Memorandum

Date: November 1, 2011



From: WHO Collaborating Center for

Research, Training and Eradication of Dracunculiasis

Subject: GUINEA WORM WRAP-UP #208

To: Addressees

# Detect every case!!! Contain every worm!! Trace every source!

Number of uncontained cases in January-September 2011 South Sudan: 241 Chad: 6 Mali: 6 Ethiopia: 1

# BRITAIN ANNOUNCES MORE SUPPORT FOR GW ERADICATION



<u>Former U.S. President Jimmy Carter</u> and World Health Organization (WHO) <u>Director-General Margaret Chan</u> joined Britain's Parliamentary Under Secretary of State for International Development

Stephen O'Brien at a press conference in London on October 5 in which Minister O'Brien announced that the United Kingdom's Department for International Development (DfID) was pledging up to 20 million pounds sterling to help support the final stages of the global Guinea Worm Eradication Program (GWEP). The British funding is in the form of a challenge grant, contingent on other donors stepping up to provide the remaining two-thirds of the total amount estimated to be needed to complete the eradication and certification of eradication of the parasitic infection. As before, The Carter Center will assist countries to interrupt transmission of the disease and for one year thereafter, while the World Health Organization will assist in implementing surveillance in Guinea worm-free areas, in maintaining surveillance for at least the second and third years after transmission is interrupted, and in certifying eradication. From an estimated total of 3.5 million cases when The Carter Center began spearheading the international campaign in 1986, only 1,797 cases were reported worldwide in 2010. In January through September 2011, a provisional total of 1,008 cases were reported (Table 1 and Figure 2), from South Sudan (982), Mali (10), Ethiopia (8) and Chad (8).

# SAFE WATER STILL NEEDED

Of the 440 villages that have reported cases of dracunculiasis during January-August 2011, 366 (83%) do not have a source of safe drinking water. The results by country are as follows: Chad-2 of the 7 villages (29%) reporting a case has safe water; Ethiopia - 2/3 (67%); Mali - 3/5 (60%); South Sudan - 68/425 (16%). In South Sudan especially, where this measure of safe water in endemic villages has not changed significantly for the past five years, national water authorities and their partners have failed to deliver on repeated promises to provide safe water to priority endemic villages, year after year. Effective action on this intervention is needed urgently in order to help stop transmission of dracunculiasis in South Sudan by the end of 2012.

Table 1

Number of Cases Contained and Number Reported by Month during 2011\* (Countries arranged in descending order of cases in 2010)

COUNTRIES REPORTING CASES		NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED														
CABLO	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.		
SOUTH SUDAN	5 / 6	49 / 60	101 / 137	137 / 174	185 <sub>/ 245</sub>	130 / 173	70 <sub>/</sub> 102	37 / 49	27 <sub>/ 36</sub>	/	/	/	741 <sub>/ 982</sub>	75		
MALI	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1/3	1/3	2 / 3	0 / 1	/	/	/	4 / 10	40		
ETHIOPIA^	0 / 0	0 / 0	1 / 2	1 / 1	4 / 4	1 / 1	0 / 0	0 / 0	0 / 0	/	/	/	7 / 8	88		
CHAD	0 / 0	<sup>1</sup> / <sub>1</sub>	0 / 0	0 / 1	0 / 0	0 / 0	1 / 2	1 / 4	0 / 0	/	/	/	<sup>3</sup> / <sub>8</sub>	38		
GHANA	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	0/0	0		
TOTAL*	<sup>5</sup> / <sub>6</sub>	50 / 61	102 / 139	138 / 176	189 <sub>/ 249</sub>	132 / 177	72 <sub>/</sub> 107	40 / 56	<sup>27</sup> / <sub>37</sub>	0 / 0	0,0	0/0	755 <sub>/</sub> 1008	75		
% CONTAINED	83	82	73	78	76	75	67	71	73				75			
% CONT. OUTSIDE SUDAN	0	100	50	50	100	50	40	43	0				54			

<sup>\*</sup> provisional

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

# Number of Cases Contained and Number Reported by Month during 2010 (Countries arranged in descending order of cases in 2009)

COUNTRIES REPORTING CASES		NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED														
CHBEB	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	CONT.		
SOUTH SUDAN	5/6	21 / 35	<sup>78</sup> / <sub>113</sub>	119 / 160	144 / 190	173 / 241	<sup>273</sup> / <sub>361</sub>	226 / 290	118 <sub>/</sub> 159	71 <sub>/ 95</sub>	31 / 41	5/7	1264 / 1698	74		
GHANA	2 / 2	3/3	1 / 1	1 / 1	1 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0/0	0/0	8 <sub>/ 8</sub>	100		
MALI	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	4 / 6	6/6	13 / 19	18 / 19	3 <sub>/5</sub>	0 / 1	45 / 57	79		
ETHIOPIA^	0 / 0	1 / 1	2 / 2	6/6	1 / 2	1 / 2	1 / 1	2 / 2	1 / 1	1 / 1	2/2	1/1	19 / 21	90		
CHAD	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	0 / 1	0 / 0	0/3	0/3	0 / 2	0/0	0/0	0 / 10	0		
NIGER^	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	2 / 2	0 / 1	0/0	<sup>2</sup> / <sub>3</sub>	67		
TOTAL*	7 / 8	<sup>25</sup> / <sub>39</sub>	81 <sub>/</sub> 116	126 <sub>/</sub> 168	147 <sub>/</sub> 194	174 <sub>/</sub> 244	<sup>278</sup> / <sub>368</sub>	234 / 301	132 / 182	92 <sub>/</sub> 119	36 <sub>/ 49</sub>	6/9	1338 / 1797	74		
% CONTAINED	88	64	70	75	76	71	76	78	73	77	73	67	74			
% CONT. OUTSIDE SUDAN	100	100	100	88	75	33	71	73	61	88	63	50	75			

<sup>^</sup> Ethiiopia reported and imported case from Southern Sudan in June, and Niger reported three imported cases from Mali (2 in October and 1 in November). The origin of cases in Chad is uncertain. Shaded cells denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were reported and contained that month.

<sup>^</sup> one case of GWD (not contained) was imported into Ethiopia from South Sudan during March and a second (contained) during May.

Number of Indigenous Cases Reported During the Specified Period in 2010 and 2011\*, and Percent Change in Cases Reported

Country	Indigenou Repo		% CHANGE 2009 - 2010*								
	2010	2011*	-100%	-50%	0%	50%	100%				
Ghana (9)	8	0		-100%		1					
Mali (9)	32	10		-69%							
Ethiopia (9)	17	6		-65%							
South Sudan (9)	1,555	982		-	37%						
Chad (9)	9	8			-1 <mark>1%</mark>						
Total	1,621	1,006		-(	38%						
All countries, Sudan excluded.	66	24		-64%							

<sup>\*</sup> Provisional. Numbers in parentheses indicate months for which reports have been received, i.e., (3) = January-March. Excludes two cases imported into Ethiopia from South Sudan, one in March and one in May.

# KNOWLEDGE OF REWARD IN GUINEA WORM-FREE AREAS

The Guinea Worm Eradication Programs of Ethiopia and Mali recently began making spot checks to help assess knowledge of the cash reward for reporting a case of Guinea worm disease in areas of those countries that are believed to be free of the disease. In Ethiopia, of 100 persons surveyed in Gozamin District of the Amhara Region on September 17, only two (2%) knew about the cash reward. Of 100 persons surveyed over the period of two market days at Agenga, in Gog District of Gambella Region where the disease has recently been endemic and where the Ethiopian Dracunculiasis Eradication Program (EDEP) has focused its activities, 83% of those interviewed knew about the reward.

As countries and the world depend heavily on knowledge of cash rewards for reporting suspected cases of dracunculiasis in areas where the disease was recently endemic or which are at risk of transmission due to imported case(s), these ad hoc results are cause for concern. The amount of money spent, people trained, messages broadcast, or posters printed do not matter if messages are not getting through. What matters is knowledge of the reward, including about the urgency of reporting alleged cases to public health authorities, and assessing such knowledge routinely in endemic and in Guinea worm-free areas.

# SOUTH SUDAN: CONTINUED SHARP DECLINE IN CASES WEST OF THE NILE



Beginning in June 2011, monthly reductions in cases in South Sudan vs. the same month in 2010 have been: 28% in June, 72% in July, 83% in August, and 77% in September. Overall, South Sudan has reported 37% fewer cases in January-September 2011 (Figure 1) compared to the same period of 2010 (982 vs. 1,555 cases). The dramatic reductions have been realized mainly in the two remaining foci

west of the Nile, in Warrap and Lakes States. The Greater Kapoeta Focus in Eastern Equatoria State is now the main battleground of Guinea worm disease in the world (Map 1). Although sporadic insecurity is still a major concern in endemic areas of South Sudan, it has been less frequent in 2011 than in 2010.

The South Sudan Guinea Worm Eradication Program (SSGWEP) now supports active surveillance in 5,879 villages in 14 counties with 304 endemic villages, of which 140 villages have reported 407 indigenous cases so far in 2011 (Figure 2 and Table 2). The other 56 counties of South Sudan are considered Guinea worm-free areas. There has been only limited progress in providing the 200 borehole wells promised for Guinea worm-endemic villages in 2008, 150 additional wells promised for 2009, 100 promised in 2010 and 100 more promised for 2011. Although the number of endemic villages has been reduced dramatically since 2006, only 22% of the 304 villages classified as endemic in 2010-2011 have at least one source of safe drinking water, compared to 16% in 2006.

### SOUTHERN SUDAN GUINEA WORM ERADICATION PROGRAM

### CASES REPORTED AND CONTAINED DURING 2011\* BY STATE, COUNTY AND MONTH

State	County						Cases C	ontained / Case	s Reported						% Contained
State	County	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	
<b>5</b>	Kapoeta East	3 / 4	31 / 39	76 / 96	96 / 115	133 / 154	76 / 100	32 / 39	16 / 20	7 / 8	/	/	1	470 / 575	82%
Eastern Equatoria	Kapoeta North	0 / 0	12 / 14	17 / 27	30 / 35	26 / 31	20 / 24	8 / 13	3 / 3	2 / 4	/	/	1	118 / 151	78%
	Kapoeta South	0 / 0	0 / 0	0 / 1	6 / 11	10 / 11	4 / 8	0 / 0	0 / 1	0 / 0	1	/	/	20 / 32	63%
STATE	TOTAL	3 / 4	43 / 53	93 / 124	132 / 161	169 / 196	100 / 132	40 / 52	19 / 24	9 / 12	/	/	/	608 / 758	80%
	L														
	Tonj North	1 / 1	0 / 0	1 / 1	2 / 2	4 / 4	8 / 13	4 / 8	8 / 11	5 / 7	,	,	,	33 / 47	70%
	Tonj East	0 / 0	0 / 0	0 / 0	0 / 0	3 / 4	7 / 9	13 / 15	2 / 3	8 / 9	/	/	,	33 / 40	83%
Warrab	Tonj South	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	1 / 1	3 / 4	3 / 3	2 / 2	/	/	/	10 / 11	91%
	Gogrial East	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	2 / 8	0 / 1	0 / 0	/	/	/	2 / 9	0%
	Gogrial West	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	,	,	0 / 0	0% 0%
CTATE	Twic Mayardit	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	0 / 0	73%
STATE	TOTAL	1 / 1	0 / 0	1 / 1	2 / 2	8 / 9	16 / 23	22 / 35	13 / 18	15 / 18	/	/	/	78 / 107	1370
Lakes	Awerial	0 / 0	0 / 0	1 / 1	2 / 2	1 / 4	12 / 13	7 / 11	3 / 3	1 / 3	/	/	/	27 / 37	73%
	Cuibet	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	0 / 0	0%
	Yirol E.	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	0 / 0	0%
	Yirol W.	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	0 / 0	0%
	Maper	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	0 / 0	0%
	Rumbek Centre	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1	/	/	0 / 0	0%
	Rumbek East	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	0 / 0	0%
STATE	TOTAL	0 / 0	0 / 0	1 / 1	2 / 2	1 / 4	12 / 13	7 / 11	3 / 3	1 / 3	/	/	/	27 / 37	73%
Central															
Equatoria	Terekeka	1 / 1	1 / 1	1 / 1	0 / 0	1 / 3	0 / 1	0 / 1	0 / 0	1 / 1	/	/	/	5 / 9	56%
	Juba	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	1 / 2	1	/	/	2 / 3	0%
ТО	TAL	1 / 1	1 / 1	1 / 1	0 / 0	1 / 3	0 / 1	1 / 2	0 / 0	2 / 3	/	/	/	7 / 12	58%
	In::														
Jonglei	Pibor	0 / 0	5 / 6	5 / 10	1 / 9	5 / 32	2 / 4	0 / 0	1 / 3	0 / 0	1	/	/	19 / 64	30%
	Ayod	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1	/	/	0 / 0	0%
	Wuror	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	0 / 0	0%
ТО	TAL	0 / 0	5 / 6	5 / 10	1 / 9	5 / 32	2 / 4	0 / 0	1 / 3	0 / 0	/	/	/	19 / 64	30%
Western Bahr Al		0.10	0.40	0.70	0.70	4 / 4	0.70	0.70	4 / 4	0.70	,		,	0 / 4	50%
	Jur River OTAL	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 2	1 / 1	0 / 0	,	,	,	2 / 4	50%
10	JIAL	0/0	0/0	0/0	0 / 0	1 / 1	0 / 0	0 / 2	1 / 1	0 / 0	/	/	/	2 / 4	50%
SOUTHERN SU	IDAN TOTAL	5 / 6	49 / 60	101 / 137	137 / 174	185 / 245	130 / 173	70 / 102	37 / 49	27 / 36	1	1	1	741 / 982	75%
% CONTAINED		83%	82%	74%	79%	76%	75%	69%	76%	75%				75%	

<sup>\*</sup>Provisional

# MALI: 69% FEWER CASES SO FAR IN 2011

Mali has reported 10 cases in January-September 2011 compared to 32 cases reported in the same period of 2010, which is a reduction of 69% (Figure 3). Only 4 (40%) of this year's cases were contained, although the program believes that transmission from 5 of the uncontained cases was unlikely because there were no surface sources of drinking water in the areas at the time or because there was potable water in the village where the case occurred, e.g. Fangasso (**Table 2**). CDC has confirmed that the worm from case #9 was *Dracunculus medinensis*. Of concern, however, is that the sources of cases detected in Segou Region since 2008 remain poorly explained. This year's cases are widely dispersed in Mali (Map 2), and all of the endemic areas in the northeast are insecure to expatriates because of insecurity due to elements of Al-Qaeda of the Islamist Maghreb. A total of 458 villages/localities are under active surveillance by the program. There is increasing concern based on recent experiences that certain regional public health staff participation is passive, and at a time when their full collaboration is most urgently needed and critically important to the success of the national eradication effort.

Figure 2 Mali Guinea Worm Eradication Program
Reported cases of dracunculiasis: 2009 - 2011\*

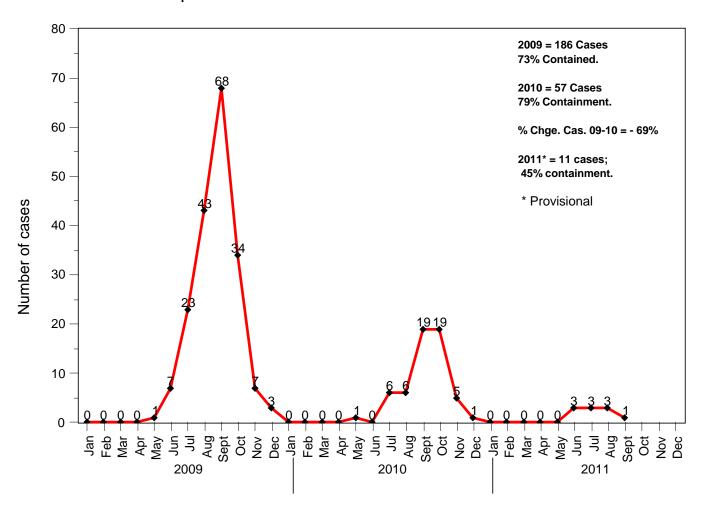


Table 3

Mali Guinea Worm Eradication Program
Line Listing of Reported Cases of Dracunculiasis: January -September 2011^

	Date						Nam						Probable Origin of
Case #	Worm emerged	Village volunteer began containment	Case & containment confirmed by supervisor	Transmission declared contained	ABATE used this year (as a result of this case)	# of worms that emerged during this period	Village	District	Age	Sex	Ethnic group	Occupation	infection (name of this village, other village, district or country)
1.1*	1-Jun	no	Yes 6/10/2011	no	no	1	Alkite	Kidal	40	М	ТВ	Herder	Agabo
1.2*	11-Jun	yes	Yes	no	no	1							
2.1	6/2/2011	no	10 juin	no	no	1	Alkite	Kidal	60	F	ТВ	Housewife	Agabo
2.2*	6/2/2011	yes	11-Jun	no	no	1							
3.1	10-Jun	yes	13-Jun	yes	no	1	Alkite	Kidal	18	F	ТВ	Herder	Agabo
3.2	16-Jun	yes	16-Jun	yes	no	1							
3.3	2-Aug	yes	2-Aug	yes	no	1							
4.1	4-Jul	no	4-Jul	no	yes	1	Fangasso	Touminian	55	М	Bobo	Blacksmith	Fangasso
4.2	5-Jul	no	23-Jul	no	yes	1							
4.3	23-Jul	no	24-Jul	no	yes	1							
4.4	4-Aug	no	4-Aug	no	yes	1							
5.1	13-Jul	15-Jul	15-Jul	no	yes	1	Fangasso	Touminian	30	F	Bobo	Housewife	Fangasso
5.2	27-Aug	27-Aug	27-Aug	no	yes	1							
6.1	29-Jul	29-Jul	29-Jul	yes	yes	1	Alkite	Kidal	17	F	ТВ	Housewife	Agabo
7.1	3-Aug	3-Aug	3-Aug	yes	yes	1	Alkite	Kidal	49	М	ТВ	Herder	Agabo
8.1	17-Aug	17-Aug	17-Aug	yes	yes	1	Nanguaye	G.Rharous	32	F	TN	housewife	Nanguaye
9.1	19-Aug	26-Aug	26-Aug	no	yes	1	Nantaga	Mopti	5	М	Songhoi	child	Toguere
10.1	12-Sep	No	14-Sep	no	yes	1	Banido	Baroueli	14	F	Sarakole	student	unknown

<sup>^</sup> Provisional

- 1.1\* = Serial case # 1 and first Guinea worm that emerged during calendar year.
- $1.2^*$  = Serial case # 1 and second Guinea worm that emerged during calendar year.
- 2.1 = Serial case # 2 and first Guinea worm that emerged from patient during calendar year.

# CHAD OUTBREAK

<u>Dr. Mark Eberhard</u>, Director of the Division of Parasitic Diseases, Center for Global Health, Centers for Disease Control and Prevention, and Carter Center staff <u>Mr. Craig Withers</u> and <u>Dr. Ernesto Ruiz-Tiben</u> visited Chad during October 12-19. <u>Mr. Djimadoumaji Ngarodel</u>, National GWEP Coordinator and <u>Ms. Nalumpta Luciene</u>, Data Manager for the GWEP accompanied the team in the field. The purpose of the visit was to further investigate the possible origins of cases of GWD reported during 2010-2011, to review the status of implementation of village-based surveillance in at-risk villages in the areas reporting cases, and to brief Minister of Health <u>Ms.</u> Toupta Boguena, and her staff about the team's findings.

The team visited with public health authorities in Mandelia and Bousso Districts, and interviewed 2011 cases of GWD reported from the villages of Akoum (Mandalia), and Wandal and Goudoumgodoum (Bousso). In each district we met with officials (including administrators, political and local/district health officers) to inform them about our visit, learn about their local knowledge of the disease, raise awareness and profile of the GW program, including introducing the recently appointed National GWEP Coordinator. We were able to locate and interview 3 individuals confirmed to have had GWD in 2011, and took note of local conditions, particularly the availability of safe sources of drinking water, schools, the topography, and notably the vast and numerous unsafe sources of drinking water along the margins of the Chari River.

No additional linkages were established between the cases last year and those reported this year, with respect to time of infection and location. None of the villages reporting cases in 2010 have reported cases in 2011. There are 15 resident villages reporting 18 cases in 2010-2011; 8 villages reported 10 cases in 2010, and 7 villages reported 8 cases in 2011, so far. 642 villages are deemed at-risk by virtue of being in the catchment areas of the health centers with villages reporting cases, including 31 villages visited by patients during the year preceding patency of their infection. Importantly, the majority of dozens of adult persons asked about knowledge of GWD during this visit did not know the disease, the exception to this rule being the more elderly who reported having knowledge of GWD many years ago.

The team briefed with the WHO/Chad staff, including <u>Dr. Alhousseini Maiga</u>, Focal Point for Dracunculiasis Eradication, WHO/AFRO, and with the Minister of Health, Ms. Taupta Bouguena and her staff, before and after the field trip.

Table 3 highlights progress made, as of the end of October 2011 towards implementing village-based active surveillance in 642 at-risk village in areas of Chad reporting cases of GWD during 20010-2011. The goal is to complete the trainings and progressively activate monthly reporting and complete the implementation in all villages by the end of 2011.

Table 3 Chad Guinea Worm Eradication Program													
Status of Implementation of Active Surveillance in 642 Villages													
Health Center	Number of Villages	Village Volunteers Trained	Village Volunteer Supervisors	Agent Renfort									
Bogomoro	52	24											
Mogo	65	42	6	3									
Miltou	32		22										
Gambarou	48	81											
Béré	20	43	2	1									
Nanquigoto	21	40											
Moulkou	53	111	5	2									
Magao	24	47	2	1									
Mogrom	17	31	1	1									
Abba Limane	20	43	2	1									
Bongor	6	12											
Total	358	474	40	9									
2011 Goal	642	1,240	64	32									
% Accomplished	56%	38%	63%	28%									

# IN BRIEF:

**Ethiopia.** Carter Center Country Representative <u>Dr. Zerihun Tadesse</u> made his third supervisory visit to Gog District in Gambella Region on October 2-5, 2011. He shared the results of the recent rapid surveys to ascertain the penetration of messages about the reward for reporting a case of Guinea worm disease with regional health authorities, in addition to visiting Pugnido town and leading a meeting of village volunteers at the village of Tatha. <u>Ms. Marian Botchway</u> has replaced <u>Mr. Adam Weiss</u> as the Carter Center-supported technical assistant to the program in Gog District.

**India.** The National Communicable Disease Center reports that the patient suspected of having GWD reported from Rajasthan in Guinea Worm Wrap-Up #207 was not confirmed to be a case of the disease.

**Ghana**. During November 1-16 an external group of experts supported by the World Health Organization will evaluate Ghana's claim of having interrupted transmission of Guinea worm disease.

# **MEETINGS**

The Eighth Meeting of the International Commission for the Certification of Dracunculiasis Eradication (ICCDE) will be convened at the headquarters of the World Health Organization in Geneva, Switzerland on November 29-December 1, 2011.

The 6<sup>th</sup> annual meeting of the South Sudan Guinea Worm Eradication Program will be held in Juba during December 8-9, 2011.

The 16<sup>th</sup> Program Review of National Guinea Worm Eradication Programs will be held at The Carter Center in Atlanta, Georgia, USA on March 1-3, 2012.

# RECENT PUBLICATIONS

Friedrich MJ, 2011 Guinea Worm Advance JAMA. 306(11):1191.

Hopkins DR, Ruiz-Tiben E, Eberhard ML, Roy SL, 2011. Progress toward global eradication of dracunculiasis, January 2010-June 2011. *MMWR* 60:1450-1453.

Hopkins DR, and Ruiz-Tiben E.. Dracunculiasis (Guinea worm disease): Case Study of the Effort to Reduce Guinea worm, *in Water and Sanitation Related Diseases and the Environment: Challenges, Interventions, and Preventive Measures*. Janine M.H. Selendy Ed. Wiley- Blackwell. 2011. Pages 125-132.

Inclusion of information in the Guinea Worm Wrap-Up does not constitute "publication" of that information.

In memory of BOB KAISER

WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, Center for Global Health (proposed), Centers for Disease Control and Prevention, Mailstop F-22, 4770 Buford Highway NE, Atlanta, GA 30341-3724, USA, email: gwwrapup@cdc.gov, fax: 770-488-7761. The GW Wrap-Up web location is http://www.cdc.gov/ncidod/dpd/parasites/dracunculiasis/moreinfo\_dracunculiasis.htm

Back issues are also available on the Carter Center web site English and French are located at <a href="http://www.cartercenter.org/news/publications/health/guinea\_worm\_wrapup\_english.html">http://www.cartercenter.org/news/publications/health/guinea\_worm\_wrapup\_francais.html</a>



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