



Date: February 21, 2003



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

Subject: GUINEA WORM WRAP-UP #130

To: Addressees

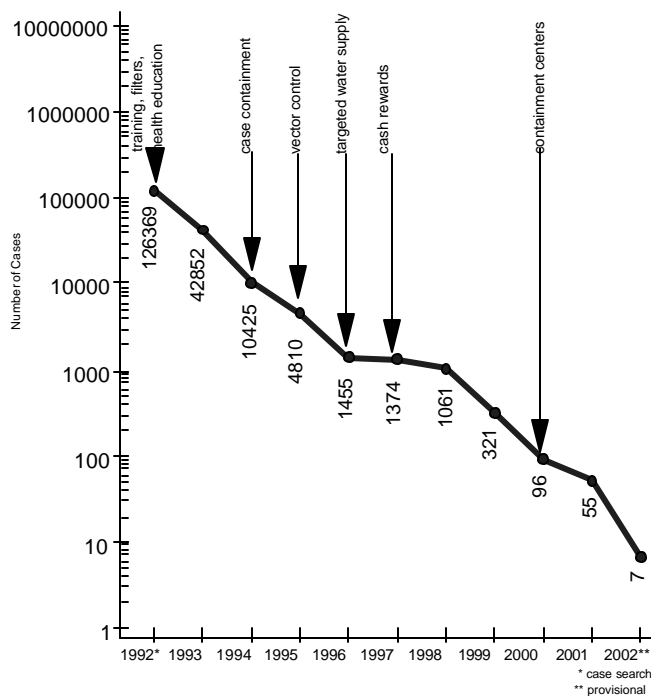
What's New in 2003?

UGANDA INTERRUPTS GW TRANSMISSION IN RECORD TIME?

Uganda's Guinea Worm Eradication Program reported only 7 indigenous cases in 7 endemic villages, and 18 cases imported from Sudan during 2002. Eighteen (76%) of the 24 cases were reportedly contained - all in case containment centers. Thus, the indigenous case reported in Lorukumo village of Moroto District in December 2002 might be the final instance of indigenously transmitted dracunculiasis in Uganda. That patient, a 48-year-old woman, was confined in a local hospital from the swelling stage until the worm was completely removed. If no indigenous cases are reported in 2003, Uganda will become the first endemic country to interrupt transmission since Chad reported its last case in 1998. This is a remarkably rapid achievement for the Ugandan program, which recorded 126,639 cases in 2,677 endemic villages of 16 districts during its national case search in 1991-1992 (figure 1). Most cases (94.9%) were located in only three contiguous districts (Kitgum, Kotido, Moroto) in the northeast of the country (figure 2). Before the national village-by-village search, which was one of the last to be conducted among the endemic countries, Uganda had reported only 1,960 and 1,309 cases for the entire country in 1988 and 1989,

Figure 1

NUMBER OF CASES OF DRACUNCULIASIS REPORTED SINCE 1992 IN UGANDA AND YEAR OF INTRODUCTION OF INTERVENTIONS AND STRATEGIES



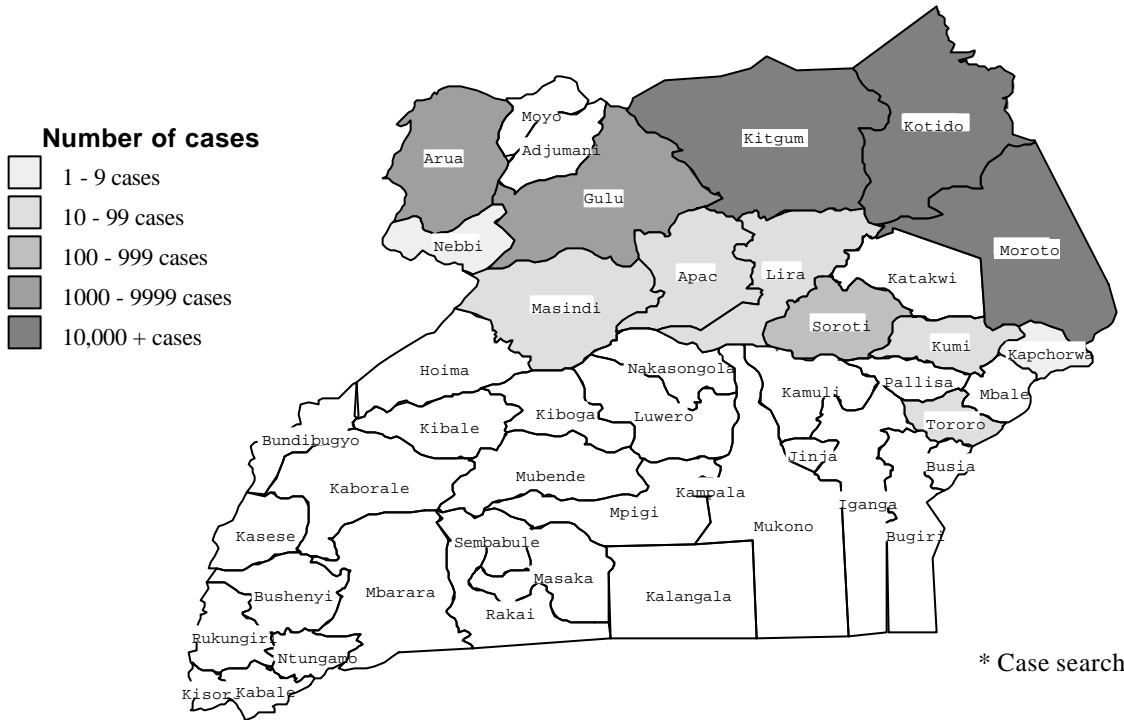
respectively. When Uganda reported 42,852 cases of dracunculiasis in 1993, it ranked as the second-highest endemic country, exceeded only by Nigeria (75,752 cases), and followed by Niger (21,564) and Ghana (17,918). (Sudan's program did not get fully underway until 1995.)

The case search, which began in October 1991, was completed in the seven highest endemic districts by March 1992. Systematic interventions began following training courses held in Kitgum in May, and in Kotido and Moroto Districts in July 1992. By March 1993, 84% of the 2,677 endemic villages had a trained village-based health worker (VBHW) in place, health education had been conducted in 91%, and 76% were reporting monthly. By the time the first national conference was held in June, 96% of endemic villages had a trained VBHW and nylon filters had been distributed in over 45%. Filters were distributed in 64% of endemic villages by September 1993, in 67% by December 1994, and in 100% by October 1995. Consultants from CDC and Global 2000/The Carter Center helped train and equip VBHWs to

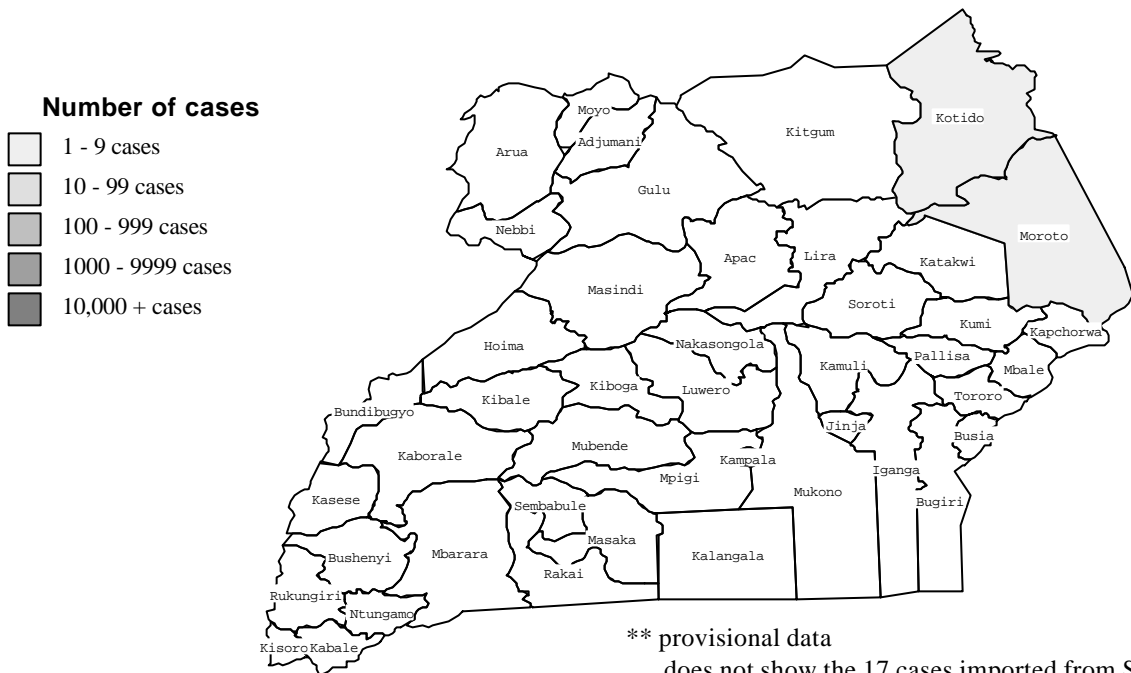
Figure 2

Uganda Guinea Worm Eradication Program

Distribution of 126,369 Cases of Dracunculiasis: 1992*



Distribution of 7 Indigenous Cases of Dracunculiasis: 2002**



implement case containment beginning late in 1994, followed by use of Abate for vector control starting in February 1995. By then, it had become clear that the peak transmission season, which was unknown at the beginning of the program in Uganda, was April through July. UNICEF provided new or rehabilitated sources of clean drinking water to most of the priority endemic villages in Kitgum, Moroto and Kotido Districts, starting in 1997. A system of cash rewards for reporting of cases of dracunculiasis was introduced in low and non-endemic areas in mid-1997 (a year when Uganda reported 1,374 cases), and extended nationwide in 1999. The reward was increased to 20,000 Uganda shillings (~US\$13) in 2000, and to 50,000 shillings (US\$30) at the beginning of 2001. Uganda also pilot tested use of "case containment centers" to provide medical care and physically isolate patients in 2000. Twenty-eight of the 55 cases reported in 2001 were isolated in case containment centers (of 35 cases that were contained overall). The first dracunculiasis-free month was recorded in November 2000, and was followed by four successive months of no indigenous cases through March 2001.

The program experienced a small setback in 2001, when an outbreak was discovered in Rikitae village of Kotido District. This village had (under-) reported only 5 cases in 2000, but counted 43 in 2001, and was reduced to only 3 cases in 2002. Sporadic insecurity has been a major problem in Uganda from the beginning of the program, especially in parts of the highest endemic districts: Kitgum, Kotido, Moroto, Arua and Gulu. Two supervisors of the UGWEP were killed while returning from a Guinea worm meeting in Moroto in 1997. A field officer was kidnapped and held for about 45 days. Repeated, unpredictable importations by persons fleeing the civil war in southern Sudan have been and are another major challenge to this program.

Perhaps the most important factors in Uganda's success are the strong support of the program by the Government of Uganda, the leadership provided by the national program coordinator Dr. J.B. Rwakimari and his predecessor Dr. G. Mpigika, and the support provided by external agencies and donors. Dr. Rwakimari joined the program early in 1998. As a result of his energetic hands-on supervision and several innovations, the program achieved reductions in cases of 70% or more in 1999 and in 2000, earning him the Jimmy and Rosalynn Carter Award for Guinea Worm Eradication in 2000. Backing by the Government of Uganda has been manifest in numerous ways, including high-level participation in the annual National Guinea Worm Conference (the Vice-President in 1994; the Minister of Foreign Affairs, representing the Head of State in 1995; the Prime Minister in 1998; and the Minister or State Minister of Health in most other years), and designation of the UGWEP as a priority in the national 5-year plan; beginning in 1999. The UNICEF mission to Uganda and The Carter Center (Global 2000) have been the major external supporters of this program, The Carter Center having provided a fulltime Resident Technical Advisor in country from 1991 to 1998, in addition to other support. Other external support was provided by two Italian Non-Governmental Organizations (*Associazione Volontari per il Servizio Internazionale* and *Collegio Universitario Aspiranti Medici Missionari*). The Governments of Japan and Norway, the United States Agency for International Development, Health and Development International, the Japanese businessmen's consortium *Keidanren*, the United Arab Emirates (via The Carter Center) and WHO. WHO has had responsibility as the lead external assistance organization since Uganda reported fewer than 100 cases for the first time in 2001.

MALI CONVENES NATIONAL MEETING IN GAO

Mali's Guinea Worm Eradication Program (GWEP) held its annual national review meeting on January 22-24 at Gao, in the heart of the remaining endemic area of the country. Mali's GWEP reported 852 indigenous cases in 2002, which is an increase of 20% over the 709 cases it reported in 2001. It is the fifth ranked endemic country remaining, after Sudan, Ghana, Nigeria and Togo. Ninety-three percent of Mali's cases are from three contiguous districts (*cercles*): Gao, Ansongo and Gourma Rharous, whose nomadic populations are a single epidemiologic entity with those of Tillabery and Tera Districts in Niger and Gorom Gorom and Djibo Districts in Burkina Faso. About 100 participants attended the meeting, including several senior officials from the Ministry of Health and from the office of President Amadou Toumani Toure, the national program coordinator, Dr. Issa Degoga, delegations from the GWEPs of Niger and Burkina Faso, as well as representatives of The Carter Center (Dr. Donald Hopkins and Mr. Philip Downs), UNICEF, WHO and U.S. Peace Corps.

Table 1

Number of cases contained and number reported by month during 2002*

(Countries arranged in descending order of cases in 2001)

COUNTRIES REPORTING CASES	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED												
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*
SUDAN	674 / 1148	567 / 1103	607 / 1138	854 / 1612	2728 / 5422	3106 / 6429	3399 / 6597	1713 / 3628	2848 / 4391	1754 / 2994	846 / 1550	418 / 1011	19514 / 37023
NIGERIA	350 / 647	195 / 336	148 / 220	152 / 232	205 / 244	222 / 314	143 / 198	125 / 246	107 / 175	163 / 245	319 / 427	407 / 536	2536 / 3820
GHANA	497 / 744	389 / 680	303 / 412	283 / 367	305 / 464	281 / 409	158 / 210	119 / 139	105 / 128	368 / 534	432 / 776	361 / 634	3601 / 5497
TOGO	148 / 193	65 / 100	20 / 40	12 / 26	44 / 100	54 / 83	71 / 235	44 / 81	52 / 72	173 / 207	160 / 213	90 / 152	933 / 1502
BURKINA FASO	6 / 10	26 / 29	20 / 21	22 / 32	66 / 83	57 / 86	42 / 46	30 / 48	57 / 64	63 / 102	31 / 37	9 / 15	429 / 573
MALI	4 / 5	4 / 5	4 / 5	0 / 0	2 / 6	5 / 9	23 / 43	77 / 178	177 / 302	139 / 205	45 / 72	18 / 26	498 / 856
NIGER	6 / 6	0 / 0	0 / 0	0 / 0	4 / 4	5 / 5	25 / 40	19 / 30	23 / 30	37 / 83	22 / 38	9 / 12	150 / 248
COTE D'IVOIRE	91 / 91	52 / 52	23 / 24	10 / 10	1 / 3	2 / 5	0 / 1	2 / 3	2 / 2	0 / 0	3 / 5	1 / 1	187 / 197
BENIN	28 / 28	8 / 11	7 / 8	5 / 5	1 / 1	4 / 4	2 / 2	7 / 7	15 / 19	26 / 28	43 / 44	24 / 24	170 / 181
MAURITANIA	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	2 / 3	5 / 5	7 / 12	5 / 14	6 / 7	0 / 1	0 / 0	25 / 42
UGANDA	0 / 0	0 / 0	1 / 1	0 / 1	3 / 3	1 / 4	3 / 4	2 / 3	5 / 5	1 / 1	1 / 1	1 / 1	18 / 24
CAR													0 / 0
ETHIOPIA	0 / 0	0 / 0	2 / 3	1 / 6	11 / 11	6 / 7	5 / 5	6 / 6	6 / 6	1 / 1	2 / 2	0 / 0	40 / 47
CAMEROON										1 / 1			1 / 1
KENYA	1 / 1		3 / 3	3 / 3	4 / 4				1 / 1				12 / 12
TOTAL*	1805 / 2873	1306 / 2316	1138 / 1875	1342 / 2294	3374 / 6345	3745 / 7358	3876 / 7386	2151 / 4381	3403 / 5209	2732 / 4408	1904 / 3166	1338 / 2412	28114 / 50023
% CONTAINED	63	56	61	59	53	51	52	49	65	62	60	55	56

* PROVISIONAL

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

Benin reported 4 cases imported from Togo in March and 1 in June, and 2 in August plus 1 case each imported from Ghana in March and April, respectively.

Uganda reported 1 case imported from Sudan in April, 2 in May, 2 in June, 2 in August, and 5 in September.

Ethiopia reported 1 case imported from Sudan in March, 5 in May, 4 in June, 3 in July, 4 in August, 3 in September, 1 in October, and 2 in November.

Cameroon reported 1 case imported from Nigeria in October.

Kenya reported 1 case imported from Sudan in January, 3 in March, 3 in April, 4 in May, and 1 in September.

Table 2

Number of cases contained and number reported by month during 2003*
(Countries arranged in descending order of cases in 2002)

COUNTRIES REPORTING CASES	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED												TOTAL*
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	
SUDAN	/	/	/	/	/	/	/	/	/	/	/	/	0 / 0
GHANA	/	/	/	/	/	/	/	/	/	/	/	/	0 / 0
NIGERIA	389 / 568	/	/	/	/	/	/	/	/	/	/	/	389 / 568
TOGO	/	/	/	/	/	/	/	/	/	/	/	/	0 / 0
MALI	/ 3	/	/	/	/	/	/	/	/	/	/	/	0 / 3
BURKINA FASO	6 / 6	/	/	/	/	/	/	/	/	/	/	/	6 / 6
NIGER	0 / 0	/	/	/	/	/	/	/	/	/	/	/	0 / 0
COTE D'IVOIRE	7 / 21	/	/	/	/	/	/	/	/	/	/	/	7 / 21
BENIN	21 / 21	/	/	/	/	/	/	/	/	/	/	/	21 / 21
ETHIOPIA	0 / 0	/	/	/	/	/	/	/	/	/	/	/	0 / 0
MAURITANIA	/	/	/	/	/	/	/	/	/	/	/	/	0 / 0
UGANDA	0 / 0	/	/	/	/	/	/	/	/	/	/	/	0 / 0
ETHIOPIA	0 / 0	/	/	/	/	/	/	/	/	/	/	/	0 / 0
CAMEROON		/	/	/	/	/	/	/	/	/	/	/	0 / 0
KENYA	1 / 1	/	/	/	/	/	/	/	/	/	/	/	1 / 1
TOTAL*	424 / 620	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	424 / 620
% CONTAINED	68												68

* PROVISIONAL

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

For other imported cases see table of imported cases by month and by country.

Table 3

Dracunculiasis Eradication Campaign
Reported International Importations and Exportations of Cases of Dracunculiasis: 2002

From	»»»	To	Month and number of cases imported												Number of caes exported		
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.		Total	
Sudan	»»»	Ethiopia			1		5	4	3	4	3	1	2		23	Sudan = 52	
Sudan	»»»	Kenya	1		3	3	4			1				12			
Sudan	»»»	Uganda				1	2	2	3	2	5	1	1		17		
Ghana	»»»	Benin	1	1	1	1							1	1	6	Ghana = 37	
Ghana	»»»	Burkina Faso	1			1	2	1							5		
Ghana	»»»	Cote d'Ivoire								1					1		
Ghana	»»»	Niger							2						2		
Ghana	»»»	Togo	3	6	1	4	3	2	3			1			23		
Togo	»»»	Benin	2	1	4		1	1		2		1	7	2	21	Togo = 22	
Togo	»»»	Burkina Faso						1							1		
Nigeria	»»»	Cameroon										1			1	Nigeria = 7	
Nigeria	»»»	Niger					1			1	2				4		
Nigeria	»»»	Togo	1	1											2		
Burkina Faso	»»»	Côte d'Ivoire						2	2						4	Burkina Faso = 7	
Burkina Faso	»»»	Niger					1			1			1	3			
Mali	»»»	Burkina Faso									3				3	Mali = 4	
Mali	»»»	Niger								1				1			
Niger	»»»	Burkina Faso							1						1	Niger = 4	
Niger	»»»	Mali						3						3			
Mauritania	»»»	Côte d'Ivoire										1			1	Maritania = 2	
Mauritania	»»»	Mali							1					1			
Cote d'Ivoire	»»»	Burkina Faso							1						1	Cote d'Ivoire = 1	
Benin	»»»	Niger											1	1	Benin = 2		
Benin	»»»	Togo								1				1			
Total			9	9	10	10	18	14	16	13	17	5	12	5	138		

* Provisional

Figure 3

Percentage of Endemic Villages Reporting and Percentage Change in Number of Indigenous Cases of Dracunculiasis During 2001 and 2002*, by Country



* provisional
NR No Report

Dracunculiasis has already been eliminated from most of Mali, except for the three districts named above. After the outbreak was discovered in August 2001, several interventions were begun in 2002, following General A.T. Toure's tour of the area in December 2001. The indices of these interventions are summarized in Table 1, along with comparable indices from the other top five endemic countries remaining. Among the main recommendations of the national review meeting are that the program should use the first five months of 2003, when there will be few if any cases, to detect, contain, investigate, and if necessary, cross-notify every case that occurs anywhere in the country, as well as to prepare to intensify health education and community mobilization measures among the nomadic Tamachek people before the rains, peak Guinea worm season, and their annual dispersal begin in May (Figure 4).

IN BRIEF:

Nigeria. Dr. Ernesto Ruiz of The Carter Center made supervisory visits to programs in the South East, North Central, and South West Zones on February 3 – 4. General (Dr.) Yakubu Gowon made mobilization visits to Aninri and Isi Uzo LGAs in Enugu State on February 3 – 4. Worm Weeks were conducted in Ibarapa North and Iseyin Local Government Areas (LGAs) on January 20-24, 2003. Ibarapa North LGA reported more cases of dracunculiasis (465) than any other LGA in Nigeria in 2002. Eight case containment centers have been established in Obi LGA of Benue State, which is also one of the country's highest endemic LGAs, including four in existing primary healthcare facilities (the other four are in endemic villages).

During 2002, Nigeria reduced its cases of dracunculiasis by –29% (from 5,355 in 2001 to 3,820 in 2002), and it reduced the number of villages that reported one or more cases from 773 in 2001 to 556 (-28%). Of the villages that reported one or more cases in 2002, 184 (36%) reported only one case each. Of the 216 “new” villages that reported one or more cases in 2002, 152 (70%) reported less than five cases each. Nigeria increased its filter coverage from 84% to 98%, but the reported rates of case containment remained the same in 2001 and 2002: only 65% - 66% (figure 5).

We report with deep regret the death of Mr. Sunday Akawu, a driver for the Nigerian North East Zone's GWEP, in a motor accident while on an official assignment on December 11, 2002.

Sudan. Efforts continue to prepare populations of displaced Sudanese in camps inside and outside of Sudan for returning to their homes when a political settlement to the civil war is declared. A training session was held at Khartoum on December 12, 2002 for 65 staff who serve the camps for Internally Displaced Persons (IDPs) in Sudan. Since then, each state has begun conducting health education (about dracunculiasis) in the camps. Preliminary maps showing the locations and estimated populations of the camps for IDPs and of the camps for refugees from Sudan in neighboring countries are reproduced in Figure 6. In 2003, all trainings in Operation Lifeline Sudan/South's areas will be geared towards case containment rather than towards the less stringent protocol for case management.

Ghana. An active case search in Atebubu District of the Brong Ahafo Region was completed in January 2003. No new endemic villages were identified. The status of interventions in the highest endemic districts is summarized in Table 4.

District	Cumulative villages reporting 1+ cases in 2002	Cases Jan - Nov 2002	% contained cases	Case Containment Centers	G2K TA# Jan 2003	Ghana Red Cross	Worm Week	Durbar / case search Jan 2003	E.V. filter coverage (Nov)	E.V. abate coverage (Nov)	E.V. 1+ safe water source (Nov)	Radio	Other
Zab-Tat	44	840	60%	3	2	Yes	3/02, 10/02, 2/03	Yes	0%	0%	0%		
Nanumba	93	688	62%	2	2	Yes	10/02, 2/03	Yes	78%	6%	50%	partial	
East Gonja	78	580	65%	3	3	Yes	10/02, 2/03	Yes	100%	5%	16%	Yes	
Tamale	93	513	75%	2	2	Yes	10/02, 2/03	Yes	58%	5%	34%	Yes	
West Gonja	97	425	74%	3	2	Yes	10/02, 2/03	Yes	100%	6%	29%	Yes	
Atebubu	14	361	87%		2	Yes	10/02, 2/03	Yes	100%	0%	57%	Yes	
Kimtambo	8	290	100%	1	1		1/03	Yes	100%	27%	40%		
Gushiegu/Kar	12	197	56%				6/02, 1/03	Yes	77%	15%	69%	partial	
Yendi	26	176	88%					Yes	0%	0%	0%	partial	
Sabobe / Cher	15	119	57%					Yes	100%	4%	0%		

Table # 4

Figure 5

Summary of Interventions in Sudan, Ghana, Nigeria, Togo, and Mali

SUDAN	2001	2002*	What was new in 2002?
EV with 100% filters	62%	69%	• reduced cases by 27%
EV used Abate	2%	2%	• distributed more h/h filters than ever (>1 m.)
EV with 1+ safe water	61%	59%	• northern states reported 60 indigenous cases
EV health education	85%	92%	• <i>weakest point: civil war</i>
% cases contained/managed	49%	53%	
% EV reporting	66%	70%	
83% of cases in 4 southern states			
GHANA	2001	2002*	What was new in 2002?
EV with 100% filters	85%		• new G2K RTA (Jun) & asst RTA (Aug)
EV used Abate	72%		• began 14 case containment centers (Dec)
EV with 1+ safe water	34%		• added >4,000 Ghana Red Cross volunteers
% cases contained	68%	66%	• tripled Worm Weeks (to 3)
76% of cases in 7 contiguous districts			
			• more technical assistance (44 pers-months)
			• <i>weakest point: complacency</i>
NIGERIA	2001	2002*	What was new in 2002?
EV with 100% filters	84%	98%	• increased filter coverage
EV used Abate	55%	35%	• held first Worm Weeks (5)
EV with 1+ safe water	51%	57%	• created North Central Zone
% cases contained	65%	66%	• doubled technical assistance (23 pers-mos)
72% of cases in 4 states			
			• <i>weakest point: programs in Niger, Oyo, Benue States</i>
TOGO	2001	2002*	What was new in 2002?
EV with 100% filters	85%	90%	• doubled numbers of CCCs (to 16)
EV used Abate	88%	94%	• began monitoring interventions monthly
EV with 1+ safe water	47%	43%	• increased filter coverage
% cases contained	62%	62%	• doubled technical assistance (30 pers-mos)
81% of cases in 4 districts			
			• <i>weakest point: passive surveillance</i>
MALI	2001	2002*	What was new in 2002?
EV with 100% filters	50%	100%	• doubled number of trained village volunteers
EV used Abate	0%	3%	• doubled h/h & pipe filter coverage
EV with 1+ safe water	NA	22%	• increased use of Abate
% cases contained	51%	57%	• increased transportation
93% of cases in 3 contiguous districts			
			• quintupled technical assistance (15 p-mos)
			• <i>weakest point: dispersed nomads</i>

* provisional data

Figure 4

Chronogramme de Réunions et Activités PNEVG du Mali

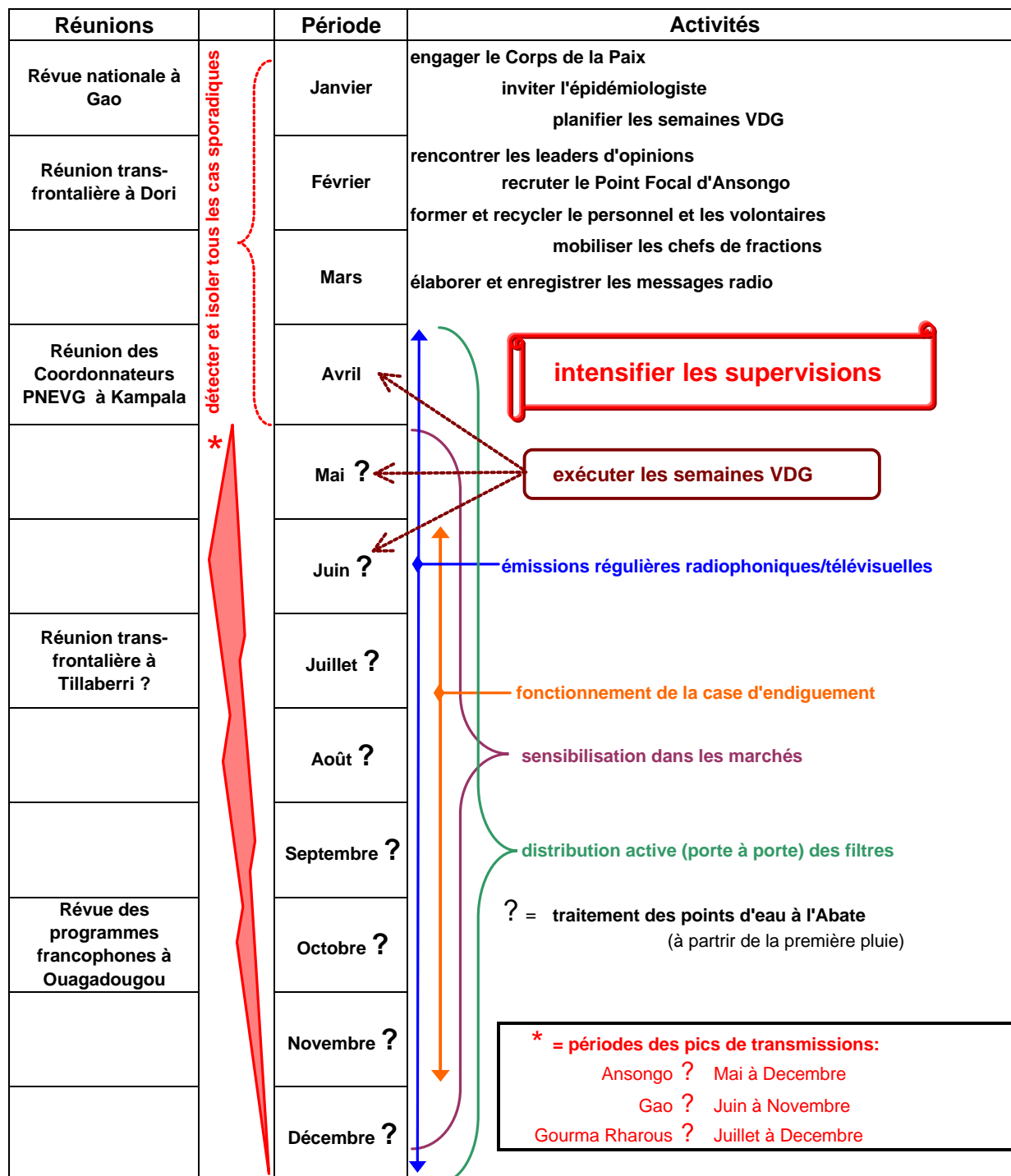
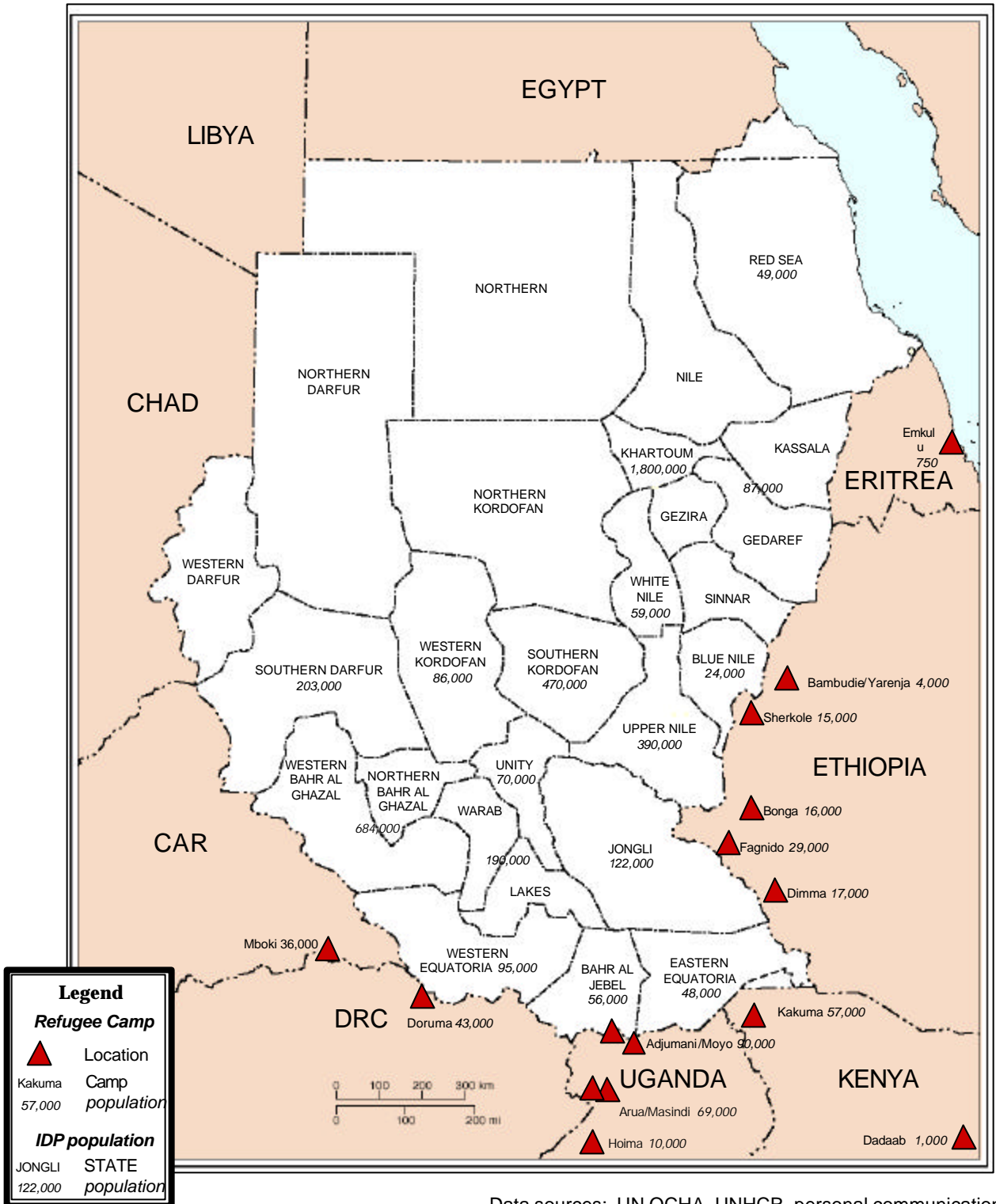


Figure 6

Sudanese External Refugees and Internally Displaced Persons Locations and Population Estimates, 2002



Data sources: UN OCHA, UNHCR, personal communication

Denmark Donates \$700,000



The Royal Danish Ministry of Foreign Affairs has informed The Carter Center that it will contribute US\$700,000 in support of the Center's Guinea worm eradication activities over the next two years. The Carter Center will use these funds to help stop transmission in the remaining endemic countries, with special attention to countries where Denmark is providing direct development assistance: Benin, Burkina Faso, Ghana and Niger.

Congratulations Dr. Joshua Olorunshola Ologe!

With great pleasure we recognize the extraordinary efforts of our colleague, Joshua Olorunshola Ologe, who despite a full work load combating Guinea Worm disease in the South West Zone of Nigeria, found time to successfully fulfill the academic requirements in November 2002 for a Doctor of Philosophy in Public Health Parasitology at the University of Ilorin, Nigeria. Well done Joshua!

Recent Publications

WHO, 2002. Dracunculiasis eradication review meeting, Nouakchott (Mauritania), 28-30 October 2002. Wkly Epidemiological Rec No. 45, 374.

WHO, 2003. Dracunculiasis eradication in endemic French-speaking African countries. Wkly Epidemiological Rec No. 1/2, 3-7.

*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 Dr. James H. Maguire, Director, WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, NCID, 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 has changed to <http://www.cdc.gov/ncidod/dpd/parasites/guineaworm/default.htm>



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