Guinea worm disease (dracunculiasis) from Nigeria”. Dr. Miri was cited “In recognition for his dedicated, relentless and effective leadership since 1998 in the campaign to eradicate Guinea worm disease (dracunculiasis) from Nigeria”.

The director of the World health Organization’s regional office for Africa, Dr. Luis Sambo, attended the ceremony, as did other colleagues from WHO, UNICEF and CDC, as well as the ambassadors to the United States from Cote d’Ivoire, Ethiopia, Nigeria and Sudan, representatives of donor agencies & governments, and news media. Participants from the francophone Program Review also attended the award ceremony, which was held on the evening of the last day of the Review. Carter Center associate executive director Dr. Donald Hopkins and the technical director of the Guinea Worm Eradication Program Dr. Ernesto Ruiz-Tiben, joined President Carter in officiating at the ceremony. The first such ceremony honored Cameroon, Chad, India, Kenya, Pakistan, Senegal, and Yemen at The Carter Center in July 2000.

Figure 3



* Provisional

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
NIGER	2 2	0 0	0 0	1 2	6 6	7 7	11 12	17 21	15 21	17 20	13 17	/	89 108	82
NIGERIA	0 0	10 14	0 0	0 0	0 1	0 0	0 0	0 0	0 0	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.

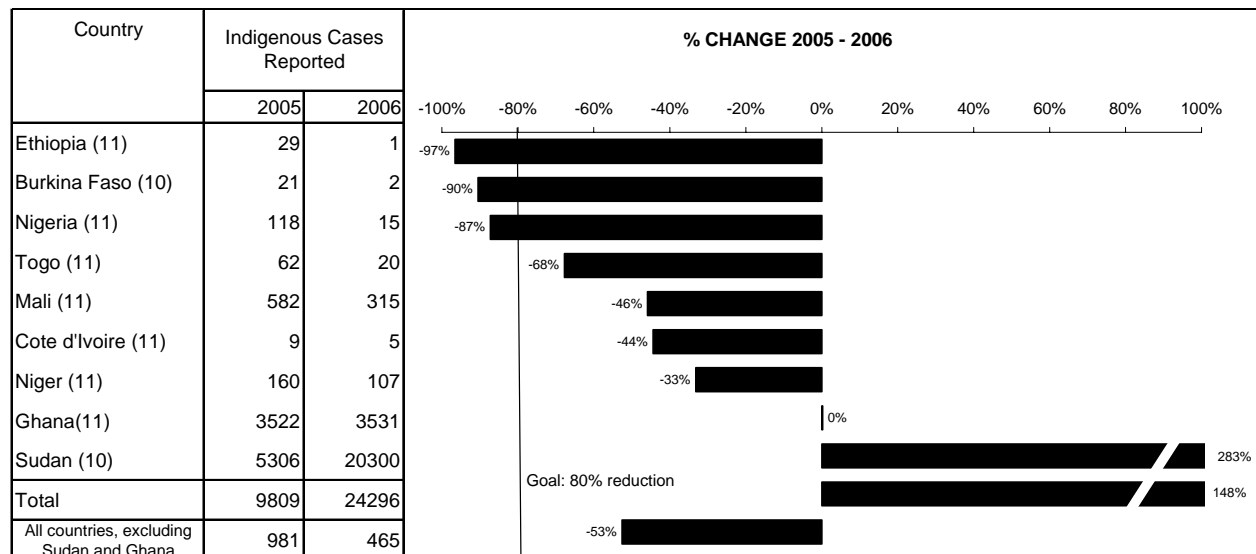
Table 4

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

Number of Indigenous Cases Reported During the Specified Period in 2005 and 2006*, and Percent Change in Cases Reported



Overall % change outside of Sudan = -11%

(11) Indicates months for which reports were received, i.e., Jan. - Nov. 2006

* Provisional

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 6th). 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

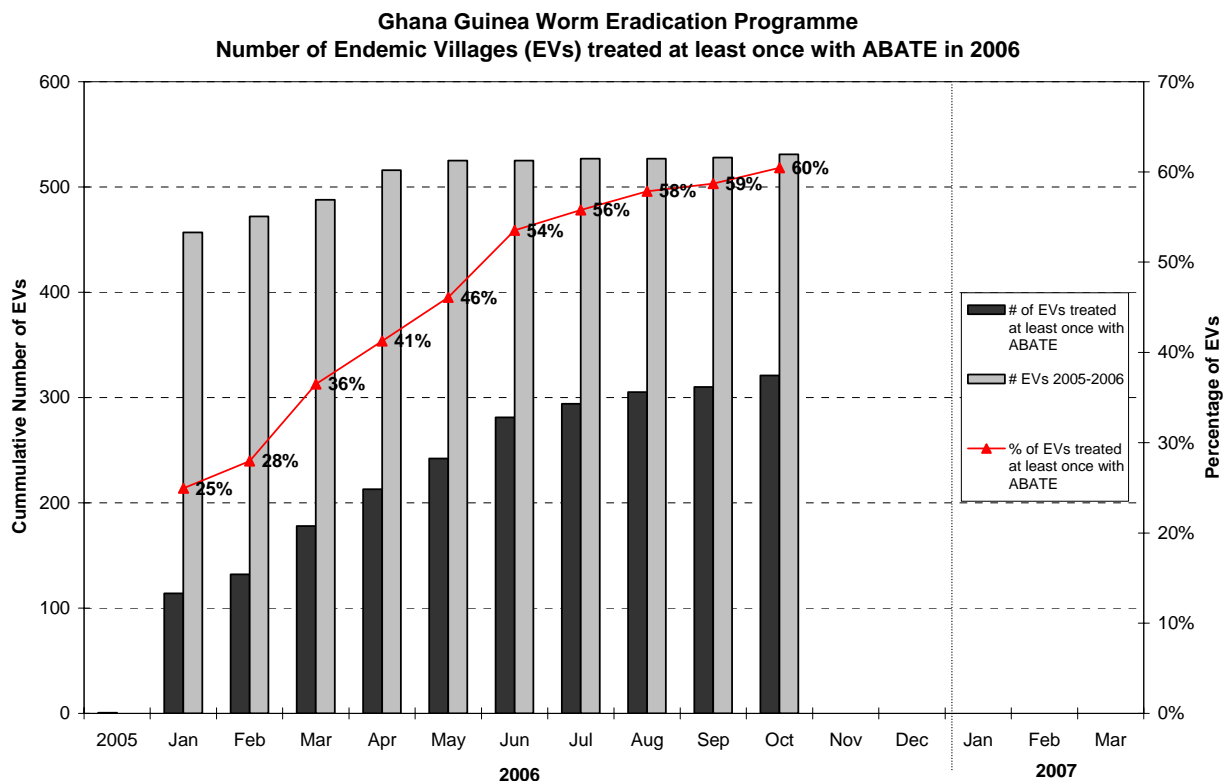
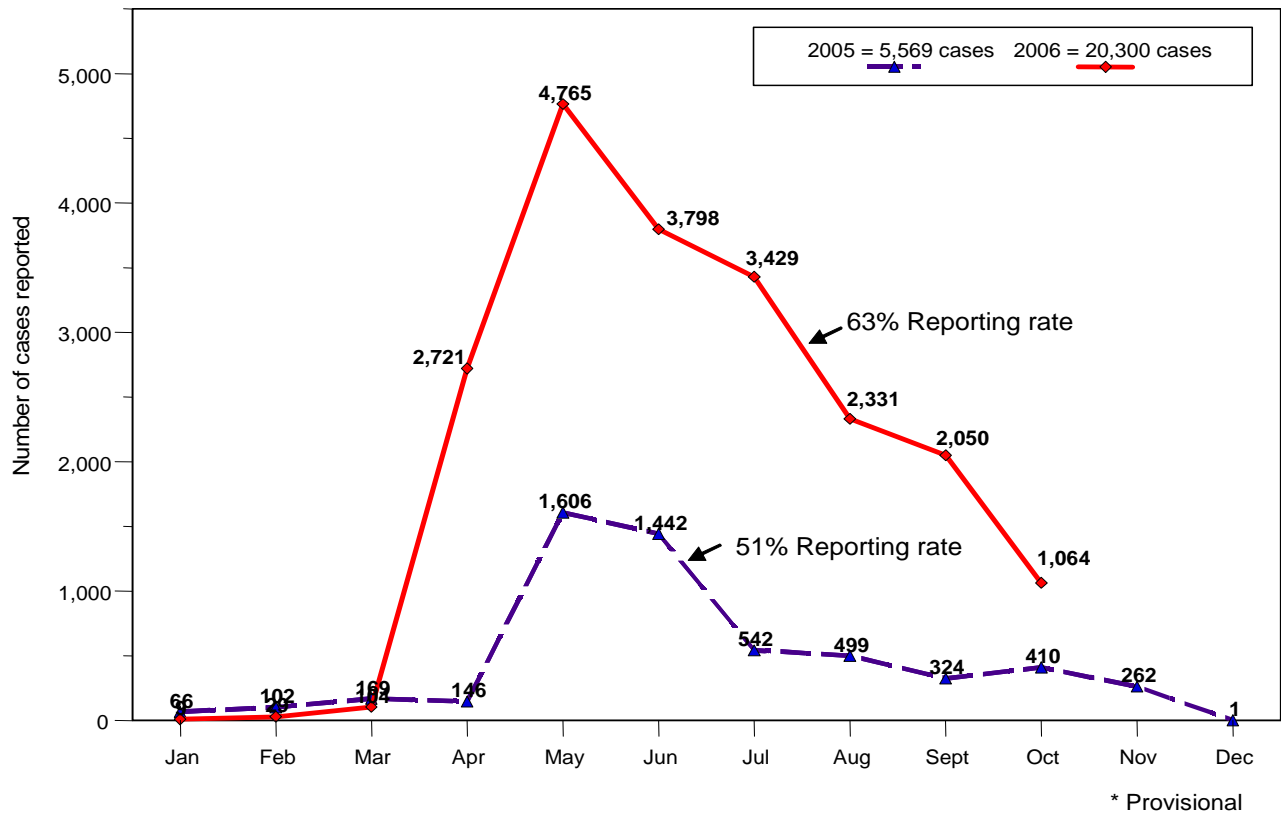


Figure 6

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



IN BRIEF:



Niger held Worm Weeks again in Tillaberi, Tera and Ouallam Districts of Tillaberi Region beginning on 27 October. The official launching included local political and public health officials, staff of the Guinea Worm Eradication Program, and representatives of The Carter Center.

WHO NEWS:



WHO Mission To Assess Dracunculiasis Eradication Programme In Uganda

WHO arranged for a mission to visit Uganda, 7 to 17 November, to assess the effectiveness of community-based dracunculiasis surveillance system in Uganda. A Temporary Advisor, Dr. Sam Bugri, visited Kitgum and Pader Districts in the north of the country that were endemic with dracunculiasis. Other districts such as Kotido and Moroto were not visited because of security problems.

Visit of International Certification Team (ICT) for dracunculiasis eradication to Central African Republic

An ICT visited Central African Republic from 20 November to 8 December. The mission was led by Dr. Pascal Magnussen, Senior researcher with the Danish Bilharziasis Laboratory or Institute for Health Research and Development in Denmark. The ICT traveled to many several accessible areas in the country that had been endemic or at risk of infection with dracunculiasis. If the ICT confirm that the country is disease-free and that there is no risk of re-introduction of the disease, it can recommend to the International Commission for the Certification of Dracunculiasis Eradication, which will meet in Geneva in early March 2007, to certify the country as free from dracunculiasis.

Cancellation of the visit of International Certification Team (ICT) for dracunculiasis eradication to Chad

Because of security problems in formerly endemic areas, the visit of the ICT to Chad, which was scheduled to take place 20 November to 8 December, was cancelled. If the security situation improves, the visit will be rescheduled for January 2007.

BASF DONATES MORE ABATE

BASF, the world's leading chemical company, pledged in October to donate 25,260 liters of ABATE[®] larvicide to the Guinea Worm Eradication Program during 2007-2010. BASF has been a valued partner in the Guinea worm eradication effort since 2001. Prior to the October pledge, BASF had donated ABATE[®] larvicide valued at more than \$1,235,000.

DEFINITION OF A CASE OF GUINEA WORM DISEASE (DRACUNCULIASIS)

“An individual exhibiting a skin lesion or lesions with emergence of one or more Guinea worms (each individual should be counted only once in a calendar year).”

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.

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>.



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