



**Table 1**

**REPORTED CASES OF DRACUNCULIASIS BY COUNTRY DURING 1993  
(COUNTRIES ARRANGED IN DESCENDING ORDER OF INCIDENCE IN 1992)**

COUNTRY	ANNUAL INCIDENCE (1992)	NUMBER OF CASES REPORTED DURING 1993												ANNUAL INCIDENCE (1993)
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
NIGERIA	183 169 <sup>b</sup>	8 734	9 321	9 087	8 114	7 290	8 827	8 132	5 671	3 642	2 573	2 082	2 269	75 762 <sup>b</sup>
UGANDA	123 369 <sup>a</sup>	5 607	4 733	3 762	4 617	3 922	4 028	4 787	3 739	2 774	2 824	1 118	951	42 862 <sup>b</sup>
GHANA	33 464 <sup>b</sup>	3 482	2 893	2 930	1 990	1 625	1 046	693	379	284	606	1 078	912	17 918 <sup>b</sup>
BURKINA FASO	11 784	925	256	134	81	129	703	1 739	2 654	615	323	648	74	8 281 <sup>b</sup>
TOGO	8 179 <sup>b</sup>	1 242	1 374	842	667	472	482	762	715	941	1 124	995	798	10 394 <sup>b</sup>
BENIN	4 315	...	...	...	...	...	...	...	...	...	...	...	...	13 887
SUDAN	2 447 <sup>a</sup>	...	...	...	...	...	...	...	...	...	...	...	...	2 984
MAURITANIA	1 557	...	...	...	...	...	...	...	...	...	...	...	...	3 533
INDIA	1 081 <sup>c</sup>	4	9	10	56	100	96	76	116	118	140	17	13	765 <sup>c</sup>
SENEGAL	728	...	...	...	...	...	105	335	108	35	47	0	0	630 <sup>b</sup>
NIGER	500	...	...	...	...	...	...	...	...	...	...	...	...	21 664
ETHIOPIA	303 <sup>a</sup>	...	...	...	...	...	...	...	...	...	...	...	...	1 120 <sup>a</sup>
CHAD	156 <sup>a</sup>	...	...	...	...	...	...	...	...	...	...	...	...	1 231
CAMEROON	127 <sup>b</sup>	0	0	3	0	3	5	12	24	18	5	1	1	72 <sup>b</sup>
PAKISTAN	23 <sup>b</sup>	0	0	0	0	0	1	0	0	0	1	0	0	2 <sup>b</sup>
COTE D'IVOIRE	...	...	...	...	54	1 352	255	201	229	2 578	1 230	887	1 248	8 034 <sup>b</sup>
MALI	...	...	...	...	...	...	...	...	...	...	...	...	...	12 011
KENYA	...	...	...	...	...	...	...	...	...	...	...	...	...	36 <sup>a</sup>
TOTAL	374 202													221 055

FROM PASSIVE REPORTING AND/OR AREA LIMITED SEARCHES UNLESS OTHERWISE INDICATED

<sup>A</sup> PROVISIONAL RESULTS, NATIONAL CASE SEARCH UNDERWAY

<sup>B</sup> VILLAGE-BASED REPORTING OF CASES

<sup>C</sup> THREE ANNUAL CASE SEARCHES AND INTERIM CASE REPORTS.

... NO DATA AVAILABLE

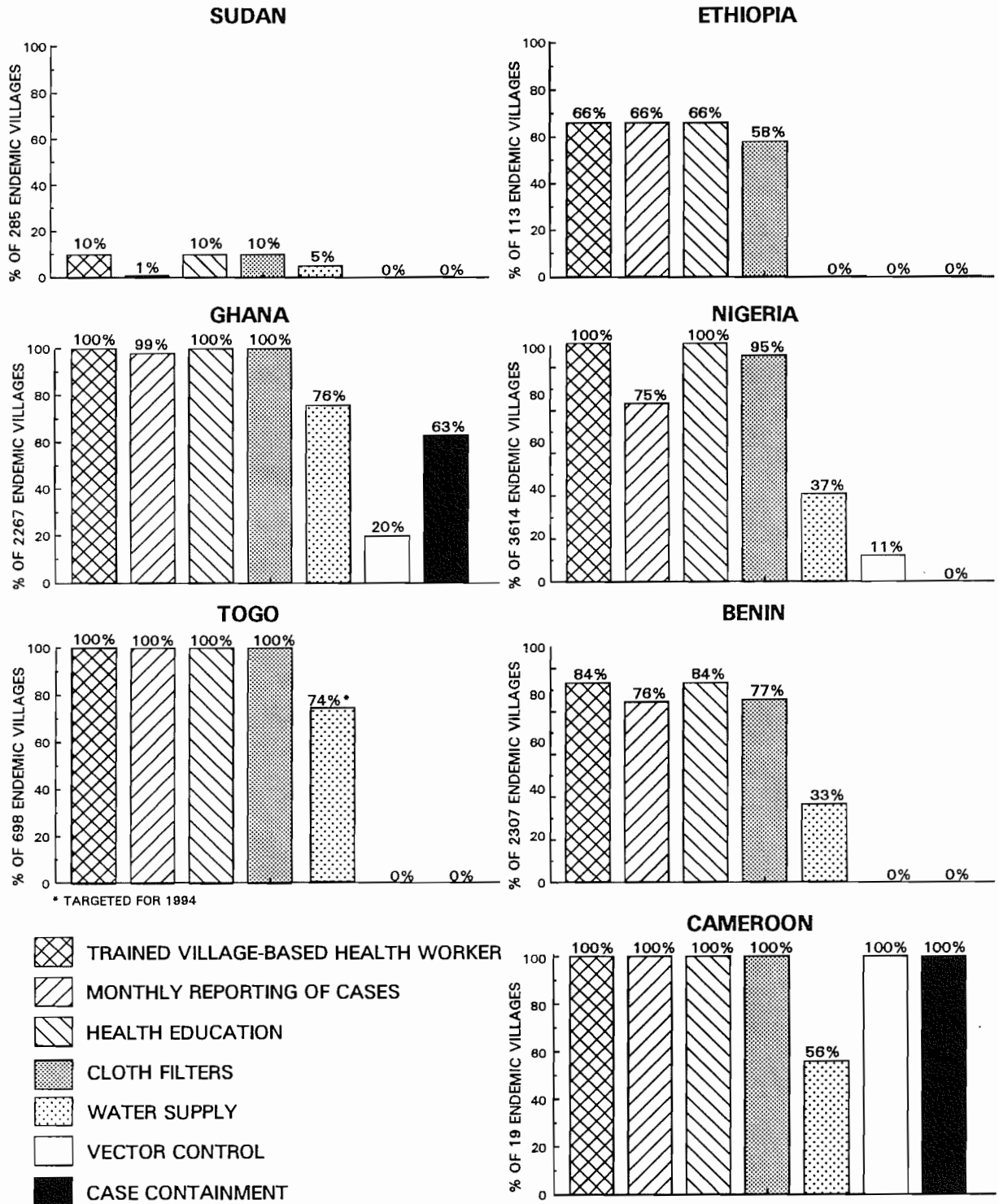
**Table 2**

REPORTED CASES OF DRACUNCULIASIS BY COUNTRY DURING 1994  
(COUNTRIES ARRANGED IN DESCENDING ORDER OF INCIDENCE IN 1993)

COUNTRY	ANNUAL INCIDENCE IN 1993	NUMBER OF CASES REPORTED DURING 1994												TOTAL*				
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC					
NIGERIA	75,762	4106																
UGANDA	42,852	865	557															
NIGER	21,664																	
GHANA	17,918	834*	494*															
BENIN	13,887	453*	427*															
MALI	12,011	87	122	56*														
TOGO	10,349	293	315															
BURKINA FASO	8,281	61	172															
COTE D'IVOIRE	8,034	435	133															
MAURITANIA	3,533	0	0															
SUDAN	2,984																	
CHAD	1,231	1	24															
ETHIOPIA	1,120 <sup>e</sup>																	
INDIA	755																	
SENEGAL	630																	
CAMEROON	72	0	0															
KENYA	35 <sup>e</sup>																	
PAKISTAN	2	0	0															
TOTAL	221,055																	

<sup>e</sup> PROVISIONAL RESULTS, NATIONAL CASE SEARCH UNDERWAY  
\* INCOMPLETE/PROVISIONAL

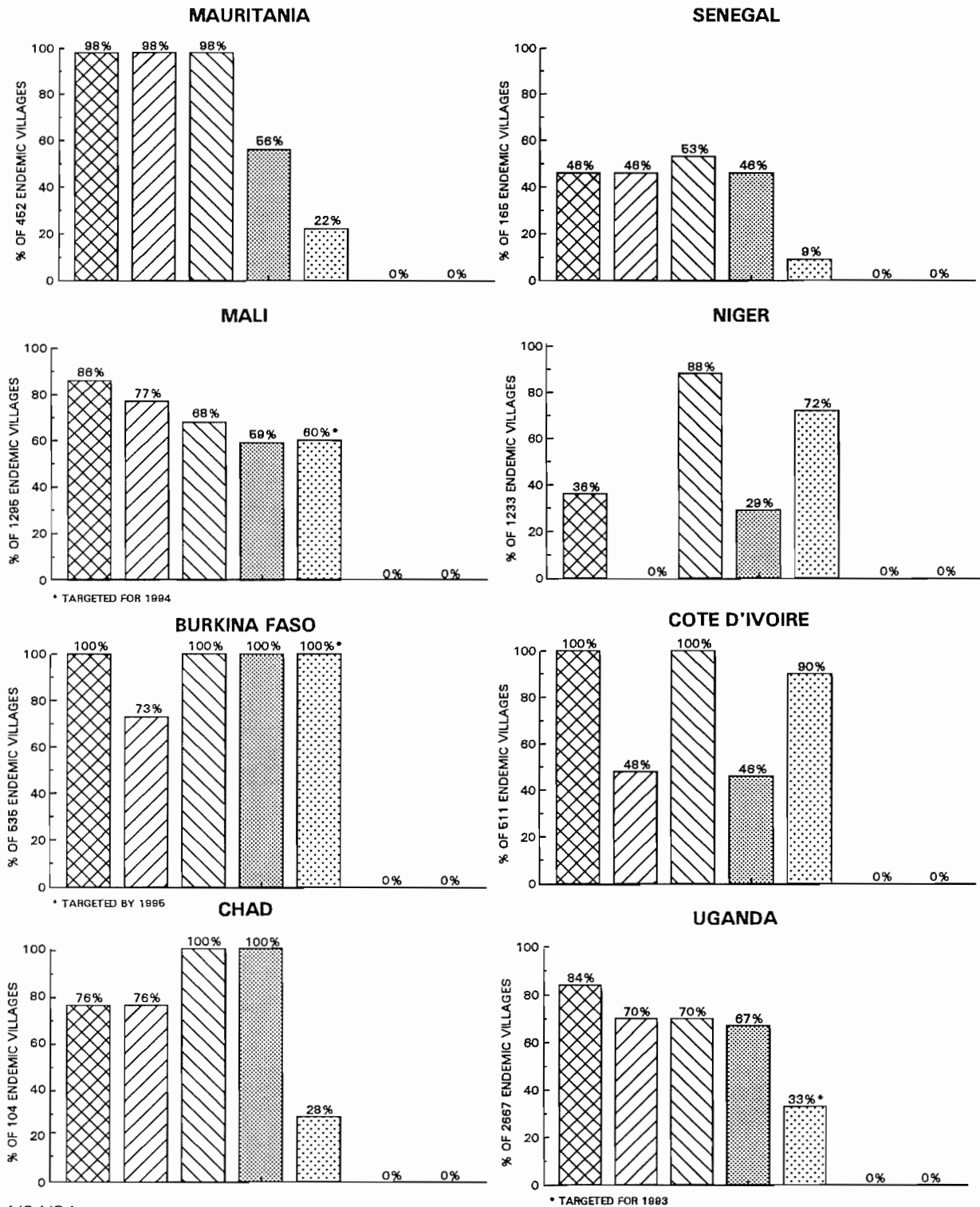
**Figure 1 STATUS OF INTERVENTIONS: MARCH 1994**



4/04/94

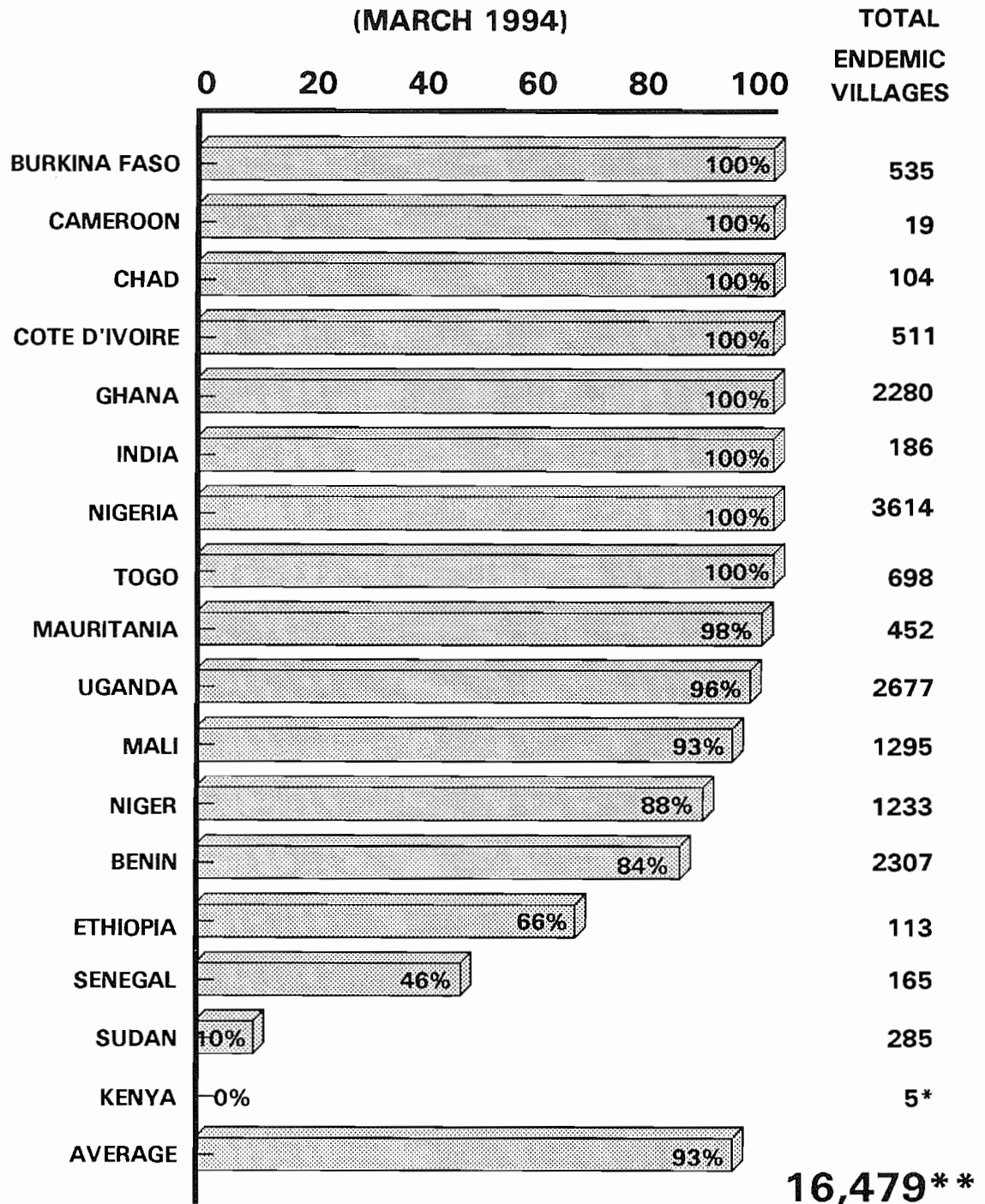
Figure 1

**STATUS OF INTERVENTIONS: MARCH 1994**



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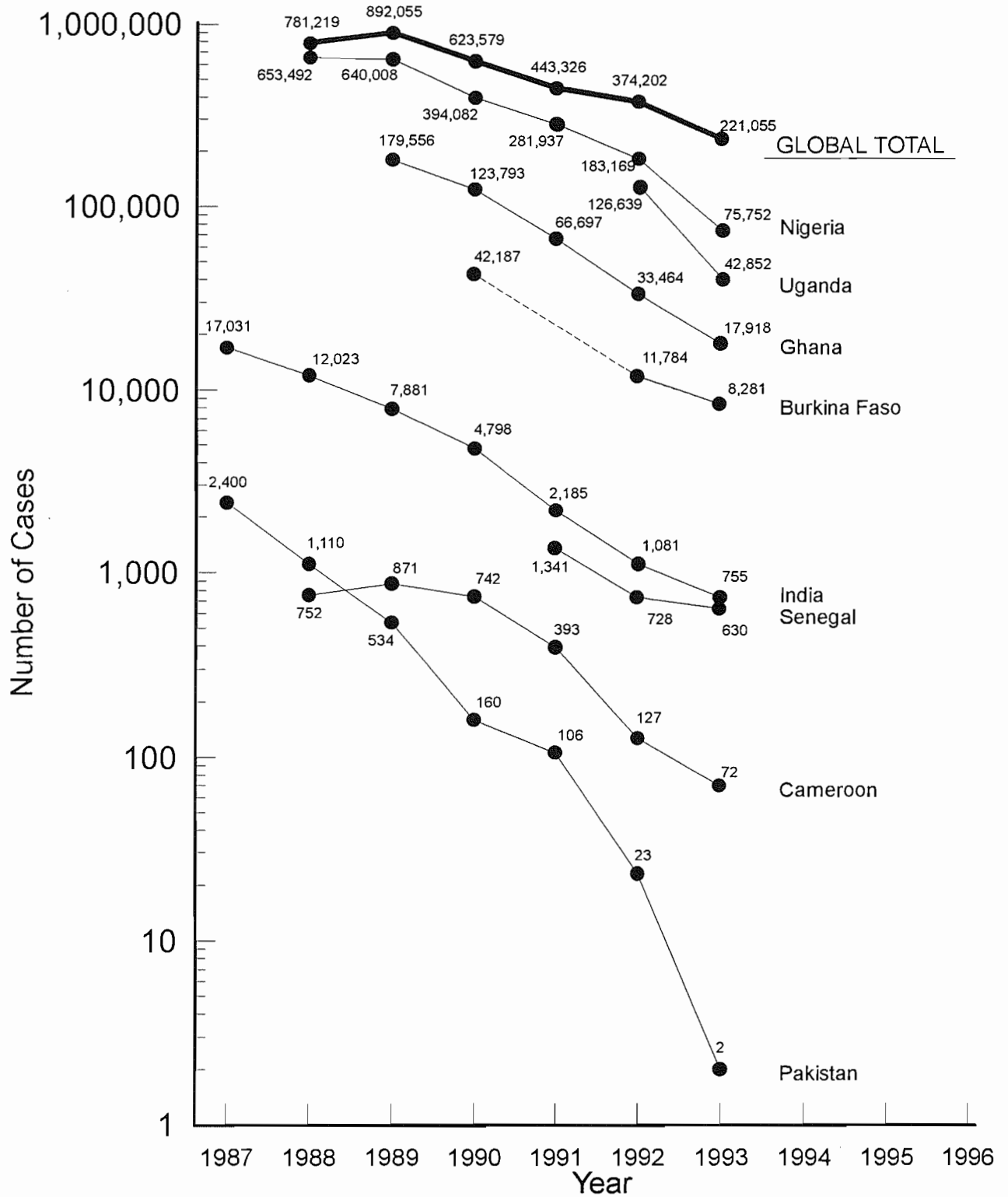
**Figure 2 PERCENTAGE OF VILLAGES WITH ENDEMIC DRACUNCULIASIS HAVING ONE OR MORE CONTROL INTERVENTIONS (MARCH 1994)**



\* Provisional results, national case search underway.

\*\* Only one village with endemic dracunculiasis (2 cases) remained in Pakistan in 1993.

Figure 3 DECLINE OF DRACUNCULIASIS CASES: 1987 - 1993



**MALI: JAPAN TO PROVIDE 500 WELLS FOR DRACUNCULIASIS ERADICATION**



On February 9, Japan's ambassador to Mali, Mr. Takeshi Nakamura, presented the chairman of Mali's Intersectorial Committee for Dracunculiasis Eradication, General Amadou Toumani Toure, a check for four billion CFA francs (approximately US\$6.7 million), to support the construction of 500 wells by the Japan International Cooperation Agency to provide safe drinking water in endemic areas of Mali, beginning in 1994. General Toure thanked the Government of Japan for its generous support, noting that "He who gives water gives life". In addition to recent impressive increases in other interventions, the eradication program in Mali published in March the first issue of its newsletter, Drac-Info, to help disseminate information about the program during this "pivotal year" (annee charniere) of 1994. Local Lions Clubs also donated to the program 1000 bolts of a special "guinea worm cloth" which includes the Lions Club's logo, as well as guinea worm messages and drawings, in the attractive design.

**CHAD: SEARCH COMPLETED, INTERVENTIONS BEGUN**

The accelerated search of remaining suspected endemic areas, which began in Chad in December 1993 and was reported in Guinea Worm Wrap-Up #42, was completed in March 1994. The results are given in the following table:

<u>Prefecture</u>	<u># of Cases</u>	<u>Endemic Villages</u>
Chari Baguirmi	4	4
Mayo Kebbi	157	47
Lac	0	0
Logone Occidental	6	5
Logone Oriental	0	0
Guera	288	4
Tandjile	0	0
Moyen Chari	388	9
Salamat	388	37
<hr/>		
TOTAL (CHAD)	1,231	106



Two areas of Logone Orientale were not searched because of security problems there. Sample surveys confirmed the accuracy of the search results. In a uniquely efficient approach, the search teams also began implementing control measures (orientation of village-based health worker, health education, distribution of cloth filters) in affected villages as soon as each endemic village was discovered (Figures 1 & 2). This program plans to have full-scale interventions, including vector control, in place this year before the peak transmission season begins around June 1.

**NIGERIA: FEWER ENDEMIC VILLAGES**

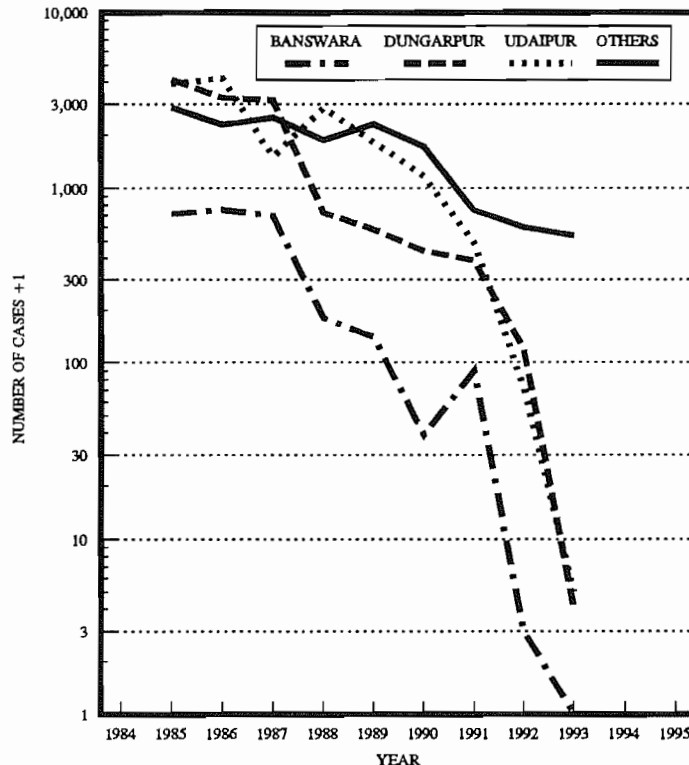
Nigeria, which in 1993 had some 6,317 villages under surveillance and with various control measures against dracunculiasis, is now focusing its attention on the 3,614 villages which are known to have had at least one case of the disease during 1993, as of January 1, 1994. Additional villages that are found to be endemic during 1994 will be added to the list of endemic villages as appropriate each month. The number of cases reported in Nigeria in 1993 was 75,752, a reduction of 63% from the revised official total of 202,917 cases reported by Nigeria for 1992. Provisional number of cases reported for Nigeria in January 1994 is 4,106, a reduction of 49% from the January 1993 total (Figure 5). Appeal by the Kano State Guinea Worm Eradication Program in January raised 3.4 million naira (about US\$155,000) for that state's activities. In March, Nigeria and Ethiopia participated in an hour long interactive WorldNet broadcast from Washington, with Dr. Donald Hopkins and Mr. Craig Withers of Global 2000.

**INDIA:  
31% REDUCTION IN CASES**

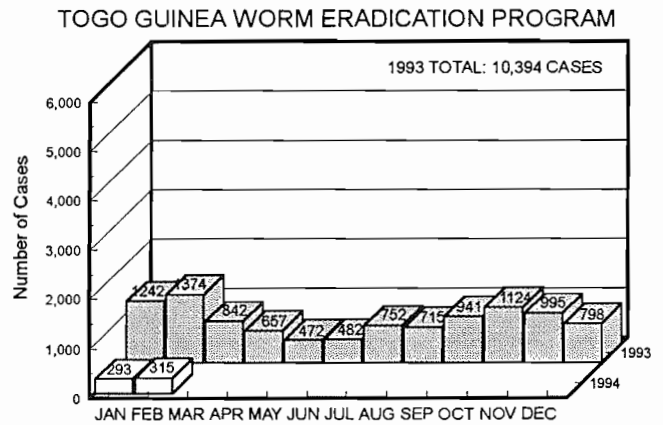
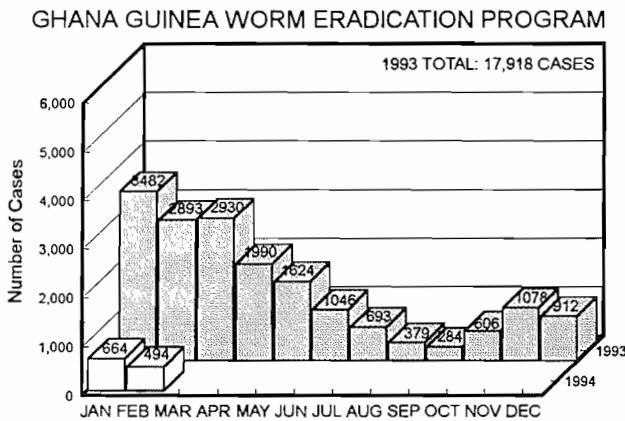
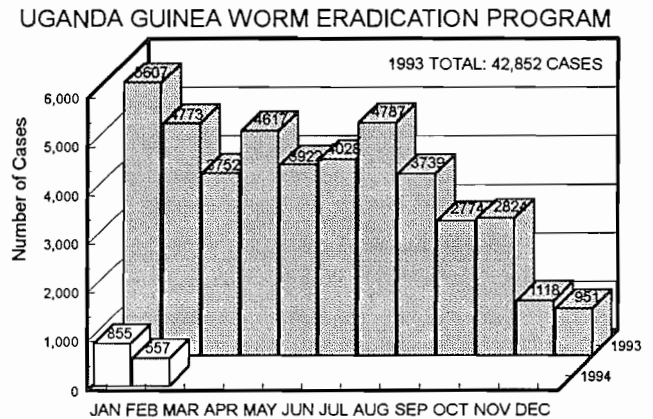
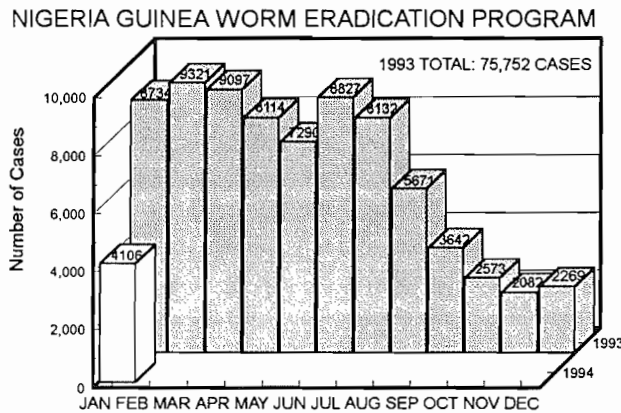
India convened the 16th meeting of its national Task Force in Delhi on January 18-19, 1994, to review the results of the Guinea Worm Eradication Program's activities in 1993. A total of 755 cases were reported in 186 endemic villages for the entire country: 547 cases in Rajasthan, 179 in Madhya Pradesh, and 29 in Karnataka. This is a reduction of only 31% in the number of cases in India between 1992 and 1993 (Figure 3). Fully 86% of the cases are in only three districts: Jodhpur, Rajasthan (44%), Dhar, Madhya Pradesh (23%), and Nagaur, Rajasthan (19%). The differences in rates of reduction of the disease in parts of Rajasthan are shown in Figure 4.

**Figure 4**

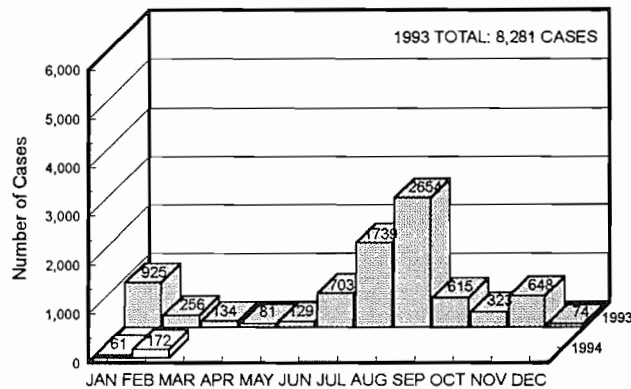
IMPACT OF CASE-CONTAINMENT STRATEGY ON THE INCIDENCE OF DRACUNCULIASIS CASES IN BANSWARA, DURGARPUR, AND UDIPUR DISTRICTS IN RAJASTHAN, INDIA, COMPARED WITH OTHER ENDEMIC DISTRICTS IN THE SAME STATE



**Figure 5 NUMBER OF CASES OF DRACUNCULIASIS REPORTED IN NIGERIA, UGANDA, GHANA, TOGO, AND BURKINA FASO: 1993 - 1994**



**BURKINA FASO GUINEA WORM ERADICATION PROGRAM**



### **GHANA: 47% REDUCTION IN CASES**

Ghana reduced its total number of cases to 17,918 in 1993, a reduction of 46.5% from 1992 (Figure 3). The reduction in the number of endemic villages during the same period was 28.4% (to 2,280 endemic villages during 1993, including 520 newly endemic villages which did not report any case in 1992 but were found to have one or more cases in 1993. Although the average rate of reporting on time from endemic villages in Ghana in 1993 was over 98%, civil disturbances in endemic areas of the Northern Region early in 1994 reduced the provisional rates of reporting for the country to 53% and 55% in January and February 1994, respectively (Figure 5).

### **BURKINA FASO: DECLINING CASES AND ENDEMIC VILLAGES**

Burkina Faso has reportedly reduced the total number of known endemic villages in that country from 2,621 villages at the time of the case search in 1990, to 535 endemic villages in 1993. Whereas all of the country's 30 provinces reported at least one case in 1990, 5 provinces had no cases reported in 1993. (Figure 5).

### **IN BRIEF:**

Cameroon reports that it began containment measures within 24 hours for 60% of the cases which occurred there in 1993. In April, Cameroon officially notified Nigeria of five cases of dracunculiasis that were detected in Cameroon in August-December 1993, and which apparently originated in Borno State, Nigeria.

Uganda reduced its incidence of dracunculiasis significantly between 1992 and 1993, and additional reductions are already manifest in January and February 1994 as compared to the previous January and February (Figure 5). The program plans to convene a national conference in June.

### **RECENT PUBLICATIONS**



Abdel-Hameed AA, Ahmed A-GM, Elturabi MK, Mohamedani AA, Magzoub MEMA, 1993. An outbreak of dracunculiasis in central Sudan. *Ann Trop Med Parasitol*, 87:571-577.

CDC, 1994. Update: dracunculiasis eradication-Mali and Niger, 1993. *MMWR*, 43:69-71.

CDC, 1993. Recommendations of the International Task Force for Disease Eradication. *MMWR*, 42(No. RR-16):1-38.

Kambire SR, Kangoye LT, Hien R, Yameogo G, Hutin Y, Ouedraogo JB, Meert JP, Guiguemde TR, 1993. Dracunculiasis in Burkina Faso: results of a national survey. *J Trop Med & Hyg*, 96:357-362.

Kaul SM, 1992. Explanation and implications of increasing trend of villages with only one case of Guinea worm for Guinea worm eradication in India. *J Comm Dis (Delhi)*, 24:211-218.

Kaul SM, Sharma RS, Verghese T, 1992. Monitoring the efficacy of temephos application and use of fine mesh nylon strainers by examination of drinking water containers in Guinea worm endemic villages. *J Com Dis (Delhi)*, 24:159-163.

This paper includes observations carried out on two comparable villages in India of about 3500 population each. In one of the villages, in which the main intervention was cloth filters (with health education), the number of cases of dracunculiasis was reduced by 67%, from 58 cases in 1991 to 19 cases in 1992. In the other village where, in addition to use of cloth filters, the village drinking water sources were also treated with Abate in 1991, the number of cases of dracunculiasis was reduced by 94% in the same period, from 106 cases in 1991 to 6 cases in 1992. This shows the potential effect of adding vector control as another intervention in appropriate villages when everyone does not use cloth filters. Countries are urged to extend similar use of several interventions in as many endemic villages as possible in order to help achieve the high rate of reduction of cases which is required at this stage of the eradication campaign.

Kumar A, Biswas G, Joshi GC (eds), 1994. Report and recommendations, XVI Task Force Meeting, Guinea worm eradication programme in India. Delhi: National Institute of Communicable Diseases, 47pp.

Kumar A, Biswas G, 1994. Report and recommendations, Fifth independent evaluation, Guinea worm eradication programme in India. Delhi: National Institute of Communicable Diseases, 112pp.

Tayeh A, Cairncross S, Maude GH, 1993. Water sources and other determinants of dracunculiasis in the Northern Region of Ghana. *J Helminthol*, 67:213-225.

Teshome G, 1993. Guinea worm eradication in Ethiopia. *AFYA*, 28:27-33.

WHO, 1994. Dracunculiasis eradication. Update: Mali and Niger, 1993. *Wkly Epidemiol Rec*, 69:71-73.

\* \* \* \* \*

"The Fatal Consequences of Guinea Worm  
on the Youth and Sports Teams in BKZ (Blablata, Kouablezra and Zangrofla)"

by

Zan Bi Gob Honore, Community Health Worker  
Zangrofla, Bouafle Region, Cote d'Ivoire

1993

[Translated by Michele Spring, Peace Corps Volunteer]

"Outside the socio-economic damage caused by Guinea worm, I am most interested in the effects on youth and sports. This dirty disease will have left a truly sad memory in my village in the matter of sports, especially in soccer.

BZK's soccer team was one of the best known and most feared in the mangourou region. They had participated in all sports activities and tournaments between villages during school vacations. And all the young people were very proud to take part in these games with their village. The last time we played in any sporting event was in 1989 in the Tournament of the Student Association of Zanzra (with the Semi Bi Zan Trophy) where we were eliminated in the semi-final by the team from Bonefla.

Since the arrival of Guinea worm at the end of 1990, BZK has never again participated in any sports activity, has never again joined in a friendly pick-up game. All the young people were stricken by Guinea worm, and no one could stand upright, much less play soccer. Some had deformed limbs, others even lost their life. Summer vacation no longer existed as it used to and the students refused to return to the village during vacation because they were scared of getting Guinea worm. No sports or cultural activities could be held in the village. The traditional dances which had animated the village during the night, the festivals and funerals no longer existed. The masks cracked under the weight of air pressure because they were no longer being kept up. The sacred places in the village were no longer maintained. In short, our culture was disappearing. The young people were no longer enjoying their own youth. The young and the old became one and the same in BZK.

The soccer field which was once a place where you could find all the inhabitants of BZK, young and old, students and villagers, girls and boys, to watch the practice sessions of their team or other sports activities, was no longer but a memory of the good times. Abandoned for three years now, our soccer field is now a nest for all the trash of the village and a grazing ground for all the sheep and goats. The field is completely unrecognizable. We no longer have big sports games on our soccer field at the end of the year or during school vacations. Guinea worm is killing sports at BZK. A truly sad memory for the youth here at BZK."

\* \* \* \* \*



**RECOMMENDATIONS FROM THE  
FIFTH AFRICAN REGIONAL CONFERENCE ON  
DRACUNCULIASIS ERADICATION**

1. All affected countries should ensure that community-based surveillance and health education are begun in every endemic village, and steps taken, where appropriate, to ensure that cloth filters are used in every household, before the start of the next transmission season.
2. Countries are urged to use donated nylon filter material carefully, so as to focus this valuable resource on the most appropriate areas, with minimal wastage. Cloth filters of appropriate design should be promoted and distributed in suitable numbers for household use, and also for use as appropriate by farmers and herders when away from home.
3. Guinea worm disease is a moving target. The list of endemic villages should be updated at least once a year. This requires arrangements for detection of newly-endemic villages, and also a criterion for the removal from the list of villages which are no longer endemic so that interventions can be focussed on the high risk areas, while keeping the old endemic villages

interventions can be focussed on the high risk areas, while keeping the old endemic villages under surveillance.

4. All endemic countries need to begin implementing case-containment in as many affected areas as possible, as soon as possible, in 1994.
5. All endemic countries which have not yet done so should begin immediately to use vector control as an intervention in all appropriate endemic villages in order to help accelerate the rate of reduction of dracunculiasis cases to over 80% per year. To this end, a detailed plan of operations must be prepared, including requirements for training, for recording and for monitoring temephos application; this should be submitted for funding if required. This intervention should be used in addition to health education, cloth filters, treatment of cases and/or provision of safe water supply.
6. The surveillance system, and the implementation of each intervention should be monitored on a regular basis, and evaluated annually.
7. External donors are urged to increase their support for the eradication effort, and to do so in such a way as to ensure speedy and uninterrupted implementation of programmes. At the same time, the example of several countries has shown that tremendous progress can be achieved without large scale specific funding and in spite of internal strife and other difficulties. Their example deserves congratulation and emulation. We must look beyond formalised plans of action, and seize opportunities to find creative ways to reach our goals.
8. Countries should make efforts to conduct their activities as part of the existing primary health care system. In those endemic villages which are not reached by the existing system, Guinea worm eradication activities should be combined with measures to control vaccine-preventable diseases, vitamin A deficiency, and diarrhoeal disease.
9. Countries should send a monthly report of cases and newly-endemic villages to WHO, and WHO should disseminate the combined reports at least quarterly.
10. No African country has yet begun regular notification through WHO of the names and villages of origin of cases from neighbouring countries. Such notification should begin as soon as possible, and should be followed up by agreements between countries to permit cross-border exchange of information at the local level. Special measures may be needed where nomadic populations are involved.
11. In order to map all endemic villages and include them in a Geographic Information System (GIS), countries which have not already done so are requested to send to WHO Geneva as soon as possible, through the UNICEF country offices, the complete list of endemic villages, together with as much as possible of the following information for each village:
  - the administrative division, at the lowest administrative level (sub-district) to which each village belongs;
  - the number of inhabitants;
  - the number of cases of Guinea worm disease in 1993;

- the type of water source available, and whether they are functioning;
  - the site of the nearest health centre and school; and
  - whether there is a trained village health worker in the village.
12. Consideration should be given in appropriate countries to the introduction of incentives to ensure detection of worm emergence; where appropriate, national authorities should take advantage of the rewards scheme offered by Health & Development International.
  13. The WHO must begin the process of certification of dracunculiasis eradication. For this purpose, countries requesting such certification should submit a detailed report on the previous and the current epidemiological situation with regard to the disease. This report, following the prescribed format, should be sent to the WHO at the end of the 1994 transmission season.
  14. Continued opportunities such as this Conference are needed for the exchange of field experiences between coordinators, and for the dissemination of successful new approaches to eradication.

\* \* \* \* \*

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

*For information about the GW Wrap-Up, contact Virginia G. Sturwold, EdD, writer-editor,  
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CDC is the WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis.