



Date: January 28, 2002



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

Subject: GUINEA WORM WRAP-UP #120*

To: Addressees

WHAT'S NEW IN 2002?

“While others are trying to reach the moon, we are trying to reach the villages.”

Julius Nyerere

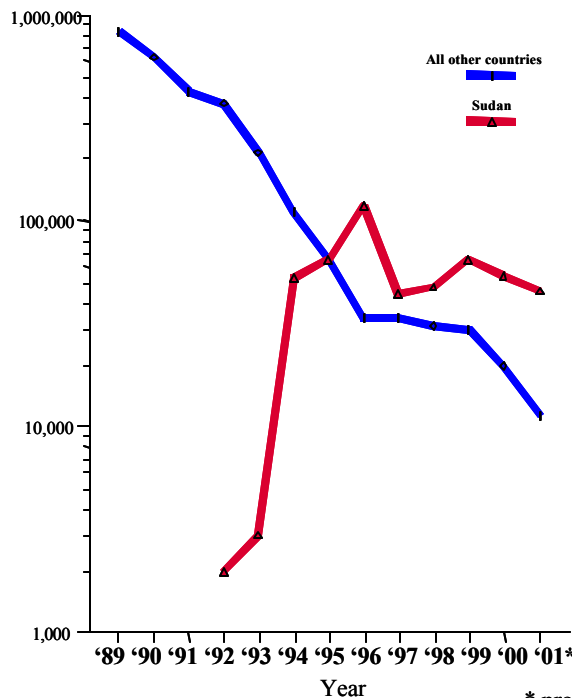
SUDAN'S SHARE OF GLOBAL DRACUNCULIASIS CASES INCREASES IN 2001

During 2001 dracunculiasis cases continued to be eliminated in more areas of West Africa, Ethiopia and Uganda. Sudan accounted for 80% of all cases, reported during January - October (provisional data) (Figures 1, 2, and table 2). This is the highest proportion of global cases Sudan has ever reported, following percentages of 57%, 63%, 67%, and 73% in 1997-2000, respectively. The northern states of Sudan did not break transmission or reduce the numbers of indigenous cases occurring there during 2001 (Figures 3,4). However, northern Sudan and neighboring countries continue to receive cases exported from the highly endemic southern part of the country because of persons displaced by the civil war (Table 1).

The New Year got off to a good start when Mr. Abdul Gadir El Sid, Mr. Ayman El Sheikh and Dr. Khalid from the national secretariat of the Sudan Guinea Worm Eradication Program (SGWEP) joined a humanitarian rapid assessment team on a mission to the Nuba Mountains. This area of South Kordofan was known to contain several highly endemic villages during surveys conducted by UNICEF/Sudan in 1986, 1987, and 1988, but has been inaccessible to the program for most of the years since then. A team from the SGWEP and UNICEF/Sudan accessed some of these villages and began interventions in June 2000. . This year's mission was composed of over 50 persons in all, under the auspices of the Sudanese government's Humanitarian Aid Commission. The team included participants from the United States Agency for International Development, the World Food Program, United Nations Development Program, WHO, and UNICEF. The team traveled to the area on January 2. A second attempt will be made to complete this mission. Meanwhile, the Sudan National Water Corporation has reached an agreement with the Malaysian African Agricultural Company Ltd, which will donate 25 borehole wells to be drilled in Jongolei State. The exact locations for these wells are being determined based on dracunculiasis endemicity, accessibility, and security.

Figure 1

Number of Reported Cases of Dracunculiasis by year, 1989 - 2001*

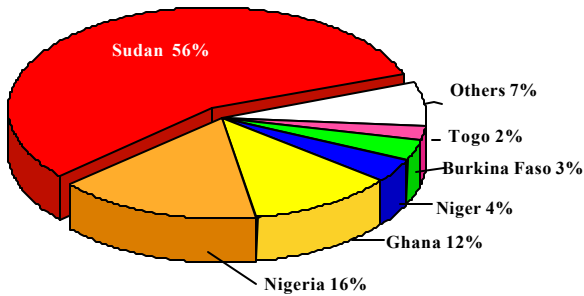


* provisional

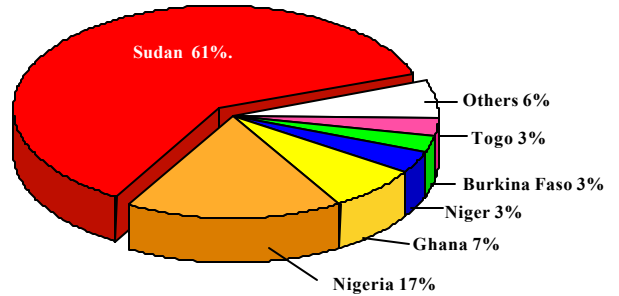
*The Carter Center provided support for printing this special issue in color

Figure 2

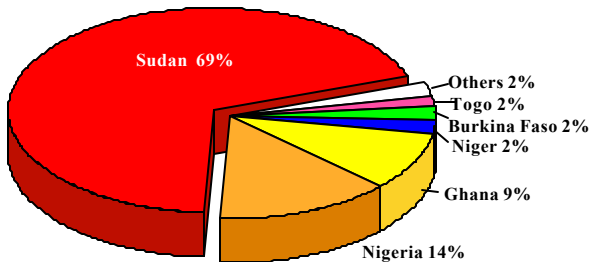
Distribution of 77,852 cases of dracunculiasis reported during 1997



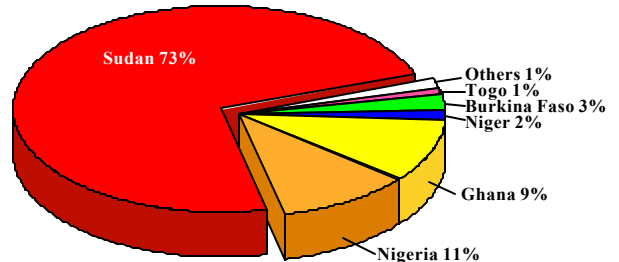
Distribution of 78,522 cases of dracunculiasis reported during 1998



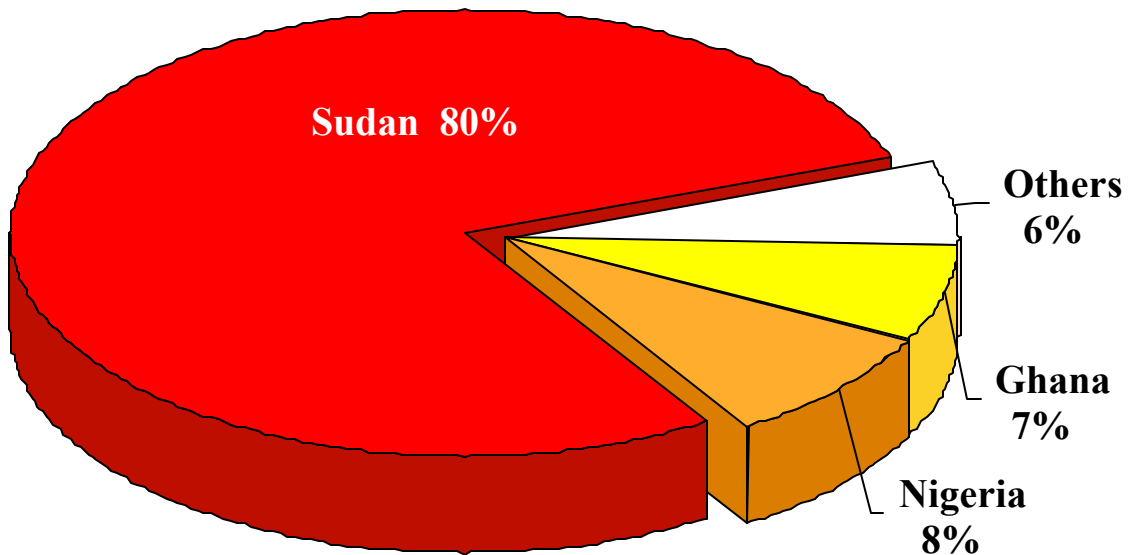
Distribution of 96,262 cases of dracunculiasis reported during 1999



Distribution of 75,120 cases of dracunculiasis reported during 2000



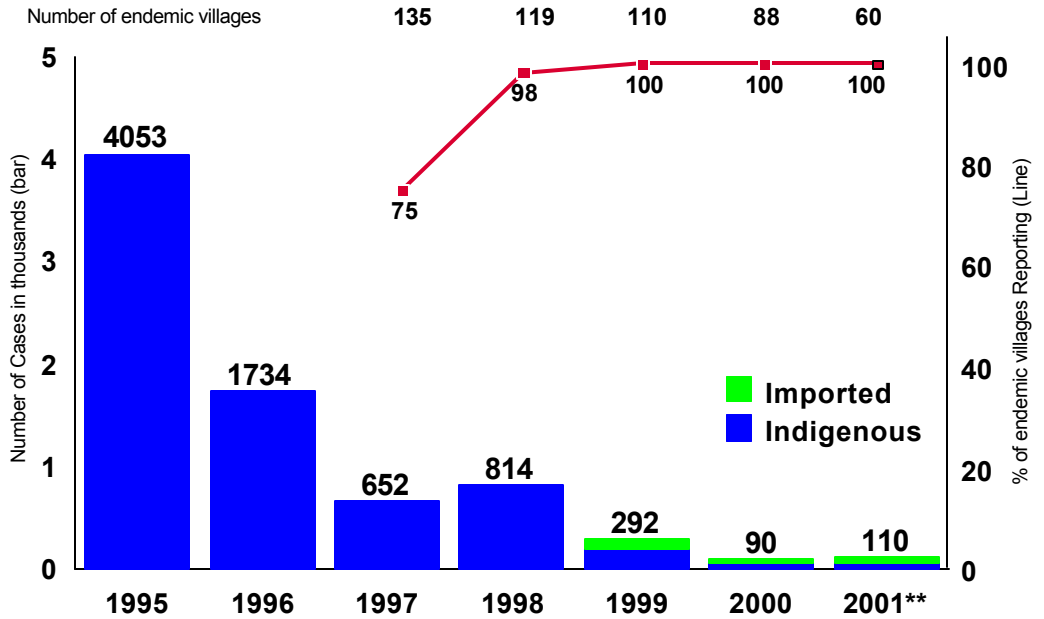
Distribution of 57,551 Cases of Dracunculiasis Reported: Jan. - Oct. 2001*



* Provisoire

Figure 3

Number of Cases of Dracunculiasis Reported (bar) and % of Endemic Villages Reporting (line) from the Northern Endemic States* of Sudan: 1996 - 2001**



*Number of endemic states: 10 in 1996, 8 in 1999, 7 in 2000

** Provisional

Figure 4

Distribution of 45,849 Cases of Dracunculiasis Reported from Sudan: Jan. – Oct. 2001*

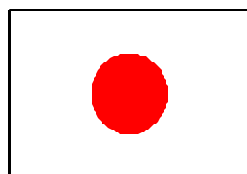


Table 1

Dracunculiasis Cases Exported from Southern Sudan

| | 1997 | 1998 | 1999 | 2000 | 2001* |
|--------------------------|------|------|------|------|-------|
| Northern Sudanese States | ND | ND | 111 | 49 | 47 |
| Neighboring Countries | | | | | |
| Central African Rep. | 0 | 0 | 1 | 2 | 0 |
| Ethiopia | 12 | 6 | 0 | 6 | 19 |
| Kenya | 1 | 7 | 3 | 4 | 7 |
| Uganda | 15 | 162 | 3 | 4 | 4 |

JAPAN PROVIDES MORE HELP FOR SUDAN



JAPAN

The Government of Japan has informed The Carter Center of an additional donation of \$93,000 for the Guinea Worm Program of Sudan. The award to the Carter Center is made under the Grant Assistance for Grassroots Projects program, from the Embassy of Japan in Khartoum. It will be used to purchase and prepare cloth filters for use in areas accessed by the Government of Sudan and by Operation Lifeline Sudan. This is the third such grant for the Sudan Guinea Worm Eradication Program, following previous grants of \$150,000 in 1999 and 2001.

VOICE OF AMERICA BROADCASTS INCREASE



The Voice of America began broadcasting Public Service Announcements (PSAs) by General Yakubu Gowon, former head of state of Nigeria, on Guinea Worm prevention in English (starting December 17) and in Hausa (beginning January 8). The inaugural PSAs by former US President Jimmy Carter began on December 11.

IN BRIEF:

Cote d'Ivoire.



In December, UNICEF/Cote d'Ivoire began drilling 16 borehole wells in Tanda District. The first well was drilled in Broukro-Banon, which was the highest endemic village in the country in 2001, with 38 cases reported in January-November (see last month's issue for Cote d'Ivoire's line-listing of endemic villages). This village of 300 persons previously had no source of safe drinking water. Another well has been completed in Lenagnora, the sixth highest endemic village. Thank you UNICEF!

Ghana.



सत्यमेव जयते

The Embassy of India has donated 31 Mark II hand pumps to complete borehole wells in Saboba-Chereponi and Yendi Districts in Ghana's Northern Region. The wells were drilled by the Church of Christ. Mark II hand pumps were developed and are manufactured in India. Ghana's GWEP and U.S. Peace Corps conducted Worm Weeks in Nanumba (October 6-13), and in East Gonja and West Gonja Districts (October 20-27) late in 2001. These three districts in Northern Region were among the four highest endemic districts in Ghana in 2001, along with Brong Ahafo Region's Atebubu District. The District Assembly in Northern Region's Zabzugu-Tatale District will sponsor a Worm Week there, in February 2002. Of 44 endemic villages in Atebubu District, 15 received new or rehabilitated wells in 2001 as a result of the Gates Foundation grant and the Heisa Company's donation. Those 15 villages reported 812 of Atebubu's 1,891 cases in 2000, and also include 3 of the top 16 endemic villages in Ghana.

Mali. Former head of state General Amadou Toumani Toure led a “*Caravane Ver de Guinee*” on a mobilization visit to the endemic districts of Asongo and Gao in Gao Region and Douentza District in Mopti Region on December 23-29. He met with public health, administrative and political leaders in the districts to discuss the recently discovered outbreak of dracunculiasis in Gao Region, to congratulate authorities in Mopti on their progress, and to help both areas prepare for intensified efforts in 2002. During the tour, General Toure distributed 4 motorcycles for the program in Gao and Ansongo Districts, as well as other supplies. Accompanying General Toure were representatives of the ministries of health, water, and communications, and others from the intersectoral group, WHO/Mali, UNICEF/Mali, the national coordinator, Dr. Issa Degoga, and Global 2000/The Carter Center’s resident representatives in Mali (Dr. Mamadou Bathily) and Niger (Mr. Salissou Kane).

Togo/Benin. These two countries have begun conducting joint interventions in adjacent endemic border areas around Kpatala in Ogou, Togo and Tchetti in Zou, Benin. Health workers from the other country will assist in Abate treatments of water sources on the Benin side on the 19th – 21st of each month and on the Togo side on the 27th – 29th of each month. These two areas have been the locations of outbreaks that setback the respective programs in 2001.

LESSONS FROM INVESTIGATIONS OF IMPORTED CASES: NIGERIA / CAMEROON

Two cases of Guinea worm disease detected in Bama LGA, Borno State, Nigeria illustrate a number of issues confronting Guinea Worm Eradication Programs. The onset of the first incident (Case A) was September 20, 2001 when a person of Nigerian origin and resident in Bama LGA was detected by Nigerian Guinea Worm Eradication Program (NIGEP) staff with an emerging Guinea worm. According to the report, all of the standards for containment of transmission from this person were met and the case declared as contained. However, on October 4th (14 days later) this same person traveled across the border into Cameroon and was detected by the Cameroonian Guinea Worm Eradication Program (GWEP), and considered as an imported case. The second incident (Case B) occurred on October 2, 2001 when a person of Cameroonian origin but resident in Banki Town, Bama LGA, Nigeria, was detected by NIGEP with an emerged Guinea worm. According to the report, all of the standards for containment of transmission from Case B were met and was also declared as contained. However, on October 4th (2 days later) this person also traveled into Cameroon where the GWEP detected the case and considered it as an importation from Nigeria.

Editorial note. It is satisfying that that staff from both the Nigerian and Cameroonian GWEPs were alert and detected these cases promptly. Both of these cases were discussed by the Cameroon and Nigeria GWEPs during their monthly cross-border meeting and were eventually judged not to have been imported into Cameroon, as both had already been detected and cared for by the Bama LGA NIGEP staff. Although it is highly unlikely that the emergent Guinea worm of Case A contained any viable first-stage larvae by the time (14 days) this person was detected in Cameroon, it is striking that this person traveled with an emergent Guinea worm and despite the counseling provided by NIGEP during the containment process. Case B is of greater concern, as this person traveled to Cameroon only 2 days after being detected in Nigeria. Evidently, Case B traveled before the containment process was completed. Both incidents underscore the current weakness of the case containment strategy as persons with emerged Guinea worms are allowed to ambulate at their will after detection and initial occlusive bandages and counseling are provided. There is now an imperative need for national GWEPs to find effective ways of ensuring that patients with emergent Guinea worms are not able to contaminate sources of drinking water nor travel anywhere until the emergent Guinea worm(s) are manually pulled out. Both incidents also underscore the importance of determining the probable origin of any imported cases, be they from another country or from another area within the same country, of prompt cross-notification, and determining when and where that person was infected, i.e., when and where the disease transmission episode occurred.

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 | | | | | | | | | | | | | % |
|---------------|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|---------------|-----|
| | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | TOTAL* | |
| SUDAN | 897 / 2423 | 1121 / 2296 | 959 / 2321 | 1393 / 3278 | 2096 / 5488 | 3376 / 7209 | 4116 / 7581 | 3035 / 5719 | 3581 / 6864 | 1606 / 2670 | / | / | 22180 / 45849 | 48 |
| NIGERIA | 675 / 1044 | 621 / 1031 | 423 / 730 | 170 / 270 | 208 / 250 | 214 / 323 | 247 / 371 | 245 / 332 | 143 / 195 | 111 / 147 | 207 / 283 | 237 / 368 | 3501 / 5344 | 66 |
| GHANA | 631 / 906 | 673 / 954 | 269 / 543 | 347 / 474 | 267 / 379 | 177 / 208 | 77 / 105 | 60 / 63 | 35 / 39 | 92 / 134 | 262 / 438 | 337 / 495 | 3227 / 4738 | 68 |
| BURKINA FASO | 18 / 20 | 25 / 29 | 35 / 37 | 38 / 61 | 117 / 189 | 141 / 197 | 89 / 126 | 64 / 75 | 72 / 108 | 93 / 114 | 51 / 61 | 6 / 7 | 749 / 1024 | 73 |
| NIGER | 1 / 2 | 2 / 2 | 0 / 0 | 1 / 2 | 9 / 13 | 7 / 12 | 33 / 62 | 53 / 101 | 58 / 105 | 40 / 66 | 20 / 33 | 13 / 19 | 237 / 417 | 57 |
| TOGO | 111 / 122 | 61 / 89 | 67 / 79 | 43 / 48 | 16 / 24 | 25 / 54 | 25 / 51 | 26 / 55 | 21 / 43 | 135 / 314 | 162 / 274 | 109 / 166 | 801 / 1319 | 61 |
| MALI | 3 / 6 | 0 / 0 | 0 / 0 | 0 / 0 | 1 / 2 | 1 / 2 | 21 / 55 | 114 / 193 | 88 / 134 | 57 / 181 | 53 / 74 | 27 / 35 | 365 / 682 | 54 |
| COTE D'IVOIRE | 18 / 40 | 18 / 60 | 11 / 38 | 5 / 6 | 4 / 11 | 7 / 8 | 4 / 5 | 8 / 9 | 8 / 8 | 0 / 0 | 14 / 14 | 32 / 32 | 129 / 231 | 56 |
| BENIN | 12 / 17 | 13 / 14 | 7 / 7 | 3 / 3 | 1 / 1 | 0 / 0 | 1 / 1 | 0 / 0 | 6 / 6 | 8 / 8 | 70 / 70 | 42 / 44 | 163 / 171 | 95 |
| MAURITANIA | 1 / 1 | 0 / 0 | 1 / 1 | 0 / 0 | 0 / 1 | 3 / 3 | 17 / 25 | 7 / 21 | 15 / 29 | 3 / 7 | 0 / 1 | / | 47 / 89 | 53 |
| UGANDA | 0 / 0 | 0 / 0 | 0 / 0 | 3 / 3 | 6 / 19 | 15 / 17 | 5 / 9 | 1 / 1 | 3 / 4 | 1 / 1 | 1 / 1 | 0 / 0 | 35 / 55 | 64 |
| ETHIOPIA ** | 0 / 0 | 0 / 0 | 0 / 0 | 1 / 1 | 2 / 5 | 4 / 7 | 1 / 2 | 2 / 3 | 5 / 5 | 4 / 4 | 1 / 2 | 0 / 0 | 20 / 29 | 69 |
| C.A.R. | 0 / 0 | 0 / 0 | 0 / 0 | 0 / 1 | 0 / 1 | 2 / 5 | 2 / 4 | 1 / 1 | 0 / 1 | / | / | / | 5 / 13 | 38 |
| KENYA | 0 / 0 | 0 / 0 | 0 / 0 | 1 / 1 | 0 / 0 | 1 / 1 | 1 / 1 | 4 / 4 | / | / | / | / | 7 / 7 | 100 |
| TOTAL* | 2367 / 4581 | 2534 / 4475 | 1772 / 3756 | 2005 / 4148 | 2727 / 6383 | 3973 / 8046 | 4639 / 8398 | 3620 / 6577 | 4035 / 7541 | 2150 / 3646 | 841 / 1251 | 803 / 1166 | 31466 / 59968 | 52 |
| % CONTAINED | 52 | 57 | 47 | 48 | 43 | 49 | 55 | 55 | 54 | 59 | 67 | 69 | 52 | |

* PROVISIONAL

** 1 case reported in April, 5 cases in May, 6 in June, 2 in July, 5 in September, 4 in October, and 2 in November were imported from Sudan. Shaded cells denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were reported that month.

Table 3

Uganda Guinea Worm Eradication Program Status of Program Interventions: January – November 2001

| DISTRICT | SUBCOUNTY | PARISH | VILLAGE | Jan - Dec 2001 | | # of Households | Filter Coverage | | Pond Treatment | | Safe Water Source | |
|----------|-------------|-------------|-----------------------|----------------|-------------|-----------------|-----------------|------------|----------------|-----------|-------------------|--------------|
| | | | | # Cases | # Contained | | # Distributed | % Coverage | # Targetted | # Treated | # Total | # Functional |
| Kotido | Panyangara | Loletio | Rikitac | 31 | 16 | 284 | 568 | 100 | 10 | 10 | 1 | 1 |
| Kotido | Panyangara | Loletio | Illa/Nawuapoet | 12 | 7 | 278 | 556 | 100 | 9 | 9 | 1 | 1 |
| Kitgum | Paiule | Ogole | Jaka central | 1 | 1 | 108 | 108 | 100 | 1 | 1 | 2 | 2 |
| Arua | Olupi | Lugbari | IMVEPI Refugees camp* | 1 | 1 | | | | | | | |
| Moroto | Ngoleriet | Nawaikorot | Lomerimong | 1 | 1 | 140 | 280 | 100 | 3 | 3 | 1 | 1 |
| Moroto | Namalu | Loperot | Naabore* | 1 | 1 | 150 | 300 | 100 | 0 | 0 | 0 | 0 |
| Moroto | Nabilatuk | Kosike | Natengerebet | 1 | 1 | 209 | 418 | 100 | 0 | 0 | 0 | 0 |
| Arua | Midia | | Ombachi* | 1 | 1 | | | | | | | |
| Moroto | Matany | Morulinga | Lomariamong* | 1 | 1 | 356 | 700 | 100 | 5 | 5 | 1 | 1 |
| Moroto | Lolachat | Lotaruk | Namoni | 1 | 1 | 150 | 300 | 100 | 6 | 6 | 0 | 0 |
| Arua | Koboko Town | Nyangilia | Gbukutu Prisons* | 1 | 1 | | | | | | | |
| Masindi | Kirvandongo | Kirvandongo | Nvinea 2* | 1 | 1 | | | | | | | |
| Gulu | Atiak | Pupwonya | Pairo* | 1 | 1 | 97 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gulu | Atiak | Pacilo | Akanonguti | 1 | 1 | 65 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | 55 | 35 | 1837 | 3230 | | 34 | 34 | 6 | 6 |

* "At risk villages"

Table 4

Ethiopia Guinea Worm Eradication Program Status of Interventions by Village: January – December 2001

| Woreda / Region | Village | No. of households | No. of new cases | No. of cases contained | No. of filters distributed | No. of ponds treated | No. of safe water points | No. of health education sessions | Medical kits | Supervision Month | Comments |
|---------------------|------------|-------------------|------------------|------------------------|----------------------------|----------------------|--------------------------|----------------------------------|--------------|-------------------|---------------------|
| Refugee Camps | | | | | | | | | | | |
| Gambella / Gambella | Bonga | 15,000 | 2* | 0 | 0 | 0 | 14 | | | | |
| Gog / Gambella | Pugnido | 30,000 | 9* | 8 | 0 | 49 | 17 | | | | |
| Dima / Gambella | Dima | 14,000 | 2* | 0 | 0 | 0 | | | | | treated river water |
| Itang / Gambella | Pelang | 110 | 3* | 1 | 210 | 0 | 1 | 4 | 1 | 1 | |
| Gambella / Gambella | Apen | 140 | 1 | 0 | 400 | 0 | 1 | 4 | 1 | 1 | |
| Abobo / Gambella | Chuckchala | 108 | 1 | 1 | 235 | 9 | 0 | 4 | 1 | 1 | |
| Gog / Gambella | Dembong | 75 | 1 | 1 | 177 | 7 | 0 | 4 | 1 | 1 | |
| Gog / Gambella | Akumed | 65 | 1 | 1 | 185 | 16 | 1 | 4 | 1 | 1 | |
| Gog / Gambella | Awukoul | 68 | 1 | 1 | 226 | 16 | 1 | 4 | 1 | 1 | |
| Gog / Gambella | Chavnack | 37 | 1 | 1 | 115 | 19 | 0 | 4 | 1 | 1 | |
| Gog / Gambella | Kutbudi | 53 | 1 | 1 | 120 | 0 | 0 | 4 | 1 | 1 | |
| Gog / Gambella | Metaget D. | 103 | 1 | 1 | 136 | 14 | 0 | 4 | 1 | 1 | |
| Gog / Gambella | Utuvu | 65 | 1 | 1 | 319 | 35 | 0 | 4 | 1 | 1 | |
| Gog / Gambella | Wichini | 36 | 1 | 1 | 210 | 25 | 0 | 4 | 1 | 1 | |
| Kuraz / S. Omo | Lopiding | 27 | 1* | 1 | 241 | 0 | 0 | 4 | 1 | 1 | |
| Kuraz / S. Omo | Toro | 59 | 1* | 1 | 335 | 0 | 0 | 4 | 1 | 1 | |
| Kuraz / S. Omo | Kakerziang | 608 | 1* | 1 | 1340 | 3 | 0 | 4 | 1 | 1 | |
| | | 60554 | 29 | 21 | 4249 | 193 | 35 | | 14 | | |

* Imported from Sudan

Table 5

Status by Country of Interventions Against Dracunculiasis in 2001*

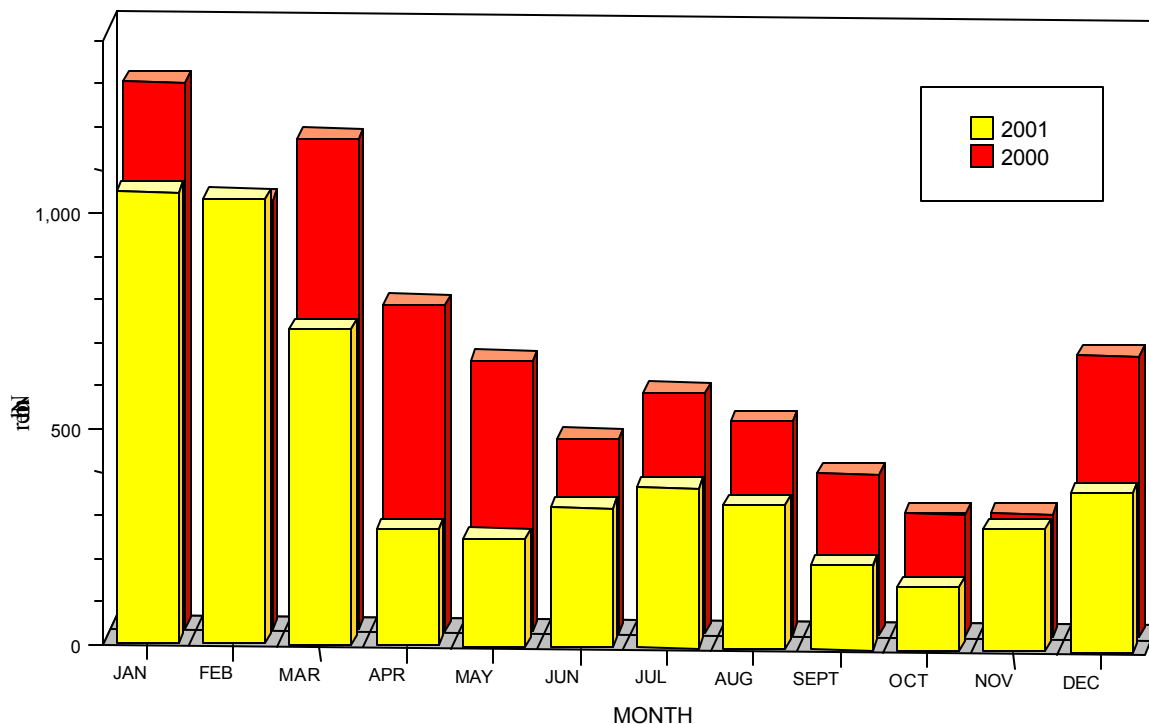
| Country | Month of Report | # Villages reporting 1+ cases in 2001 | % of Endemic Villages | | | | | |
|------------------|-----------------|---------------------------------------|-----------------------|----------------------|-------------|----------------------|-------------|--------------------|
| | | | Reporting Monthly | 100% hh with Filters | Using Abate | 1+ source safe water | H.E. & C.M. | % Case Containment |
| Sudan | Sept | 3238 | 43% | 32% | 1% | 45% | 54% | 48% |
| Nigeria | Nov | 695 | 97% | 84% | 54% | 45% | | 66% |
| Ghana | Oct | 537 | 99% | 74% | 6% | 43% | 63% | 73% |
| Burkina Faso | Sept | 125 | 88% | 100% | 87% | 78% | | 71% |
| Togo | Sept | 112 | 100% | 100% | 100% | 52% | | 61% |
| Mali | Sept | 73 | 92% | 88% | 15% | NR | | 50% |
| Niger | Sept | 54 | 100% | 100% | 78% | 25% | | 56% |
| Cote d'Ivoire | Sept | 26 | 100% | 100% | 73% | 89% | | 45% |
| Mauritania | Sept | 21 | 100% | 100% | 43% | 76% | | 55% |
| Uganda | Nov | 14 | 100% | 100% | 43% | 43% | | 64% |
| Benin | Sept | 19 | 94% | 58% | 74% | 79% | | 89% |
| Ethiopia | Sept | 15 | 100% | 75% | 75% | 45% | 100% | 74% |
| Central Af. Rep. | Sept | 8 | | | | | | 34% |
| Total | | 4937 | 59% | | | | | |

* Provisional

H.E. & C.M. = Health education and community mobilization

Figure 5

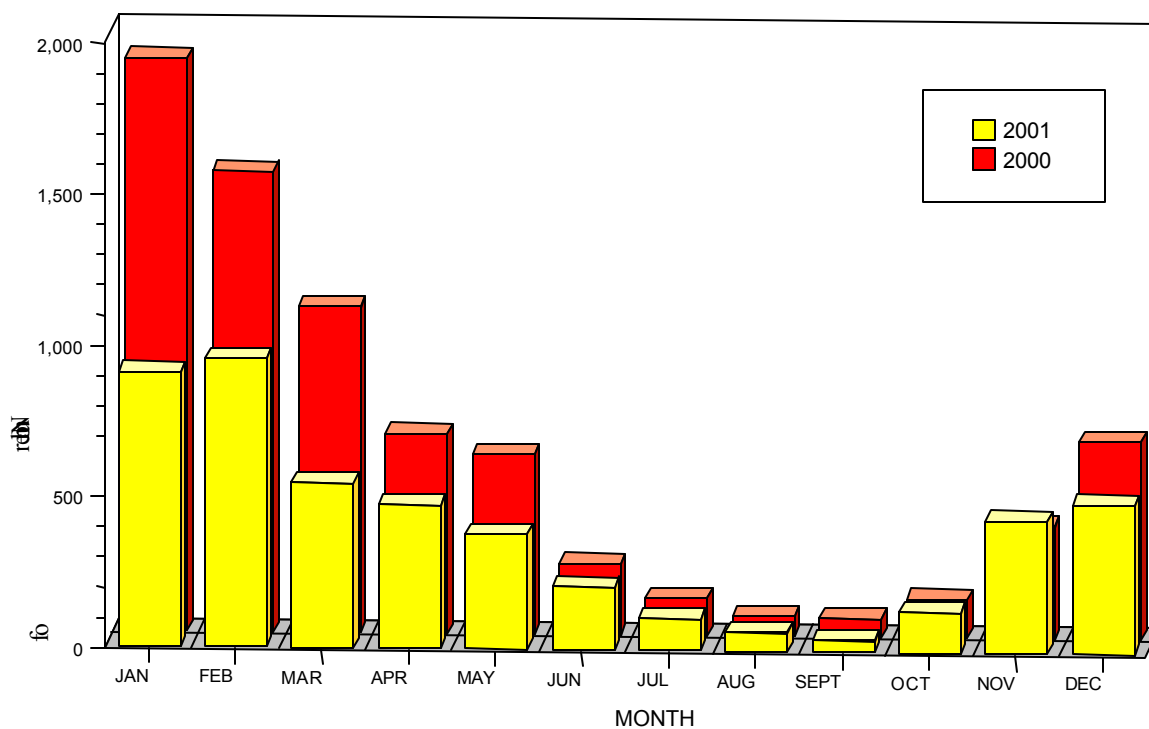
NIGERIA GUINEA WORM ERADICATION PROGRAM
MONTHLY DISTRIBUTION OF CASES OF DRACUNCULIASIS REPORTED DURING 2000 - 2001*



* Provisional

Figure 6

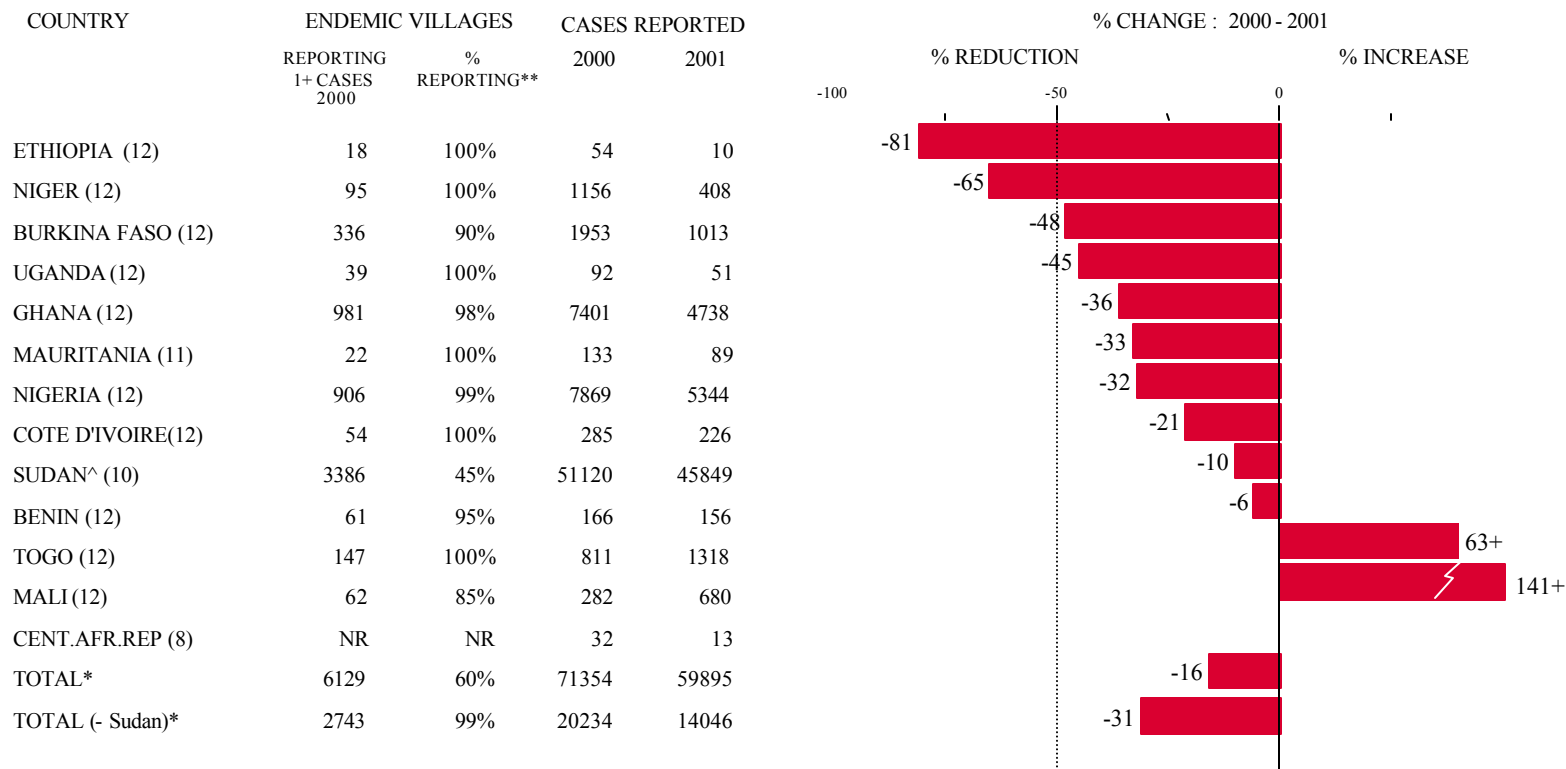
GHANA GUINEA WORM ERADICATION PROGRAM
MONTHLY DISTRIBUTION OF CASES OF DRACUNCULIASIS REPORTED DURING 2000 - 2001*



* Provisional

Figure 7

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



* provisional

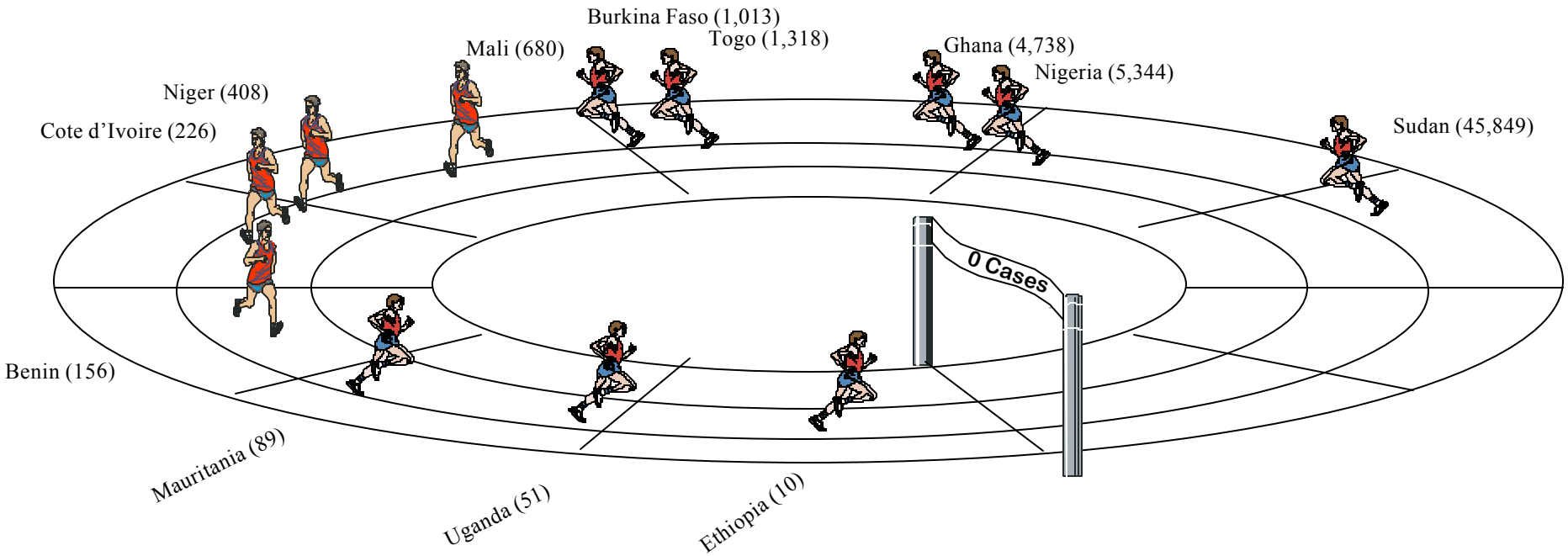
** 2,523 (31%) of 8,269 endemic villages are not accessible to the program

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

NR No Report

Figure 8

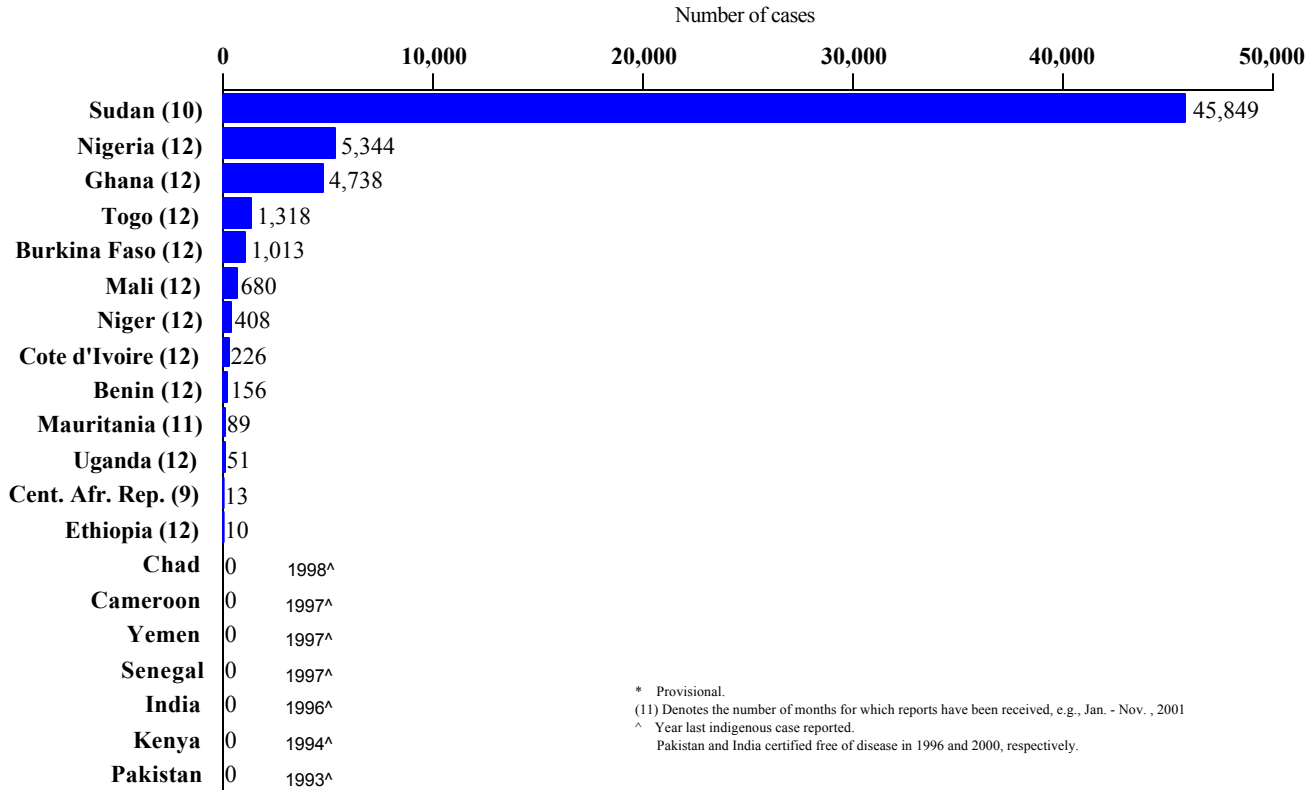
GUINEA WORM RACE: 2001*



* Indigenous cases. Provisional Data.

Figure 9

Distribution by Country of 59,895 Indigenous Cases of Dracunculiasis Reported: 2001*



RECENT PUBLICATIONS

Eberhard ML, Melemoko G, Zee AK, Weisskopf MG, Ruiz-Tiben E. Misidentification of *Onchocerca volvulus* as guinea worm. *Annals of Tropical Medicine & Parasitology*. 95(8):821-6, 2001 December.

Carter, J. Challenges for Humanity: A Beginning. *National Geographic* February 2002, pp.2-3.

Weiss, R; Kasmauski, K. Challenges for Humanity: War on Disease. *National Geographic* February 2002, pp.4-31.

*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.