



Date: September 14, 2001

From:

WHO Collaborating Center for  
Research, Training and Eradication of Dracunculiasis

Subject:

GUINEA WORM WRAP-UP # 116

To: Addressees

**Detect Every Case (within 24 hours), Contain Every Worm (immediately)!****GHANA HOLDS THIRD BI-ANNUAL NATIONAL PROGRAM REVIEW**

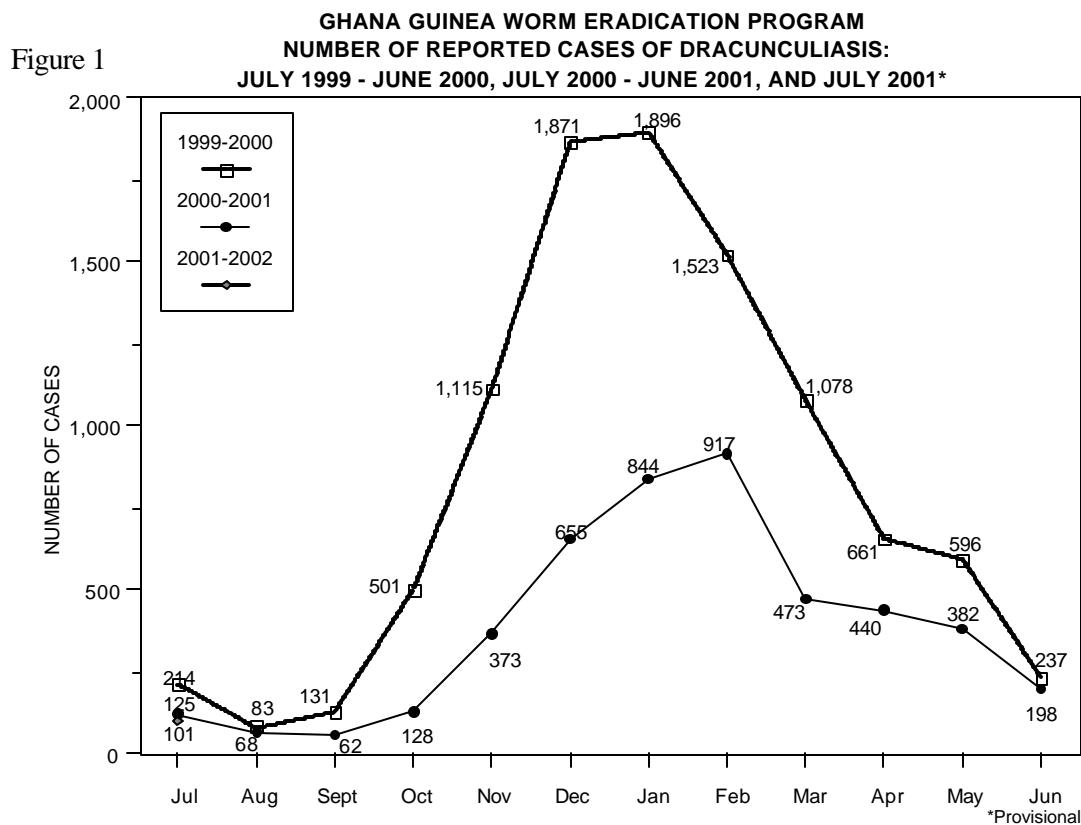
About 80 persons participated in the national review of Ghana's Guinea Worm Eradication Program (GWEP), which met at the Miklin Hotel in Accra on September 6-7. This was the third national review held at six monthly intervals, following the previous reviews held at Tamale, Northern Region in September 2000, and at Ho, Volta Region in March 2001. The Minister of Local Government and Rural Development, the Honorable Mr. Kwado B. Wiredu, chaired the opening ceremony of the Accra meeting, which also was addressed by the Minister of Health, the Honorable Professor Richard Anane; the Deputy Minister of Works and Housing, the Honorable Ms Theresa Tagoe; and the Deputy Minister of Health, the Honorable Dr. Moses D. Baah. The minister of local government and rural development said his ministry will urge local District Assemblies in endemic districts to prioritize support for eradication measures. The representative of the ministry of works and housing indicated that Guinea worm eradication is also a priority of his ministry under the new administration. The minister of health said Guinea worm eradication is a major concern to the government, and he appealed to Ghana's development partners for assistance, especially for helping to provide sources of safe drinking water in endemic areas.

Table 1

**Ghana Guinea Worm Eradication Program**  
**Line-Listing of Interventions by Region: January - July 2001**

Region	Villages Reporting 1+ cases	Number of Cases Reported	% of Cases Contained	% endemic villages		
				With Filters in all Households	Using Abate	With 1+ Sources of Safe Drinking Water
Northern	278	2018	71%	89%	19%	29%
Brong Ahafo	79	577	72%	84%	10%	39%
Volta	72	489	81%	92%	11%	43%
Upper West	12	158	91%	71%	11%	60%
Eastern	25	54	96%	100%	41%	19%
Ashanti	19	34	100%	95%	0%	46%
Central	4	7	78%	85%	1%	14%
Upper East	6	7	100%	100%	2%	40%
Greater Accra	2	5	100%	0%	0%	100%
Western	3	3	67%	100%	11%	36%
Ghana	500	3352	75%	81%	16%	35%

In his overview of the Ghanaian program, National Program Coordinator Dr. Andrew Seidu Korkor reported that Ghana has detected only 3,352 cases of dracunculiasis in January -July 2001 (Figure 1 & Table 1), which is a reduction of -45% when compared to the 6,116 cases reported in the same period last year. This is the first time since 1992-1993 (following the 18% reduction of cases in 2000 compared to 1999) that Ghana has reported reductions in cases in two consecutive years. A total of 980 villages reported one or more cases in 2000; 500 Villages have reported one or more cases in January-July 2001. Ninety-two percent of this year's cases are reported from Northern (60%), Brong Ahafo (17%) and Volta (15%) Regions. Three of Ghana's ten Regions (Greater Accra, Upper East, Western) have reported zero indigenous cases for over a year. 93% of the cases and 85% of endemic villages reported so far this year are in 20 of Ghana's 110 districts (Figure 2).



The latest status of interventions is summarized in Table 1. The overall percentage of endemic villages in which all households have cloth filters (81%), and the percentage of cases contained so far in 2001 (75%) are about the same as reported in March this year. The percentages of endemic villages with cloth filters distributed to 100% of their households are 89% for Northern Region, 84% for Brong Ahafo, and 92% for Volta. The Interagency Coordination Committee (ICC, including representatives of the three ministries mentioned above, the Community Water and Sanitation Agency and others) and the national coordinator have successfully intensified advocacy for safe water supplies to endemic villages, using a detailed line-listing of the current status of water sources in all affected villages of the country. One result is that the Embassy of Japan recently agreed to provide \$90,000 for 17 new bore hole wells in the Nanumba District of Northern Region, which is the highest endemic district in the county (Figure 2). The 10 new wells funded by the Gates Foundation through The Carter Center for endemic villages of Atebubu District, which is the third highest endemic district, have been completed and are now in use, in addition to an

eleventh well donated by the contractor, Heisa Engineering Company LTD. These 11 villages had 238 of Atebubu District's 1,009 cases in 2000. A subcommittee of the ICC is also developing a comprehensive strategy for intensifying health education and community mobilization activities. Ghana's program introduced a new "Guinea Worm Cloth" at this meeting, funded by The Carter Center.

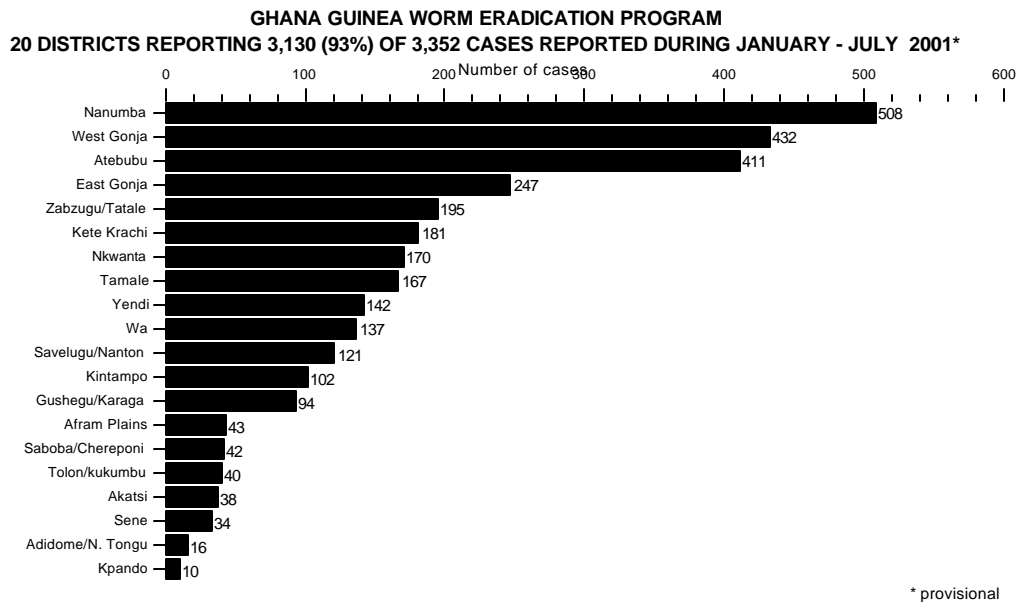


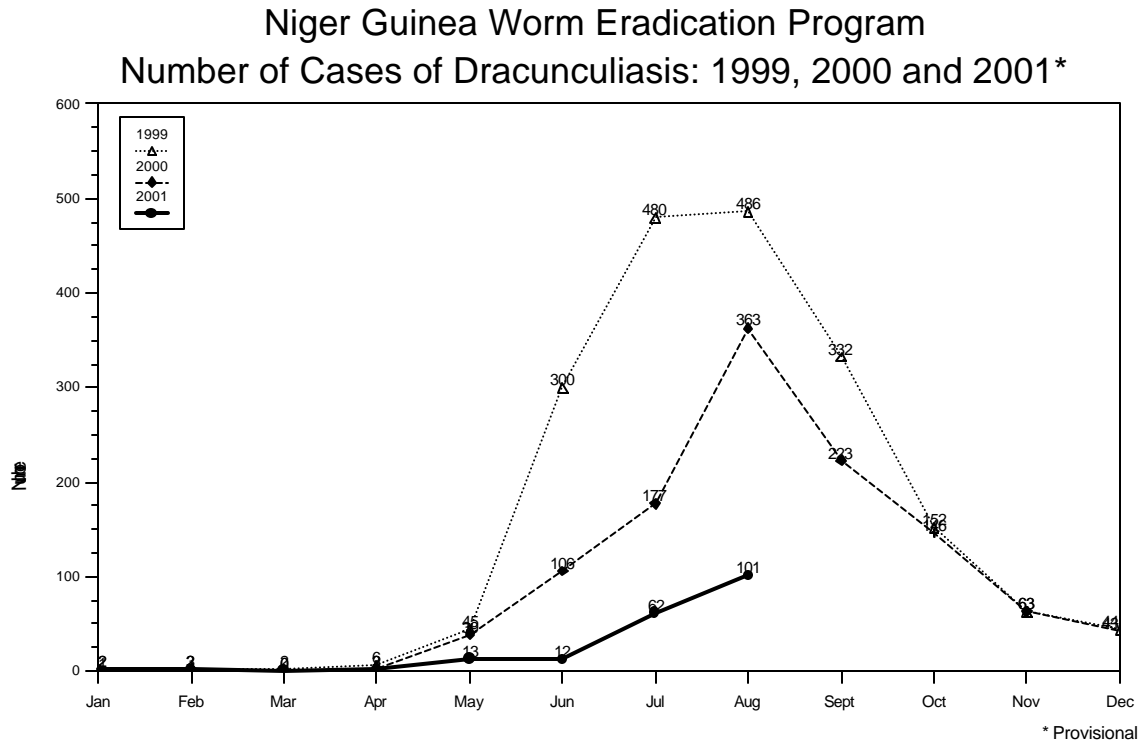
Figure 2

The main remaining weakness of the program is supervision of zonal workers and village-based volunteers. This deficiency was discussed at length during the review. Northern Region has already begun reducing the operational area for which supervisors are responsible, by training more supervisors, as a way of correcting the problem. Other participants at the review included the Acting Director of Public Health in the Ministry of Health, Dr. George Amofa; the Regional Director of Health Services for Brong Ahafo Region, Dr. Kofi Asare; and representatives of Ghana Water and Sanitation Agency, The Carter Center, UNICEF, WHO, the Embassy of Japan, Church of Christ, and the Red Cross. The National Program Coordinator of Togo's GWEP, Mr. K. Ignace Amegbo, also attended the review.

### **NIGER DECREASES CASES BY -73%**

As illustrated in Figure 3, Niger has reduced its cases of dracunculiasis by -73%, from 685 in January-August 2000, to 186 in the same period of 2001. This includes three of the five months of the peak transmission season in this country. Mirriah District (in Zinder Region), which reported 62% of Niger's 1,159 indigenous cases in 2000, has intensified its interventions even more in 2001 (Table 2). These include another "Worm Week" of intensive health education conducted by Nigerien staff in cooperation with U.S. and Japanese Peace Corps volunteers in May, and slide shows by Japanese volunteers conducting health education in July. Six pumps were recently rehabilitated by The Carter Center (Global 2000), U.S. Peace Corps will help with four hand-dug wells, and The Carter Center will support drilling of ten new bore hole wells in this district to be completed by the end of 2001 with funding from the UN Foundation. Niger's GWEP adopted all of the international standards for case containment in 2001, but has managed to contain only 55% of the cases so far this year. Improving the rates of cases contained is an area of the program needs that needs improvement.

Figure 3



### **NIGERIA SUSTAINS INTENSIFIED INTERVENTIONS, GETS MORE HELP FROM JAPAN**

The Nigerian Guinea Worm Eradication Program (NIGEP) reports sustained high levels of its endemic villages having all households covered by cloth filters so far this year. The average filter coverage was 88% in January-June 2001, compared to 50% in the same period of 2000. The percentage of endemic villages using Abate also increased, from 20% to 33% over the same period, while access to safe water increased only slightly (from 50% to 53%). Filter and Abate coverage of endemic villages were also much higher in the second half of 2000 (81%, 38%) than in the first half of that year. The monthly figures for national interventions in Nigeria in 2000 and so far in 2001 are given in Figures 4 and 5.

Analysis of changes in dracunculiasis incidence in the 189 endemic villages of the Northwest Zone between January-July 2000 and the same period of 2001 reveal three important subgroups, which are obscured by the overall total reduction in cases of -49% (from 1,840 to 931) for the zone in that period. Eighty-four (84) villages reduced their incidence from a total of 542 cases to zero (-100%), while 71 other villages reduced their incidence from 1,388 to 545 cases (-61%). These reductions were partly offset by 34 villages, which reported no cases in 2000 but had a total of 386 cases in January-July 2001. Birnin Magaji Local Government Area (LGA) (Zamfara State) is the third-highest endemic LGA of this zone (11<sup>th</sup> highest in Nigeria), having reported 114 cases of dracunculiasis [81 (71%) of them contained] in January-July 2001. Residents of endemic villages in this LGA have constructed 29 hand-dug wells between June and August this year, with support provided by The Carter Center. This raised the coverage of endemic villages with at least one source of safe water to 88% (21/24) in that LGA. A technical assistant provided by The Carter Center also reports that the program showed a health education video in Hausa language to inhabitants of 12 villages, with a total audience of over 5,700 persons, during the same period.

Figure 4

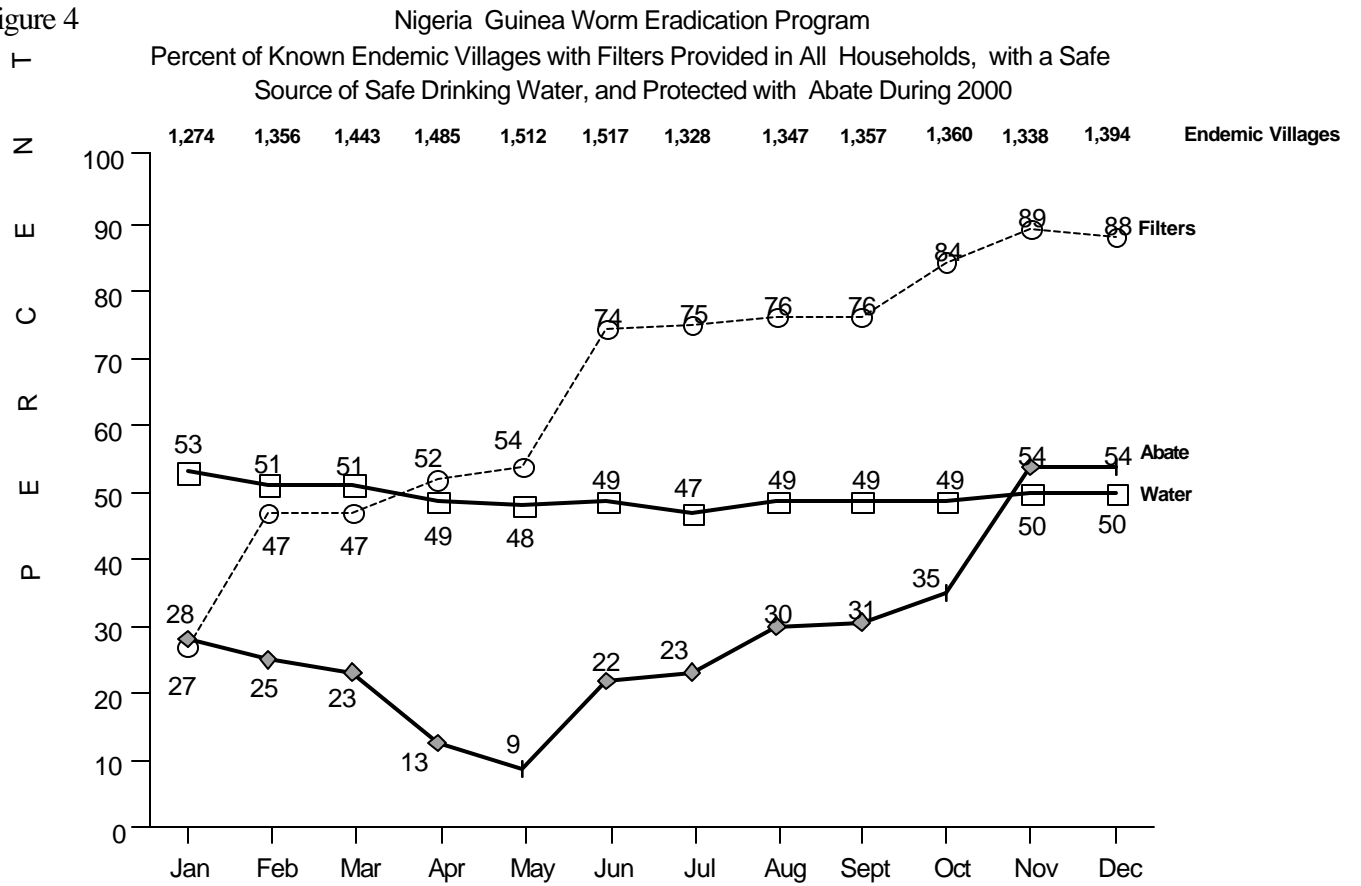
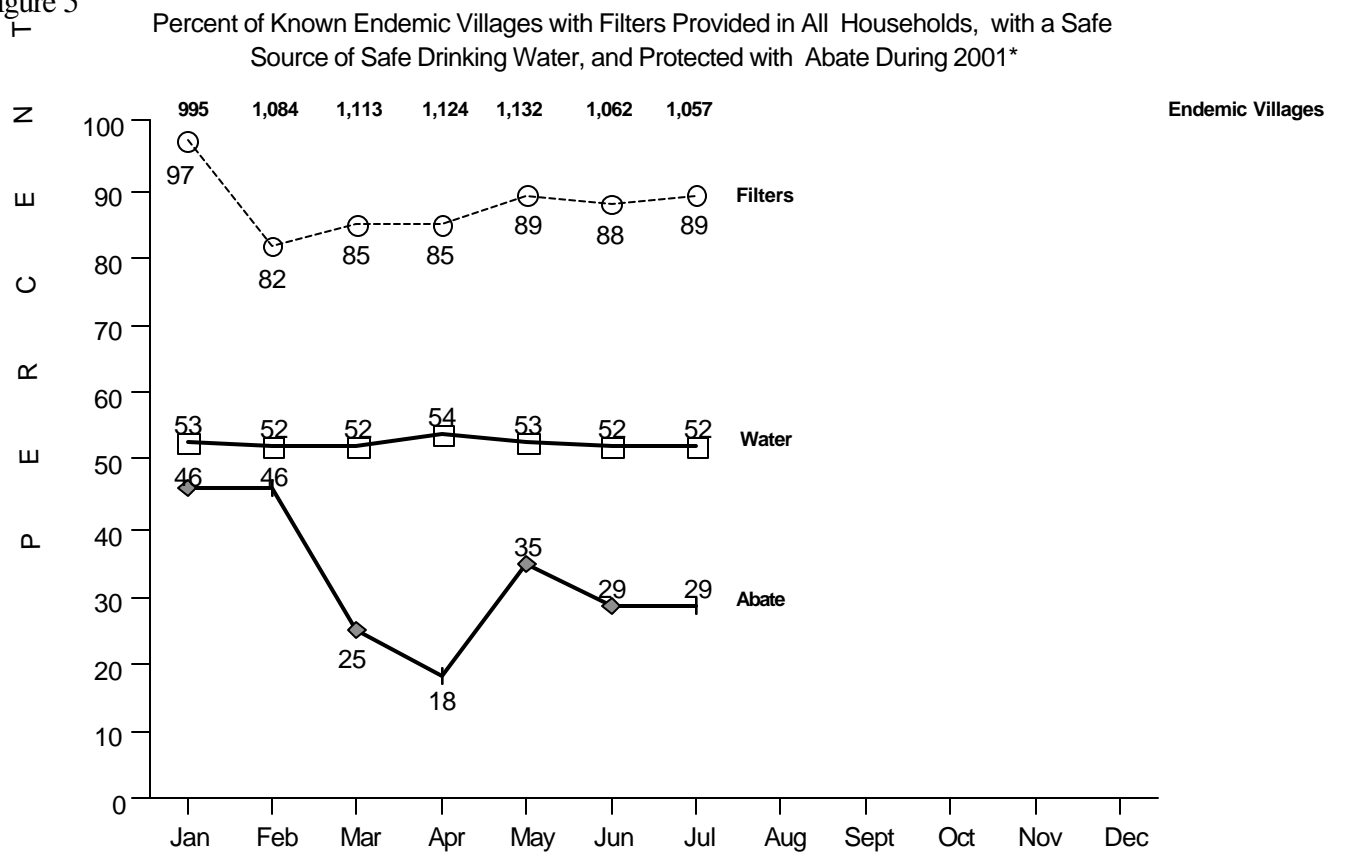


Figure 5



\*Provisional

Table 2

**Number of cases contained and number reported by month during 2001\*  
(Countries arranged in descending order of cases in 2000)**

COUNTRY	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SUDAN	897 / 2422	1120 / 2260	946 / 2193	1176 / 2633	1667 / 4493	2219 / 4650	1144 / 2251	/	/	/	/	/	9169 / 20902	44
NIGERIA	675 / 1044	621 / 1031	423 / 730	170 / 267	208 / 248	214 / 317	247 / 368	245 / 332	/	/	/	/	2803 / 4337	65
GHANA	612 / 844	672 / 917	362 / 474	322 / 440	299 / 378	172 / 198	80 / 101	/	/	/	/	/	2519 / 3352	75
BURKINA FASO	18 / 20	25 / 29	35 / 37	38 / 61	113 / 185	122 / 162	59 / 90	/	/	/	/	/	410 / 584	70
NIGER	1 / 2	2 / 2	0 / 0	1 / 2	9 / 13	7 / 12	33 / 62	53 / 101	/	/	/	/	106 / 194	55
TOGO	108 / 119	63 / 91	58 / 66	43 / 48	16 / 20	23 / 44	25 / 25	27 / 28	/	/	/	/	363 / 441	82
MALI	3 / 6	0 / 0	0 / 0	0 / 0	1 / 2	1 / 2	16 / 55	33 / 177	/	/	/	/	54 / 242	22
COTE D'IVOIRE	18 / 40	18 / 60	11 / 38	5 / 6	2 / 9	7 / 8	4 / 4	8 / 9	/	/	/	/	73 / 174	42
BENIN	13 / 17	13 / 13	6 / 6	3 / 3	1 / 1	0 / 0	1 / 1	/	/	/	/	/	37 / 41	90
MAURITANIA	1 / 1	0 / 0	1 / 1	0 / 0	0 / 1	3 / 3	19 / 27	/	/	/	/	/	24 / 33	73
UGANDA	0 / 0	0 / 0	0 / 0	3 / 3	6 / 19	15 / 16	5 / 9	/ 1	/	/	/	/	29 / 48	60
ETHIOPIA **	0 / 0	0 / 0	0 / 0	1 / 1	2 / 5	6 / 6	2 / 2	2 / 3	/	/	/	/	13 / 17	76
C.A.R.	/	/	/	/	/	/	/	/	/	/	/	/	0 / 0	
TOTAL*	2346 / 4515	2534 / 4403	1842 / 3545	1762 / 3464	2324 / 5374	2789 / 5418	1635 / 2995	368 / 651	0 / 0	0 / 0	0 / 0	0 / 0	15600 / 30365	51
% CONTAINED	52	58	52	51	43	51	55	57					51	

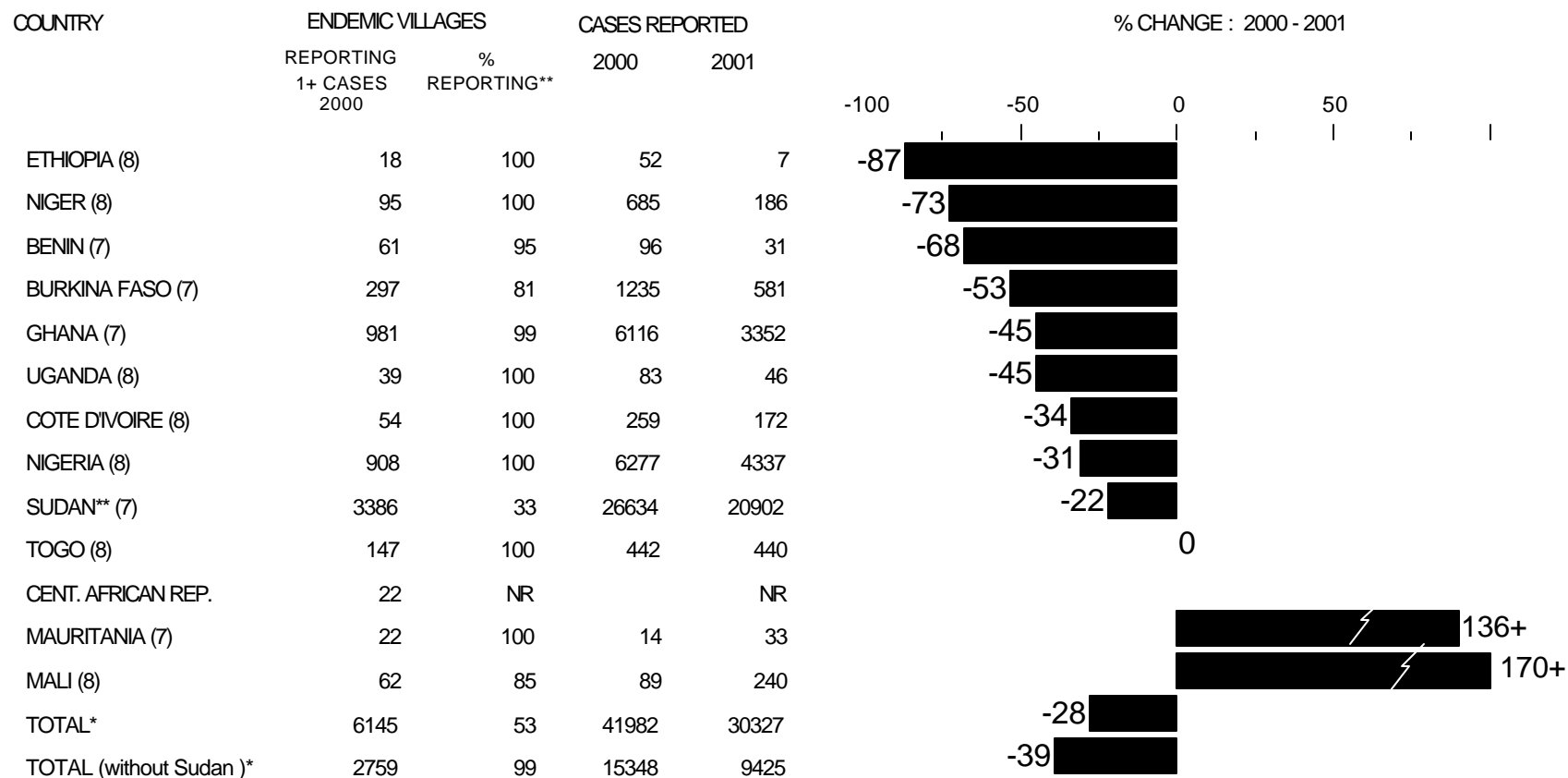
\* PROVISIONAL

\*\* 3 / 5 cases in May, 5 / 6 in June, and 1/2 in July were imported from Sudan.

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

Figure 6

## Percentage of Endemic Villages Reporting and Percentage Change in Number of Indigenous Cases of Dracunculiasis During 2000 and 2001\*, by Country

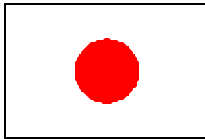


\* provisional

\*\* 2,600 (32%) of 8,058 endemic villages are not accessible to the program

(8) Indicates month for which reports were received, i.e., Jan. - Aug. 2001

NR No Report



The Japanese Ambassador to Nigeria, Ambassador Takahisa Sasaki, visited the national office of The Carter Center in Nigeria on July 17, 2001, to commission materials purchased with the \$86,774 that was granted to The Carter Center/Nigeria late last year for Guinea worm eradication under the Grant Assistance for Grassroots Projects of the Government of

**JAPAN** Japan. This is the second such grant for Guinea worm eradication provided by the Embassy of Japan to The Carter Center in Nigeria (the first, in 1999, was for \$305,691). The Government of Japan provided assistance in the amount of \$21 million for rural water supply projects in support of NIGEP in the former Anambra, Niger and Sokoto States between 1988 and 1998, as well as over \$1 million in vehicles, motorcycles and spare parts for the national program in 1991. This recent grant was used to purchase a vehicle, motorcycles, bicycles, filters and health education materials. Among those also attending the ceremony in Jos were the Carter Center's Country Representative in Nigeria, Dr. Emmanuel S. Miri; the National Program Coordinator, Dr. K. A. Ojodu; representatives of the Yakubu Gowon Center, the chairman of Guma LGA in Benue State, and the director of disease control of Plateau State Ministry of Health.

Table 3

**Districts Reporting Most Cases of Dracunculiasis in 7 Countries in 2000, Number of Cases Reported so far in 2001, and Coverage of Endemic Villages with Key Interventions in 2001\***

District or LGA, Country	Year 2000			Surveillance & containment in 2001		Status of Interventions in 2001 (% of endemic villages)		
	Number of cases reported	% of national total	Number of endemic villages	Number of cases reported	% of cases reported contained	All households with cloth filters	Treated with Abate	With safe water
Ohaukwu, Nigeria (6)	1293	16%	67	383	60%	100%	61%	29%
Nanumba, Ghana (5)	1182	16%	134	476	73%	100%	19%	64%
Mirriah, Niger (7)	726	62%	62	10	90%	97%	63%	89%
Kaya, Burkina Faso (5)	446	23%	70	111	84%	68%	40%	89%
Ougu, Togo (8)	384	46%	55	109	92%	100%	85%	54%
Tanda, Cote d'Ivoire (5)	86	29%	11	117	24%	100%	100%	82%
Ghourma Rharous, Mali (4)	80	27%	7	5	80%			

\* Provisional

\*\* Numbers in parenthesis denote the number of months for which data has been received, e.g. (5) = January - May, 2001

### **TOGO: MINISTER VISITS ENDEMIC VILLAGES; EFFECTS OF IMPROVED INTERVENTIONS EXPECTED SOON**

Togo's Minister of Health, Professor Kondi Charles Agba, personally conducted community education in four endemic villages (Tchebou, Dimori, Baghan, and Bitchabe) in the district of Bassar on August 17-19. He was accompanied by the national program coordinator, Mr. K. Ignace Amegbo, and the new WHO Country Representative, Dr. D. Barakamfitiye. The visit was in response to an unexpected explosion of cases in that district.



After recording increases in dracunculiasis cases during the first four months of 2001, Togo reported significant reductions in May-July, with no change in August, so that the net cumulative difference in cases is unchanged so far this year. That should change soon, given the significant escalation in health education, filter coverage and use of Abate that began in July 2000. So far this year, filter coverage has increased even further to 89% of endemic villages having filters in all households (vs. 54% in 2000), and Abate coverage to 80% of endemic villages (vs. 75% in 2000). 83% of the 441 cases reported in January-August of 2001 (in 88 villages) have been contained, compared to 72% containment rate reported last year. Meanwhile, UNICEF/Togo has provided \$60,000 to help rehabilitate wells in endemic villages of several districts. Thirty U.S. Peace Corps Volunteers, 77 Togolese animators, and 13 Togolese Guinea worm supervisors



conducted Worm Weeks in Haho/Yoto (July 30-August 4) and Ogou (August 13-18) Districts. They visited over 11,000 houses in 114 villages and farms. Peace Corps Volunteers also sponsored theater groups in 30 villages, video in 7 villages, as well as radio campaigns. They have also recently trained 12 teachers in 7 schools, and retrained 125 animators in 89 villages in Agou, Ave, Bassar, Yoto and Zio Districts.

### THREE TYPES OF LINE-LISTINGS

National Program Coordinators are reminded that three different types of line-listings can be used to help manage and monitor interventions in their programs (see samples on pages 10 and 11). These include:

- *Monthly incidence of cases*, by village and district in descending rank order of endemicity (for forecasting appearance of cases in the following year)
- *Status of all interventions*, by village or district (for strategic management and focus)
- *Water supply status*, by village (for effective advocacy). A sample of Ghana's current water investment plan is also on page 11.

Key elements in line-listings of endemic villages and codes for health education activities are shown below:

- **Name of village** (in descending order of number of GW cases), population
- **District**
- **Number of cases** of Guinea worm last season or last year
- **Filter coverage**: 100% of households covered or not
- **Water supply**: 1+ = one well, functioning; 2- = 2 wells, not functioning, etcetera.
- **Abate usage**: Number of each month (1-12) when Abate was used in this village, or total number of months it was used this year
- **Health education**: (see suggested codes; Guinea Worm Wrap-Up #99)
 

1. flip charts/demonstration of copepods in water	7. churches/mosques
2. t-shirts/Guinea worm cloth leader	8.local chief/political/traditional
3. durbar (public ceremony)	9. market strategy (megaphone, pagivolts, banners; for surveillance and education)
4. posters	10. theater/drama
5. radio (news messages, songs, jingles)	11. video/slide show
6. schools	12. other

### IN BRIEF:

**Burkina Faso** This program has improved 15 wells in four of the most endemic villages of Ouahigouya District, which reported the second highest number of cases (143) of all districts in the country in 2000, and has started to improve 16 wells in the village of Gorgare in sixth-ranked Tougan District, which reported 83 cases last year. Filters have been distributed in "all" endemic villages. UNICEF/Burkina Faso recently made funds available to most districts.

**Ghana** Mr. Langbong Bimi, Ph.D. Candidate, Department of Zoology, University of Legon, Accra, Ghana, has concluded a one-year fellowship with the Division of Parasitic Diseases, Centers for Disease Control and Prevention (CDC). While at CDC, Mr. Bimi worked with Drs. Norman Pieniazek and Mark Eberhard to help develop a molecular assay that will permit differentiation of DNA from *Dracunculus medinensis* from that of other species of *Dracunculus*. The development of such a tool will be much needed in the certification and eradication phases of all Guinea Worm Eradication Programs. Mr. Bimi also helped re-establish an animal model for *Dracunculus insignis*, a species that cycles only in certain animals in North America.

Sample Line Listing for Forecasting of Cases and Timing of Interventions

**Nigeria Guinea Worm Eradication Program  
Villages Reporting Cases During 2000 by LGA, State, and Month**

S/N	Village	LGA	State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
1	Turtsawa	Sabon Birni	Sokoto	0	0	22	12	60	25	4	0	0	0	0	0	123
2	Kiratawa	Sabon Birni	Sokoto	0	0	0	0	0	0	13	25	30	22	0	0	90
3	Garin Serkin A	Sabon Birni	Sokoto	0	0	0	19	56	1	0	0	0	0	0	0	76
4	Tidi Bali	Isa	Sokoto	0	0	0	0	0	0	22	21	11	3	0	0	57
5	Biyarda	Goronyo	Sokoto	0	0	0	0	0	16	8	6	5	8	0	0	43
6	Gidan Dikko	Isa	Sokoto	0	0	0	0	0	0	2	8	18	0	0	0	28
7	Kubuta	Goronyo	Sokoto	0	0	0	0	0	0	0	13	6	8	1	0	28
8	Kaikazaka - II	Goronyo	Sokoto	0	0	0	0	0	0	13	8	4	0	0	0	25
9	Kaikazaka - I	Goronyo	Sokoto	0	0	0	0	0	0	4	11	7	3	0	0	25
10	Gidan Magga	Goronyo	Sokoto	0	0	0	0	0	0	0	5	7	2	3	0	17
11	Babu Dole	Isa	Sokoto	0	0	0	0	0	0	0	4	3	1	0	0	8
12	Rumbukawa -	Goronyo	Sokoto	0	0	0	0	0	0	0	0	7	0	0	0	7
13	Kalkairu	Isa	Sokoto	0	0	0	0	0	0	0	0	5	1	0	0	6
14	Karazube	Sabon Birni	Sokoto	0	0	0	0	0	0	0	0	1	0	0	0	1
Total				0	0	22	31	116	42	66	101	104	48	4	0	534

Shaded areas indicate months during which cases occurred.

Sample Line Listing for Endemic Villages and Their Status of Programme Interventions (in decending order of cases) in 2000

**Nigeria Guinea Worm Eradication Program  
Status of Program Interventions**

State	LGA	Village	Jan-Dec. 2000		# of Households	Est. Population	Filter Coverage		Pond Treatment		Safe Water Source	
			# Cases	# Contained			# Distributed	% Coverage	# Eligible	# Treated	# Total	# Functional
Ebonyi	Ohaukwu	ONUEBATA (EBETA)	113	38	1,000		1,129	113	6	6	0	
Ebonyi	Ohaukwu	LUKOL	63	43	200	1,200	454	227	5	5	0	
Ebonyi	Ohaukwu	EICHEM	31	48	240	1,250	749	312	1	1	0	
Ebonyi	Ohaukwu	NDIAGU AMEKA	52	17	153		405	265	4	4	0	
Ebonyi	Ohaukwu	EGU UGWU I	41	18	800		583	73			0	
Ebonyi	Ohaukwu	OGBABARAGU	40	14	408		672	165	8	8	0	
Ebonyi	Ohaukwu	AMEKA AMAJIM	39	3	450		492	109	3	3	0	
Ebonyi	Ohaukwu	UMUOGHARU EKKA	37	28	150		273	182	6	6	0	
Ebonyi	Ohaukwu	IBENDA	37	26	224	1,780	1,427	637	8	8	0	
Ebonyi	Ohaukwu	AMEWULA	34	20	250	2,000	484	194			0	

Sample Line Listing for Monitoring the Status of Water Supply and Repairs of Hand-Pumps

**Ghana Guinea Worm Eradication Program**

**Status of Drinking Water in Key Endemic Villages (arranged in descending order of cases reported in 2001)**

Northern Region: Nanumba District

Month: June 2001

Rank	Sub-District	Village	Estimated Population		Number of Cases Reported		Available Sources of Drinking Water				Hand Pump Repair		New sources of drinking water in 2001-2002		
			Number	HHs	2000	2001*	Safe		Unsafe		Date		Type	Date	Name of Provider
							Borehole Well	Well	Stream or River	Dam(D) or Pond (P)	Reported	Repairs verified			
1	Chamba	Mangosai	437	109	17	25	0	0	1	1P					
2	Wulensi	Kpangsu	397	81	9	23	2+	0	1	5P					
3	Wulensi	Ponayili	237	73	19	21	0	0	0	1P					
4	Pudua	Pudua	2562	350	141	19	1+	0	2	2D&10P					
5	Chamba	Lifaldo	285	59	23	18	1+	0	2	4P					
6	Wulensi	Marggiedo	824	132	9	18	1+	0	1	3P					
7	Pudua	Bienduli	198	55	2	17	0	0	1	2P					
8	Wulensi	Tinanjeira	600	111	20	16	0	0	0	2P					
9	Chamba	Kuboabu 3	231	43	8	16	0	0	1	0					
10	Chamba	Chekosi Bungalo	180	50	6	16	0	0	1	1P					
Total			5951	1063	254	189									

\*Provisional: January - June 2001

Sample Line Listing for Water Investment Plan

**Ghana Guinea Worm Eradication Programme**

**Water Investment Spreadsheet**

Village	Pop.	District	Cases GWD 2000	Needed	Est. Cost	Donor/Agency Status
Parembo West	6400	Atebubu	504	rehab 1 BH	\$2,000	WVI/2002
Kom Fourkroum	4000	Atebubu	321	13 BH; piped system recommended	\$151,500	WVI/2002
Parembo East	11000	Atebubu	262	36 BH; piped system recommended	\$201,500	WVI/2002
Pudua	1825	Nanumba	120	4 BH + rehab 1 BH	\$29,015	CWSA/CIDA/ICC/JAPAN/2001 (3 BH)
Osramani	5000	Kete-Krachi	113	piped system recommended	\$150,000	To be complete by Dec 2001 (?)
Gucumpe	5000	Kintampo	95	4 BH + rehab 3 BH	151500?	?
Kukou	1248	Nanumba	76	4 BH + rehab 1 BH	\$29,015	CWSA/CIDA/ICC/JAPAN/2001 (2 BH)
Wusuta	15000	Kete-Krachi?	74	piped system recommended	\$290,000	To be complete by Dec 2001 (?)
Burkina	6705	Atebubu	68	5 BH + rehab 1 BH	\$22,000	TCC/GATES (2 BH)
Kpachiyili	653	Yendi	59	2 BH	?	UNICEF (2 BH) When??
Wantugu	2570	Tolon/Kumbungu	58	rehab 2 BH + provide piped	\$118,378	?
Kukpaligu	1179	Zabzugu/Tatale	56	3 BH	\$17,715	UNICEF; CWSA/CIDA (3 BH) When??
Alopkacha		Kete-Krachi?	54	?	?	?
Kukuo	4370	Tamale	52	pipe	?	?
Kurawura	950	Kintampo	51	2BH, 3HDW	\$15,072	?
Nwowam	4500	Atebubu	50/60?	6BH	\$27,714	TCC/Heisa (1 BH)

**Mali** As a result of active surveillance undertaken recently at the behest of Dr. Ferdinand Dembele, who recently began working in Gao, Mali's program discovered 151 cases of dracunculiasis, mostly in Ansongo and Gao circles (districts), in August. Gao Region reported only 40 cases in August of 2000. In response to this discovery the program has distributed over 1300 pipe filters among the nomadic populations concerned in response to this discovery. Other programs should take note of this painful new illustration of the dangers of passive surveillance and ready assurances. *This is the last trimester of 2001. Do you know where your Guinea worms are?*

**Sudan** The Seventh Meeting of National Program Coordinators is scheduled to be held in Khartoum, Sudan on March 4-6, 2002. President Omar al-Bashir has agreed to open the meeting. An interview with President Jimmy Carter on the pipe filter project in Sudan was broadcast on the BBC *Focus on Africa* program on Sunday, July 15. This was followed by a related human-interest story on Guinea worm in Sudan that was aired three times on the BBC program *Outlook* on Thursday, July 26. President Carter was also interviewed by CNN on this subject. Funds in the amount of \$121,500 have been provided to The Carter Center from the UN Foundation for the Guinea Worm Eradication Program in Sudan in 2001. Some of these funds have already been used to provide gum boots, raincoats, and 173 bicycles to program staff working in the country. With 99% of their 46 endemic villages reporting, the northern states of Sudan have recorded a total of 50 cases of dracunculiasis in January – July 2001, compared to 43 cases reported in the same period of 2000. Twenty-seven of this year's cases are indigenous, which is a 29% increase from the 21 indigenous cases reported in the same period of 2000. The other cases were imported from southern parts of the country. Thirty-four (68%) of the 50 cases were contained. Ninety-six percent of the 46 endemic villages have received health education about Guinea worm prevention, 93% have access to safe water, 61% have filters in all households, and Abate is being used in 35%.

## 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.

*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. Daniel Colley, Acting 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) 488-4532. The GW Wrap-Up web location has changed to <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.