



Date: May 14, 2001

From:



WHO Collaborating Center for  
Research, Training and Eradication of Dracunculiasis

Subject:

GUINEA WORM WRAP-UP # 112

To: Addressees

**Detect Every Case (within 24 hours), Contain Every Worm (immediately)!**

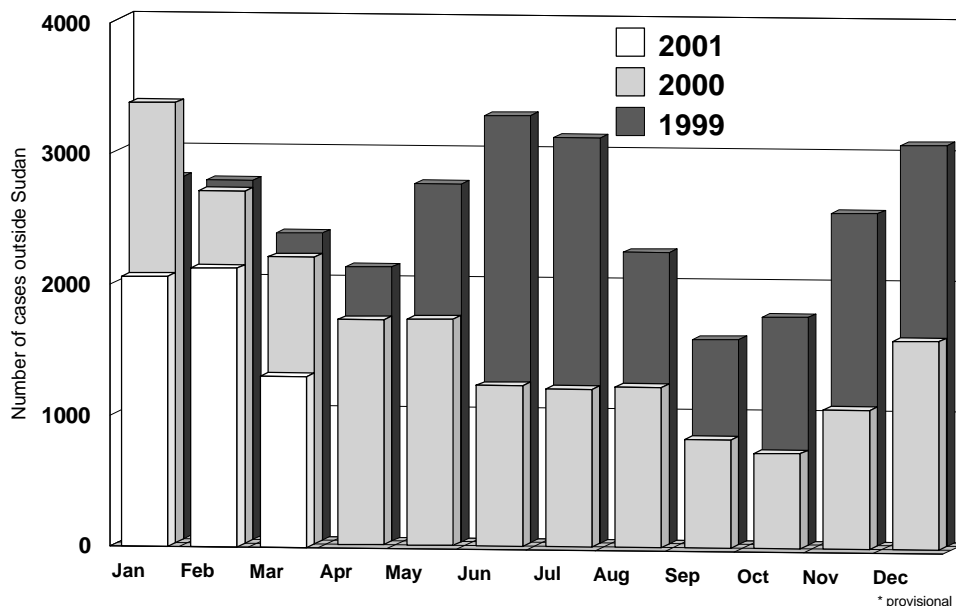
**EDITORIAL: NO MORE ONE EYED PROGRAMS !**

In a previous issue we emphasized the need for Guinea Worm Eradication Programs to monitor the current status of their interventions, in addition to tracking the changes in numbers of cases reported since the previous year. Programs need to keep an eye on both of those important indices of their effectiveness. As important as it is, the reduction in cases compared to last year only measures the effectiveness of last year's work, which cannot be changed now. What can be improved now is the status of this year's interventions. Programs need to pay much more attention to how intensively they are intervening NOW. The significant impact so far this year of the interventions that programs outside of Sudan implemented in 2000 is illustrated in Figure 1.

Table 2 and Figures 2a and 2b summarize the status of interventions as reported by national Guinea Worm Eradication Programs, mainly at the Program Coordinators Meeting in Ouagadougou in March 2000 (data for 1999) and at Lomé in March 2001 (data for 2000). In several instances, however, other sources and reports had to be sought, especially for 1999 data, since some programs' attention has been almost exclusively on reports of cases, rather than on reporting of basic coverage by the key interventions: monthly reporting from endemic villages (proxy for surveillance), filters, Abate, health education, and water supply. Where it exists, that blind spot should be corrected immediately. This will give all of us critical information both on where we have been, and even more importantly, where we need to go.

Figure 1

Number of Dracunculiasis Cases Reported Outside of Sudan by Month, 1999 - 2001\*



With few exceptions, the key indices were higher in 2000 than in 1999. Outside of Sudan, only Togo, Ghana, and Nigeria reported less than 90% of endemic villages having all households provided with a cloth filter as of the end of 2000. The lowest rates of case containment reported outside of Sudan in 2000 were in Mauritania, Mali, Nigeria, Niger, and Cote d'Ivoire. Nigeria and Ghana are tracking their key indices monthly, and all other countries need to do likewise.

The number of cases reported so far this year are shown on table 3, and the percentage change in reduction of cases reported on figure 4. Table 4 summarizes the 2000 data regarding importations and exportations of cases among endemic countries.

**GHANA LEADS NIGERIA WITH FEWER CASES SO FAR THIS YEAR; KETE KRACHI DISTRICT REPORTS ZERO CASES FOR APRIL.**

Dracunculiasis cases continue to fall as a result of last year's work in Ghana and Nigeria, the two highest endemic countries after Sudan (7,869 cases in Nigeria and 7,402 cases in Ghana). Ghana reported 2,271 fewer cases in the first three months of 2001 than the same period of 2000, while Nigeria has reported 1,053 fewer cases in January – April 2001 than it did for the same four months of 2000. Although all of Ghana's data for April are not yet available, Kete Krachi District in Volta Region has reported zero cases of dracunculiasis for April 2000! Bravo!!! Kete Krachi reported 61 cases in April 2000. It was Ghana's third-most endemic district in 2000 and the second-most endemic in 1999.

Table 1

<b>Box Score</b>	<b>Ghana (March)</b>	<b>Nigeria (April)</b>
Cumulative number of endemic villages (EVs)	1,112	1,123
% EVs reporting	100%	98%
% EVs with 100% filters	64%	85%
% EVs using Abate	19%	18%
% EVs with any safe water	27%	54%
% Of cases contained	77%	64%
% Reduction in cases in month indicated	56%	65%

Parts of Nigeria's Southeast Zone and of Ghana's Northern Region are the highest endemic areas remaining outside Sudan. The status and geographic location of reported cases in the six highest-endemic Local Government Areas (LGAs) of Nigeria's Southeast Zone are illustrated in Figure 3.

**SUDAN: PIPE FILTERS BEING DISTRIBUTED; ICRC CO-PILOT IS KILLED**

More than 5.9 million of the 9 million pipe filters for Sudan's Guinea Worm Eradication Program have been manufactured so far, and over 5.1 million of them have already been distributed or are in staging areas for distribution. The intent is to distribute a pipe filter this year to every man, woman and child at risk of dracunculiasis in Sudan. This represents a significant escalation of the struggle against Guinea worm in Sudan, where 728,000 household filters and 134,000 pipe filters were distributed in 2000 (figure 5). A delegation representing the primary partners in this project (The Carter Center, Health and Development International, Norsk Hydro/Hydro Polymers, Government of Norway, Norwegian Chemical Workers Union, and Norwegian Church Aid) will visit Khartoum, Nairobi, and southern Sudan, beginning May 13, to publicize and thank participants and other donors for their heroic efforts.

The risks of working in the war-torn environment of southern Sudan were manifest again on May 9, for the co-pilot of an ICRC (International Committee of the Red Cross) plane. Twenty-six year old Ole Friis Eriksen, a Dane, was killed when the aircraft he was co-piloting was fired upon while flying between Lokichokio, Kenya and Juba, Sudan. The pilot, who was uninjured, landed the plane safely at Lokichokio. Our sincere condolences are extended to Mr. Eriksen's family.

Table 2

**Reported Coverage of Endemic Villages with Key Interventions, and Percentage Cases Contained,  
as of December 2000 vs December 1999 by Country**

Country	Villages Reporting 1+ Cases		Cloth Filters		Abate		Safe Water		Cases Contained	
	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000
<b>Sudan^</b>	<b>3824</b>	<b>3386</b>	<b>26%</b>	<b>28%</b>	<b>2%</b>	<b>3%</b>	<b>37%</b>	<b>45%</b>	<b>53%</b>	<b>42%</b>
<b>Nigeria</b>	<b>1059</b>	<b>906</b>	<b>27%</b>	<b>88%</b>	<b>28%</b>	<b>54%</b>	<b>53%</b>	<b>50%</b>	<b>64%</b>	<b>58%</b>
<b>Ghana</b>	<b>934</b>	<b>981</b>	<b>70%</b>	<b>83%</b>	<b>14%</b>	<b>12%</b>	<b>30%</b>	<b>47%</b>	<b>61%</b>	<b>80%</b>
<b>Burkina Faso</b>	<b>198</b>	<b>352</b>	<b>NR</b>	<b>90%</b>	<b>NR</b>	<b>17%</b>	<b>NR</b>	<b>86%</b>	<b>46%</b>	<b>71%</b>
<b>Niger</b>	<b>170</b>	<b>95</b>	<b>52%</b>	<b>95%</b>	<b>63%</b>	<b>64%</b>	<b>74%</b>	<b>54%</b>	<b>48%</b>	<b>62%</b>
<b>Togo</b>	<b>164</b>	<b>147</b>	<b>54%</b>	<b>78%</b>	<b>75%</b>	<b>77%</b>	<b>34%</b>	<b>50%</b>	<b>61%</b>	<b>72%</b>
<b>Mali</b>	<b>114</b>	<b>61</b>	<b>100%</b>	<b>100%</b>	<b>38%</b>	<b>39%</b>	<b>NR</b>	<b>30%</b>	<b>64%</b>	<b>57%</b>
<b>Cote d'Ivoire</b>	<b>89</b>	<b>54</b>	<b>NR</b>	<b>100%</b>	<b>95%</b>	<b>100%</b>	<b>85%</b>	<b>81%</b>	<b>75%</b>	<b>62%</b>
<b>Benin</b>	<b>135</b>	<b>61</b>	<b>100%</b>	<b>100%</b>	<b>47%</b>	<b>48%</b>	<b>60%</b>	<b>67%</b>	<b>86%</b>	<b>81%</b>
<b>Mauritania</b>	<b>41</b>	<b>22</b>	<b>100%</b>	<b>100%</b>	<b>32%</b>	<b>36%</b>	<b>NR</b>	<b>73%</b>	<b>44%</b>	<b>57%</b>
<b>Uganda</b>	<b>111</b>	<b>42</b>	<b>100%</b>	<b>100%</b>	<b>97%</b>	<b>96%</b>	<b>65%</b>	<b>65%</b>	<b>93%</b>	<b>76%</b>
<b>Ethiopia</b>	<b>38</b>	<b>18</b>	<b>95%</b>	<b>100%</b>	<b>26%</b>	<b>26%</b>	<b>44%</b>	<b>44%</b>	<b>96%</b>	<b>95%</b>

^ Cases in Sudan were contained or managed.

Central African Republic only reported 46% of 26 cases in 1999, and 0% of 35 cases in 2000 as contained

NR = Not reported.

Figure 2a

## Percent of Endemic Villages with Cloth Filters, Safe Drinking Water, and Abate

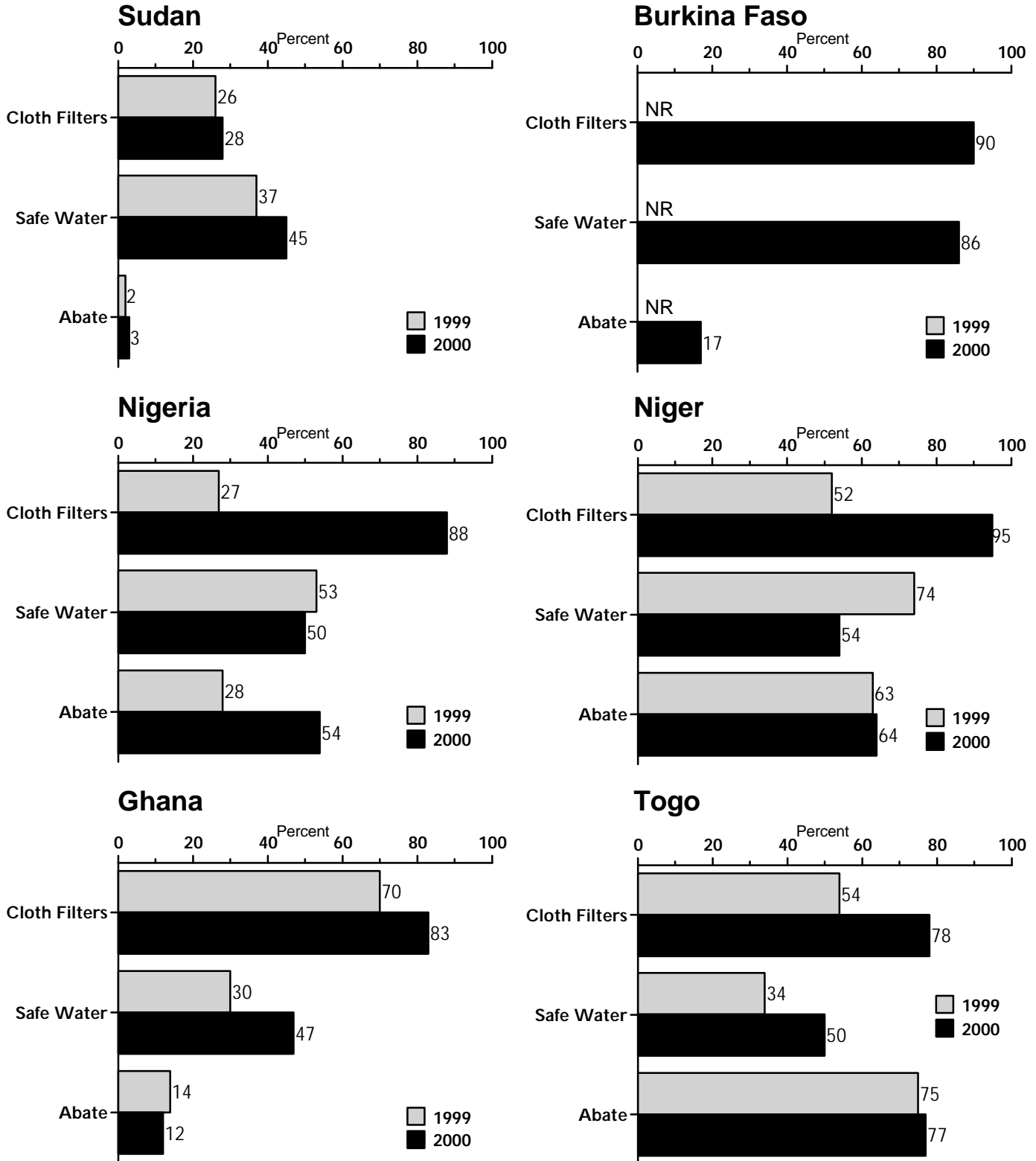
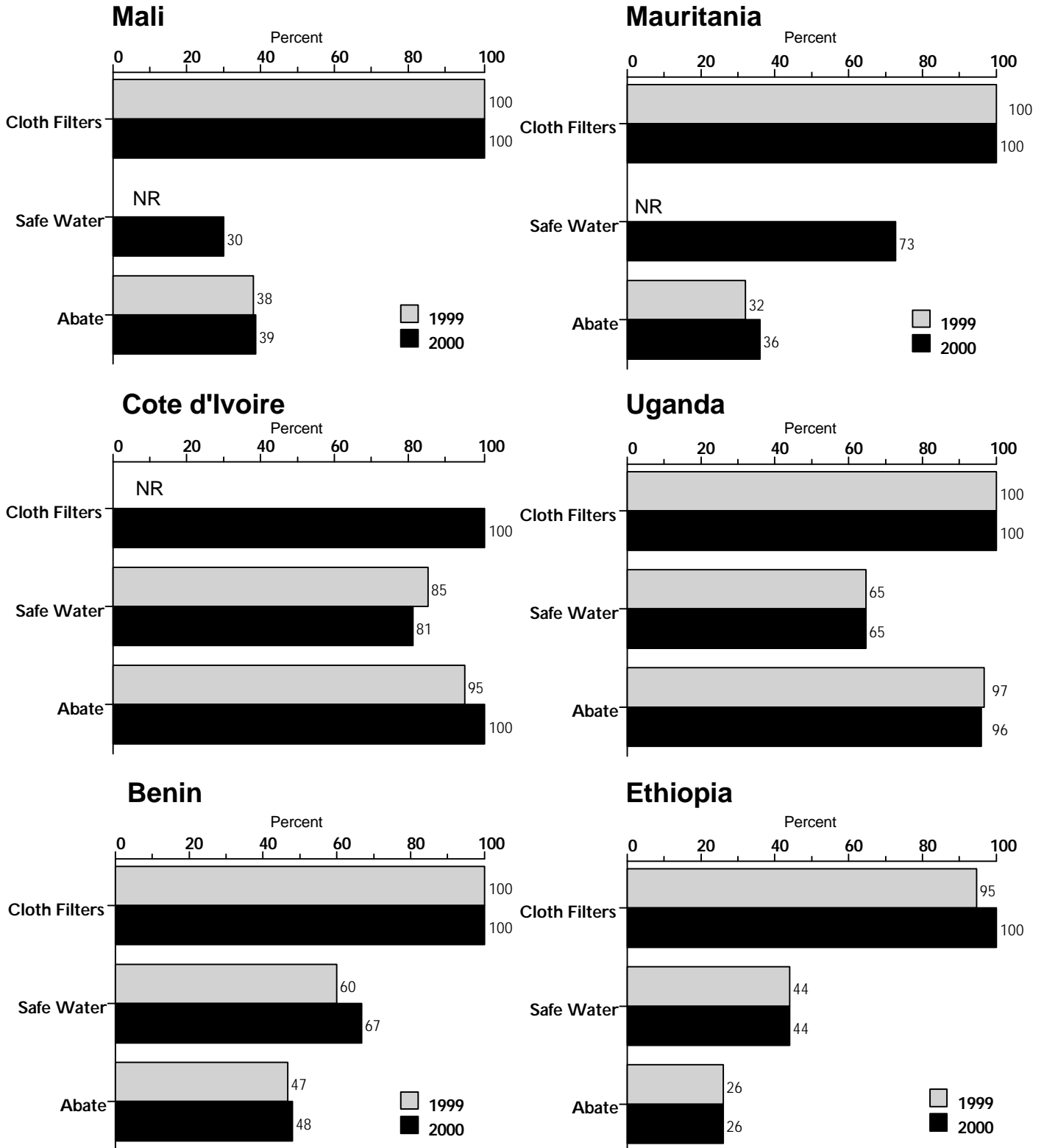


Figure 2b

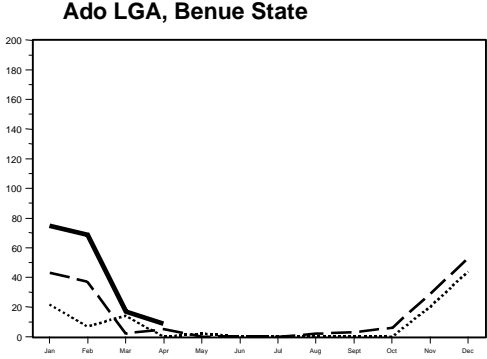
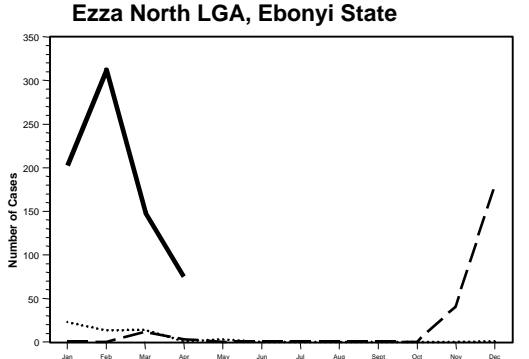
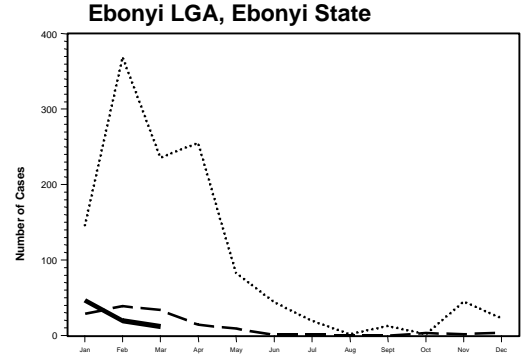
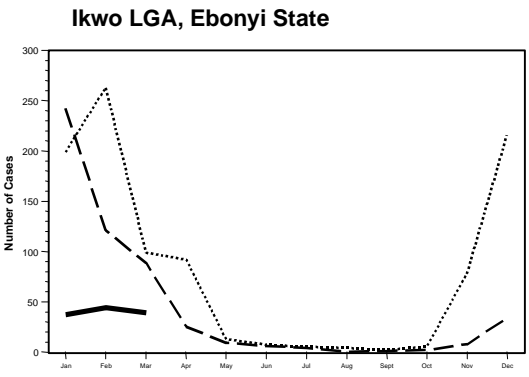
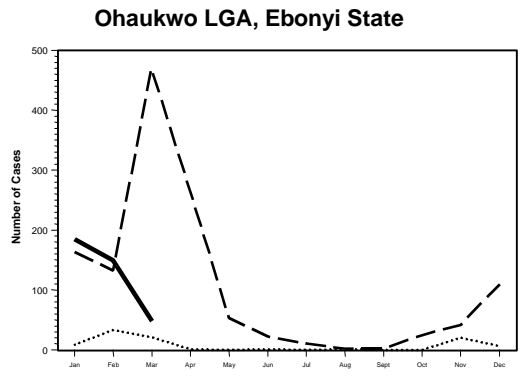
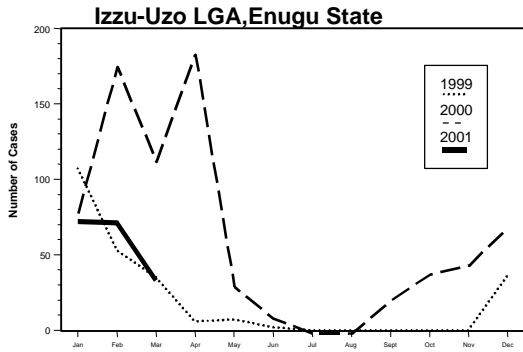
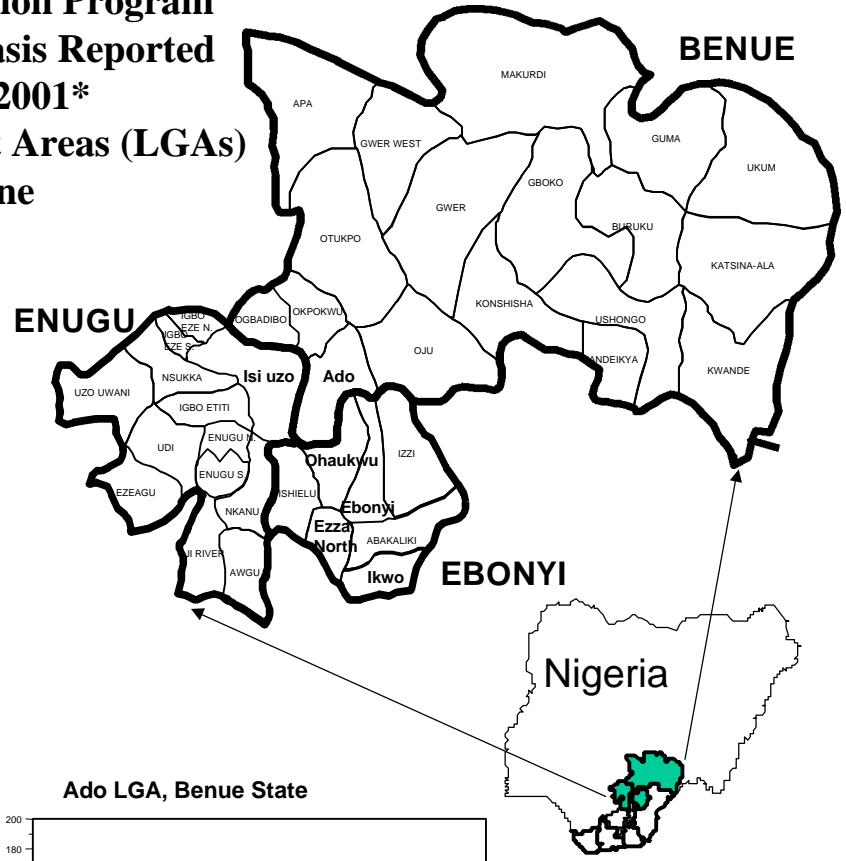
## Percent of Endemic Villages with Cloth Filters, Safe Drinking Water, and Abate



# Nigeria Guinea Worm Eradication Program

## Number of Cases of Dracunculiasis Reported During 1999, 2000, and 2001\*

### From Selected Local Government Areas (LGAs) In the South East Zone



\* provisional

Table 3

**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													%
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SUDAN	753 / 2052	797 / 1489	454 / 1063	/	/	/	/	/	/	/	/	/	2004 / 4604	44
NIGERIA	673 / 1017	813 / 1029	423 / 730	170 / 267	/	/	/	/	/	/	/	/	2079 / 3043	68
GHANA	612 / 845	676 / 919	365 / 474	/	/	/	/	/	/	/	/	/	1653 / 2238	74
BURKINA FASO	17 / 19	20 / 20	/	/	/	/	/	/	/	/	/	/	37 / 39	95
NIGER	1 / 2	2 / 2	0 / 0	1 / 2	/	/	/	/	/	/	/	/	4 / 6	67
TOGO	109 / 120	57 / 91	54 / 61	/	/	/	/	/	/	/	/	/	220 / 272	81
MALI	3 / 6	0 / 0	0 / 0	/	/	/	/	/	/	/	/	/	3 / 6	50
COTE D'IVOIRE	17 / 38	18 / 58	11 / 38	2 / 3	/	/	/	/	/	/	/	/	48 / 137	35
BENIN	12 / 16	13 / 13	6 / 6	3 / 3	/	/	/	/	/	/	/	/	34 / 38	89
MAURITANIA	1 / 1	0 / 0	0 / 1	/	/	/	/	/	/	/	/	/	1 / 2	
UGANDA	0 / 0	0 / 0	0 / 0	2 / 2	/	/	/	/	/	/	/	/	2 / 2	
ETHIOPIA	0 / 0	0 / 0	0 / 0	1 / 1	/	/	/	/	/	/	/	/	1 / 1	
C.A.R.	/	/	/	/	/	/	/	/	/	/	/	/	0 / 0	
TOTAL*	2198 / 4116	2396 / 3621	1313 / 2373	179 / 278	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	6086 / 10388	59
% CONTAINED	53	66	55	64									59	

\* PROVISIONAL

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

Figure 4

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



\* provisional

\*\* 2,600 (33%) of 7,898 endemic villages are not accessible to the program

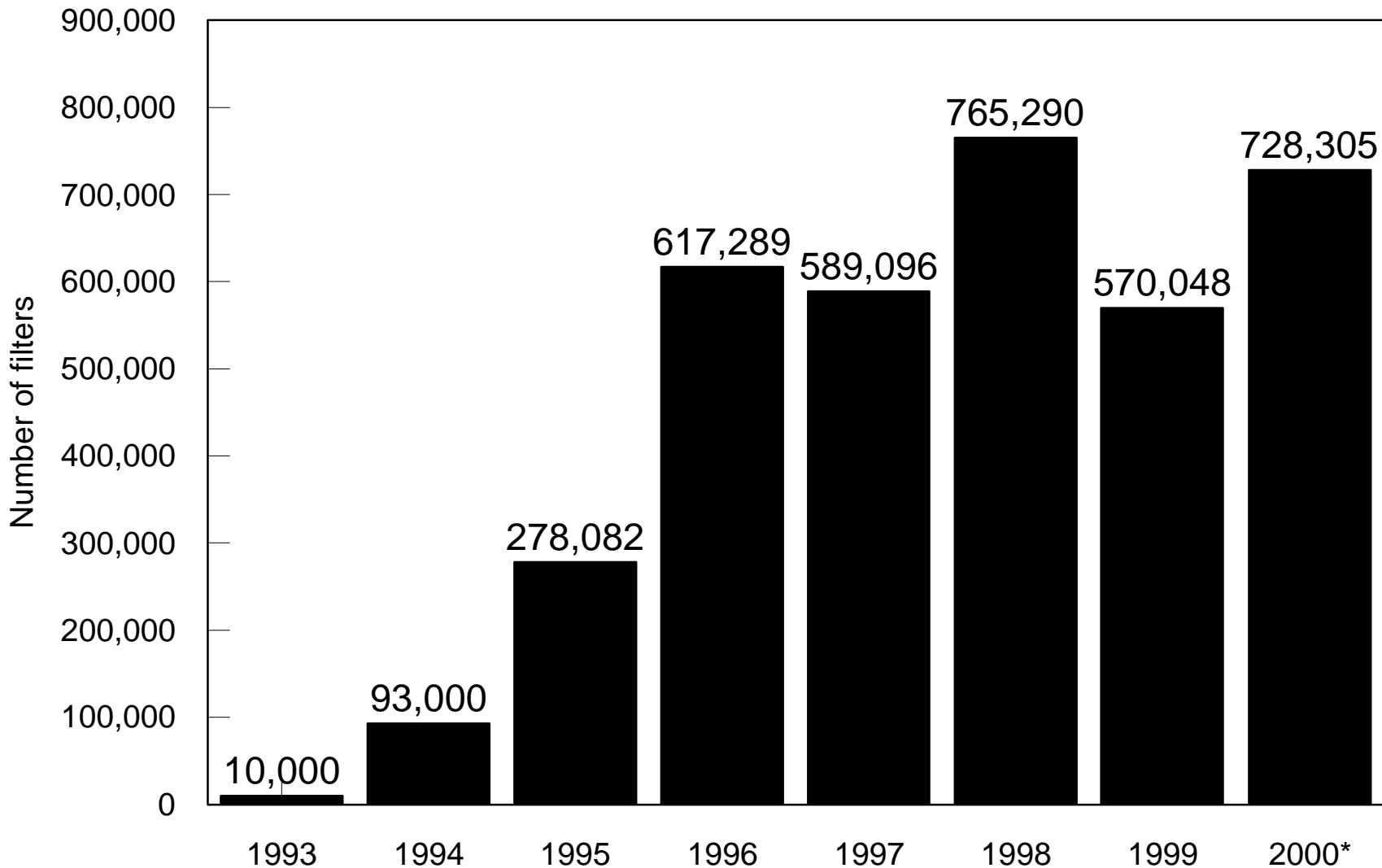


Table 4

**DRACUNCULIASI ERADICATION CAMPAIGN**  
**REPORTED IMPORTATIONS AND EXPORTATION OF CASES OF DRACUNCULIASIS IN 2000**

From --> To	Month and number of cases imported													Number of cases exported
	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul	Aug.	Sept	Oct	Nov	Dec.	Total	
Ghana --> Benin	3	2	4	0	0	1	0	0	0	0	0	1	11	Ghana=27
Ghana --> Cote d'Ivoire	0	0	0	0	3	3	0	0	0	0	0	0	6	
Ghana --> Togo	0	3	1	0	0	3	1	1	1	0	0	0	10	
Burkina Faso --> Cote d'Ivoire	1	0	0	0	1	1	0	0	1	0	1	1	6	Burkina Faso=16
Burkina Faso --> Mali	0	0	0	0	0	0	2	4	1	0	0	0	7	
Burkina Faso --> Niger	0	0	0	0	1	0	0	0	2	0	0	0	3	
Sudan --> CAR	1	0	0	0	0	0	0	0	0	0	0	1	2	Sudan=16
Sudan --> Ethiopia	0	0	0	0	0	1	3	0	1	0	0	1	6	
Sudan --> Kenya	0	0	0	0	0	0	1	0	1	0	1	1	4	
Sudan --> Uganda	0	0	0	0	0	2	1	0	0	0	0	1	4	
Nigeria --> Cameroon	0	0	0	0	0	0	0	2	1	1	1	0	5	Nigeria=13
Nigeria --> Ghana	0	0	0	0	0	0	0	0	0	0	0	1	1	
Nigeria --> Niger	0	0	0	0	3	0	0	0	0	0	0	0	3	
Nigeria --> Togo	0	0	0	0	1	0	0	0	0	3	0	0	4	
Togo --> Benin	3	1	0	0	0	1	2	0	0	0	0	2	9	Togo=9
Benin --> Togo	0	0	0	0	0	1	0	1	0	1	0	0	3	Benin=3
Niger --> Mali	0	0	0	0	0	0	1	0	0	0	0	0	1	Niger=1
Mali --> Niger	0	0	0	0	2	0	0	0	2	0	0	0	4	Mali=6
Mali --> Burkina Faso	0	0	0	0	2	0	0	0	0	0	0	0	2	
Cote d'Ivoire --> Burkina Faso	0	0	0	0	0	1	0	0	0	0	0	0	1	Cote d'Ivoire=1
<b>Total</b>	<b>8</b>	<b>6</b>	<b>5</b>	<b>0</b>	<b>13</b>	<b>14</b>	<b>11</b>	<b>8</b>	<b>10</b>	<b>5</b>	<b>3</b>	<b>9</b>	<b>92</b>	

# Dracunculiasis ( Guinea Worm Disease) Eradication Program Number of Cloth Filters Distributed in Sudan



\*275,289 were distributed by GOS, and 453,016 by OLS/S. In addition 134,051 pipe filters were distributed

## IN BRIEF

**Burkina Faso.** The Ministry of Health has invited The Carter Center/Global 2000 to assign a resident technical advisor to assist the secretariat of Burkina Faso's Guinea Worm Eradication Program. Mr. Raymond Stewart has been selected for the position, and will arrive in Ouagadougou on May 18, 2001. Mr. Stewart worked with the Guinea Worm Eradication Program when he was associate director of the U.S. Peace Corps mission in Chad, and subsequently when he was director of Peace Corps in Benin. He is himself a former Peace Corps Volunteer who served in Burkina Faso. Welcome aboard Raymond!!

**Ghana.** The Regional Minister for Northern Region, Mr. Ben Bukari Salifu, the regional director for health services Dr. Sylvester Anemana, and other key officials re-launched the Guinea worm eradication activities in Nanumba District at a public ceremony held in Chamba on April 20. Representatives of Ghana's Community Water and Sanitation Agency, The Carter Center/Global 2000, and UNICEF, among others, also attended the durbar. Nanumba is the highest endemic district in Ghana.

**Nigeria.** General (Dr.) Yakubu Gown made a highly publicized re-visit to Sokoto State on April 24-25, during which he visited 2 endemic villages in Goronyo LGA, 4 villages in Sabon Birni LGA, and 3 villages in Isa LGA. He commissioned at least one borehole well in each of the nine villages. For each borehole well there was at least one back up hand-dug well that was completed or nearing completion as well. Dr. Dama Mana of Cameroon and Mr. Joshua Ologe, Global 2000 consultant to Nigeria's Northeast Zone, participated with others in a border meeting on April 19 at Waza, Cameroon. This was the first border meeting between the two countries in 2001.

## RECENT PUBLICATIONS

Prothero RM. Health Hazards and Wetness in Tropical Africa. Journal of the Geographical Association. 85 (4): 335-44, 2000.

Sattenspiel L. Tropical environments, human activities, and the transmission of infectious diseases. American Journal of Physical Anthropology. *Suppl 31:3-31*, 2000.

WHO, 2001. Progress towards poliomyelitis and dracunculiasis eradication in Sudan, 2000. Wkly Epidemiol Rec 76:112-116.

WHO, 2001. Dracunculiasis surveillance, Chad. Wkly Epidemiol Rec 76:131-132

WHO, 2001. Dracunculiasis: Global surveillance summary, 2000. Wkly Epidemiol Rec 76:133-139.

*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.