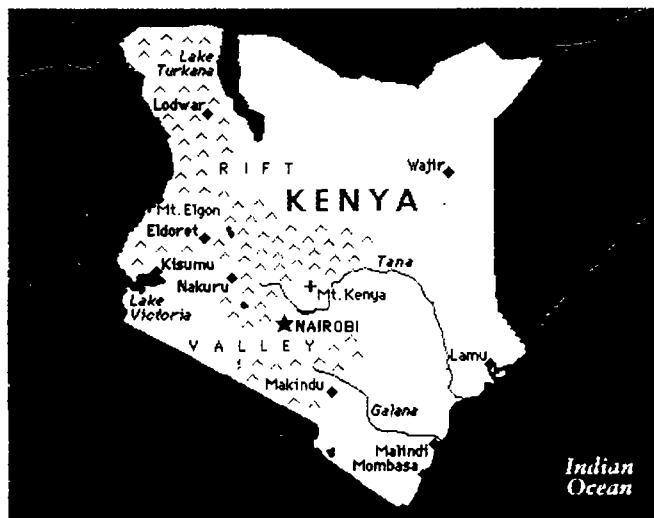


Dracunculiasis Eradication Project

Joint Review of the Guinea Worm Eradication Programme of Kenya



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1. INTRODUCTION

Kenya, like all other Member States of the World Health Organisation (WHO) has adopted resolutions WHA39.21 (1986) and AFR/RC38/R13 (1988), both related to Dracunculiasis Eradication. Results of efforts made in Kenya from 1990 to 1999 to assess the status of Guinea worm disease indicate that the last indigenous case of Guinea worm disease was notified in 1994. However, Kenya continues to notify imported cases from neighbouring endemic countries (Sudan and Uganda). The objectives of the present joint review are to evaluate the status of the programme activities and to assess the level of preparations for certification of Guinea worm eradication in Kenya.

2. BACKGROUND

In November 1989, an active case search for Guinea worm was first conducted in Turkana district where cases of dracunculiasis had been reported in the early 1980s. During this active case search, five cases of Guinea worm disease were identified. Four cases in Kakuma/Lokichokio and one in Lokitaung. Three out the five cases were active cases.

During the period March-July 1994, another active case search was conducted in the district of Trans-Nzoia. Over 80% of all homes in the district were visited during the search during which no active case of dracunculiasis was found. However, it was mentioned in the report that six cases were recorded at Kitale district hospital during the period April-June 1994 and that by September 1994, several suspected cases had been reported. Verification by district authorities subsequently indicated *Toxocara canis* infection and not Guinea worm. This diagnosis was confirmed by Dr Uha, of UNICEF/Nairobi, who visited the site and interviewed patients. It was recommended that tight surveillance be established through village-based volunteers (VBV).

In September-October 1994, the last active case search was conducted throughout the district of West Pokot. A total of 298 villages were surveyed and no active case was found although five cases of people with a history of Guinea worm disease were reported.

The districts of Samburu and Kitui were also surveyed but no cases were found and no history of Guinea worm reported.

In light of the results of the active case searches, 86 health staff and 95 village-based volunteers (VBV), from Turkana, Trans-Nzoia and West Pokot districts were trained between 1993 and 1998. The staff and the VBVs were to carry out active surveillance and other routine programme activities. As part of the surveillance system, a reward mechanism was introduced in January 1996.

3. PROGRAMME REVIEW

Following recommendations made to the Kenyan Guinea Worm Eradication Programme (KGWEP) during its coordination meetings, the Ministry of Health of Kenya, with technical and financial support from the World Health Organization (WHO), organized and conducted a joint review of all programme activities from 13 to 24 September 1999. The

review was conducted in three districts of the Rift Valley Province: Trans-Nzoia, West Pokot and Turkana (see Annex 1).

3.1 Objectives

The main objectives of the review are detailed in the terms of reference (Annex 3). They were as follows:

- to validate the absence of local transmission of Guinea worm disease;
- to assess the capacity of the existing surveillance system to detect and contain any eventual Guinea worm cases in the three districts;
- to assess the status of the archives related to dracunculiasis surveillance;
- to make recommendations towards preparation for certification of eradication of Guinea worm disease.

3.2 Methods

The review was conducted by two teams. Each team was composed of an international reviewer, a staff member from the KGWEP and local support staff. The review in Trans-Nzoia and West Pokot districts was carried out by one team while the district of Turkana was evaluated by the other. Activities undertaken by team members were:

- briefing meetings with the concerned district medical officers and their staff ;
- work sessions with the district public health officers;
- interviews based on specific questionnaires with village dwellers, village-based volunteers and health professionals;
- field visits to villages and local health facilities;
- visits to and working sessions with programme partners such as water projects and nongovernmental organizations (NGOs) involved in the health or water sectors.

The teams visited 20 villages and interviewed 205 villagers, 20 village-based volunteers and 10 public health technicians supervizing volunteers. The teams also interviewed persons in charge of the programme at national and district levels. All public health technicians and health facilities visited during the review were given a rumour register provided by the national programme.

3.3 Findings

None of the 205 people interviewed had Guinea worm disease or knew anyone who had it. There is no local name for Guinea worm disease in Trans-Nzoia and West Pokot districts whilst in Turkana district, people had a local name for the disease – *Lomurit* - which is the same as that used in South Sudan. Awareness of the disease is poor as very few of the people interviewed had ever attended a health education session on the disease and less than 30% of them had heard about the reward. It should be noted that of the 10 people interviewed in Turkana, all knew about the disease and its local name. None had any notion of other aspects of the disease such as its transmission, containment and prevention.

All villages visited in Trans-Nzoia and West Pokot had at least one trained village-based volunteer for Guinea worm disease surveillance. All volunteers interviewed could read and write. All claimed to carry out other health-related activities (sanitation, hygiene, wound

treatment, etc). Eighty per cent (80%) of these volunteers had a register for Guinea worm cases. Most registers, however, were not properly completed and were not kept up to date. Volunteers were not adequately supervised; supervision was irregular and unsatisfactory. Supervisory activities at all levels were almost never documented. Most village-based volunteers were in charge of more than one village. In Turkana district nomads inhabit areas considered at risk and there was therefore no village volunteer. Nomadic populations are under the surveillance of the Turkana Hydatid Control Project staff of the African Medical and Research Foundation (AMREF) who make regular visits to them when they temporarily settle to graze their cattle. Temporary dwellings are branch huts called "*maniatas*". AMREF staff reported that no case due to local transmission had ever been seen. The Lokichokio health centre is supported and run by the African Inland Church (AIC). The local Red Cross hospital did occasionally see contained cases from Sudan.

Public health technicians generally maintained registers (except in Turkana district) although these were rarely kept up to date. Less than 40% of them sent monthly reports to the district. In Trans-Nzoia district, a record-keeping system on Guinea worm disease exists but is poorly organized and maintained. In West Pokot no records were available at district level. In general, reports on Guinea worm disease are not sent regularly to the central level (national programme). In addition, copies of the reports sent to the national level were not available at district level (no copies retained). The documentation related to the imported cases reported by the districts was poor or unavailable and transmission of information was mostly informal. It was unanimously stated that financial and technical support from the national programme was inadequate. Forms for cross-notification of imported cases of Guinea worm were not available at district level. The main constraint at district level is lack of financial resources to carry out adequate training and to perform supervisory activities. In West Pokot district the primary health care system is weak. In Turkana district the PHC system is implemented by eight NGOs (6 are church organizations). Generally, however, the system remains weak and particularly in the areas concerned by Guinea worm: Kakuma, Lokichokio and Kibich.

At national level, the record-keeping system and the archives are poor. There was inconsistency between the information found at national and at district levels. Reporting to WHO or informing neighbouring countries on identified imported cases is not functioning. Copies of reports claimed to have been sent were not available locally. The main constraint of the national programme is the total lack of financial support. Receiving no support from the Government of Kenya (Ministry of Health) or from any external partners, the national coordinator cannot travel the large distances between the capital and district headquarters for supervisory activities. Furthermore, communication is complicated by lack of easy access to phone or fax, and no e-mail is available at either end. Such a situation prevents central staff from supervising and motivating those responsible for implementation at district level.

Results of the surveys are summarised in Tables 1, 2 and 3 (see pages 8-10).

3.4 Refugee camps in Kenya

There are two major refugee camps in Kenya: Kakuma (Turkana) with a population of 80 000 and some nine nationalities and Dadab (North Eastern Province) with close to 150 000 people. Refugees from Sudan are numerous and arrive continuously. They generally pass through the transit camp in Lokichokio, which is very close to the Sudanese border. Both camps are coordinated by UNHCR. Sanitation and health services are regarded as

being good (five clinics and one hospital in Kakuma camp). In Kakuma, three medical officers are in charge. The medical officer present during the visit was familiar with Guinea worm and was aware of several cases among refugees. He was not concerned by the possible introduction of the disease into the camp as good sanitary services existed. There is no specific surveillance for Guinea worm. Diseases specifically reported are malaria, upper respiratory tract infection, diarrhoea, tuberculosis, cholera, measles, meningitis and suspicion of typhoid; all other cases are included in "others". Guinea worm, when identified, is reported in "others" without any additional details.

3.5 Conclusions

The absence of a local name for Guinea worm disease (except in Turkana) and the fact that indigenous people (including elders) and health professionals in the districts of Trans-Nzoia and West Pokot cannot recall or recognise from pictures a case of Guinea worm disease is in favour of the absence of local transmission of the disease. The very few people who claimed to know something about the disease have apparently learned it from relatives in Uganda.

Cross-border movements of nomadic populations, mainly Pokots from Kenya to Uganda (or inversely) are very common. This is illustrated by the situation found in the Alale division during the evaluation, which took place immediately after the rainy season. All the inhabitants of some of the villages visited (Nauayapong, Sasak and Nasale) had moved to Uganda. Also, people from Uganda were seen seeking care in Kenyan health facilities (Chepchoina dispensary) or attending markets; they were also seen at Orolwa, which is a very large weekly market. Since the transmission of the disease is not indigenous, it is poorly or not known at all by community members and health professionals. As health education sessions did not include Guinea worm and the publicity concerning the reward was weak, community awareness and knowledge about transmission and prevention of the disease are non-existent.

The reward system established in 1996 could have been a good approach to raise awareness of the disease among the local population. Unfortunately, however, it was inadequately implemented. Not one single poster was seen during the field visits to villages and health facilities despite their availability. Neither volunteers nor staff in health facilities knew the exact amount of the reward. Finally, the only sources of water supply were mainly protected or unprotected springs, wells, bore holes, rivers and brooks, which are generally not good sites for the transmission of the disease. However, a typical transmission site (open pond) was seen during the review in Alale Location (at Lowoi) which was being used as a source of drinking water and it is likely that other such sites exist.

Since all volunteers from Trans-Nzoia and West Pokot districts had been trained and could read and write, it is expected that active surveillance be ensured. However, there is a need to re-train these volunteers to refresh their knowledge of the disease, and to select and train new volunteers - especially for large villages or in areas where current volunteers are covering more than one village. It was noted that some VBVs cover up to seven localities (villages or hamlets) for Guinea worm surveillance. Most villages visited were large and isolated and many of them had a mobile population. These "mobile villages" should be encouraged to select a volunteer to be trained to maintain active surveillance for Guinea worm disease and who could then move on with the rest of the community. In this region, as mentioned before, a village is composed of several hamlets which are often far apart which

complicates the work of the VBV, particularly when he is in charge of several such villages. It was felt that it might be difficult, if not impossible, for a single volunteer, without any means of transportation, to visit and collect on a regular basis the data related to Guinea worm disease from all the villages and hamlets he is supposed to cover. Communication between locations, sub-locations and villages, especially in West Pokot District, is very difficult because of the rough terrain, the huge distances and the total lack of public transportation.

Integration of Guinea worm disease surveillance into primary health care (PHC) activities could be effective in the district of Trans-Nzoia, but less so in the district of West Pokot where it is not so well developed. In the latter district additional support will have to be provided to the PHC system to implement Guinea worm surveillance or an independent structure will have to be sustained. To achieve effective surveillance, the public health technicians and village volunteers should be encouraged to use the opportunity given by the various village meetings (Barazas) to strengthen their collaboration with prominent village individuals. For example, assistant chiefs work closely with the elders, other important members of the community and village health committees. Such collaboration would facilitate and improve surveillance. Furthermore, the village health committee members should be briefed to pass on the correct message to their respective population.

In Kenya, there are PHTs at all levels of the health service. They are in charge of implementing the PHC system. This could be an excellent opportunity to look at an integrated approach for Guinea worm surveillance. In Trans-Nzoia, West Pokot and Turkana PHTs claimed to carry out integrated activities including selected disease surveillance, community mobilisation, sensibilization and sanitation, etc. It has been stated that almost every village has its VBV. Supervision is taking place to a certain extent with 83% of volunteers seen in Trans-Nzoia and 25% in West Pokot reported to be regularly supervised (once a month) by PHTs. In Trans-Nzoia, and to a lesser extent West Pokot, PHTs indicated they were regularly supervised. However, Guinea worm disease was never mentioned.

While 85% of the volunteers seen had a register for Guinea worm disease surveillance, these were rarely completed properly or kept up to date. This may be an indication of the poor quality of supervisory activities for Guinea worm surveillance. In addition, the monthly reports of locations to the divisions, which also report monthly to the district, did not include Guinea worm. The monthly report includes all activities carried out during the course of the month within the division, including notification of diseases. Guinea worm is not included since it is not a notifiable disease. According to divisional officers, reports on Guinea worm disease are sent separately directly to the DMO.

The necessity to include Guinea worm disease in the list of notifiable diseases was discussed with public health officers, technicians and other district health staff. It seemed possible to include Guinea worm specifically to the existing monthly report system. In West Pokot district, it was felt that Guinea worm disease surveillance should be associated with other health-related activities implemented in the context of the PHC system.

Emphasis was given to the importance of documenting Guinea worm disease surveillance activities, be it at location, division or district level. Detailed information in the form of reports included the investigation of rumours. Systematic monthly notification of zero cases in villages under active surveillance was stressed. Strengthening collaboration with

the Environmental Health Division and the Expanded Programme for Immunisation (EPI) particularly concerning NIDs was considered essential.

Archives related to Guinea worm disease surveillance were considered unsatisfactory at both district and national level. Documents were often unavailable at one or the other level and, when available, were generally incomplete. During the review, specific written information could not be found at district or national levels concerning some cases mentioned in national reports; as an example, there is no particular documentation on the six cases reported by the Kitale district hospital in 1994. In Kitale, the register of the district hospital was reviewed, page by page, record by record, from February to July 1994. No mention of the six cases could be found. Also, information on the two cases from Sudan imported through the Bakhita Formation Center to Kitale district was very incomplete. There was a lack of consistency between data in national reports and the information found in the field (e.g. the information provided by the West Pokot district between 1995 and 1998 was different to that collected in the field, although we were able to find at district level and in the periphery complete records related to the cases notified from Amakuriat dispensary and Kacheliba health centre).

Registers exist at village, sub-location and location levels but they are mostly incomplete and never kept up to date. Regular monthly reporting is also not implemented. Reports, when available, are not properly sorted and filed. Information is never analysed. Forms for cross-notification of imported cases are available at national level but not in districts and are consequently not used.

4. RECOMMENDATIONS

- The Ministry of Health of Kenya should declare dracunculiasis a notifiable disease nationwide and ensure monthly reporting from the lowest to the highest levels, including to WHO.
- The Ministry of Health should, in collaboration with external partners, provide the appropriate support to districts and to the national coordinating programme to ensure adequate implementation of the surveillance system in order to meet the standard for certification of eradication of dracunculiasis.
- The national coordinating programme (KGWEP) should, by the end of 1999, develop or revise and distribute to all districts the appropriate reporting forms and directives related to the implementation of programme interventions.
- The national coordinating programme (KGWEP) should strengthen its collaboration with the Environmental Health Division and revitalise the National Committee for Certification of Dracunculiasis Eradication.
- The programme should consider using the opportunities given by national immunisation days, markets days (big markets in border areas) and the district disease surveillance team members to inform and sensitise people about the disease.
- The national coordinating programme (KGWEP) should promote inter-district and cross-border meetings to strengthen local and intercountry exchanges and collaboration.

- Districts should enhance the role of the primary health care system in Guinea worm disease surveillance and promote the use of village health committees, assistant chiefs and local NGOs to raise awareness of the disease.
- Districts should, with the support of the KGWEP, improve the sensitivity of the surveillance system through integrated training and supervision, and should widely publicise the reward system. Rumour registers should be established and regularly updated.
- Districts should improve the maintenance of archives related to Guinea worm disease surveillance through adequate documentation and proper recording of investigations into any rumours or cases of Guinea worm disease. Copies of reports should be retained at all levels: village, division, district and central.
- Districts should, in collaboration with divisions, add Guinea worm disease to the existing list of diseases reported monthly (whether officially notifiable or not).

* * *

TABLE 1: Results of the surveys at community level

DISTRICTS	No. (%) villagers interviewed	No. (%) interviewed who knew what Guinea worm is	No. (%) interviewed who knew a local name for Guinea worm	No. (%) interviewed who had or knew someone who had Guinea worm	No. (%) interviewed who had attended a health education session on Guinea worm	No. (%) interviewed who knew how someone gets Guinea worm	No. (%) interviewed who knew how someone could avoid Guinea worm	No. (%) interviewed who had heard about the reward	No. (%) interviewed who knew the amount of the reward
TRANSZOIA	111	17/111 (15%)	0/111 (0%)	0/111 (0%)	22/111 (22%)	9/100 (9%)	6/111 (5%)	51/111 (45%)	9/111 (8%)
WEST POKOT	84	27/84 (32%)	0/84 (0%)	0/84 (0%)	0/84 (0%)	0/84 (0%)	0/84 (0%)	27/84 (32%)	6/84 (7%)
TURKANA	10	9/10 (90%)	8/10 (80%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
TOTAL	205	53/205 (26%)	8/205 (4%)	0/250 (0%)	22/205 (11%)	9/194 (5%)	6/205 (3%)	78/205 (38)	17/205 (8%)

TABLE 2: Results of the surveys performed among village-based volunteers

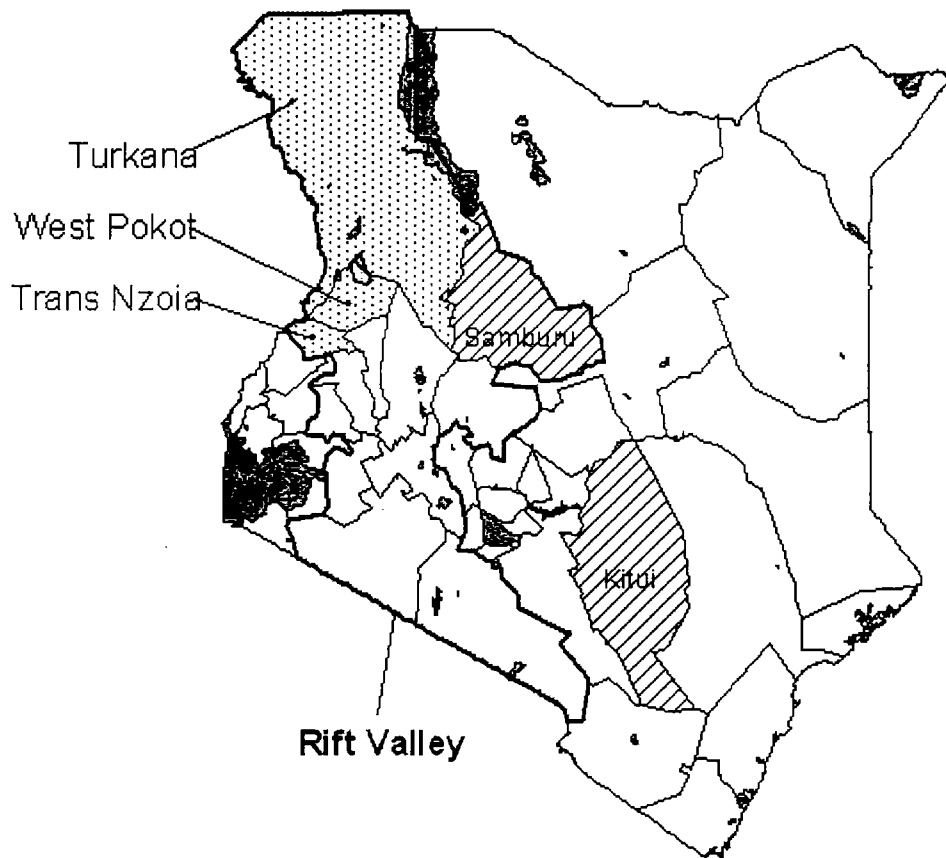
DISTRICTS	No. of village volunteers interviewed	No. (%) interviewed who have been trained in Guinea worm	No. (%) interviewed who can define a case of Guinea worm	No. (%) interviewed who know what is case containment	No. (%) interviewed who has a register for Guinea worm	No. interviewed who can read and write	No. (%) interviewed who claimed to be supervised monthly	No. (%) interviewed who know the amount of the reward*	No. (%) interviewed who do other health-related activities
TRANSZOJA	6	6/6 (100%)	6/6 (100%)	5/6 (83%)	4/6 (66%)	6/6 (100%)	5/6 (83%)	2/6 (33%)	6/6 (100%)
WEST POKOT	14	14/14 (100%)	14/14 (100%)	10/12 (83%)	12/14 (85%)	13/14 (93%)	3/12 (25%)	8/12 (66%)	6/12 (50%)
TURKANA*	-	-	-	-	-	-	-	-	-
TOTAL	20	20/20 (100%)	20/20 (100%)	15/18 (83%)	16/20 (80%)	19/20 (95%)	8/18 (44%)	10/18 (5%)	12/18 (66%)

* No village volunteers interviewed

TABLE 3. Results of survey among supervisors of village-based volunteers (Public Health Technicians)

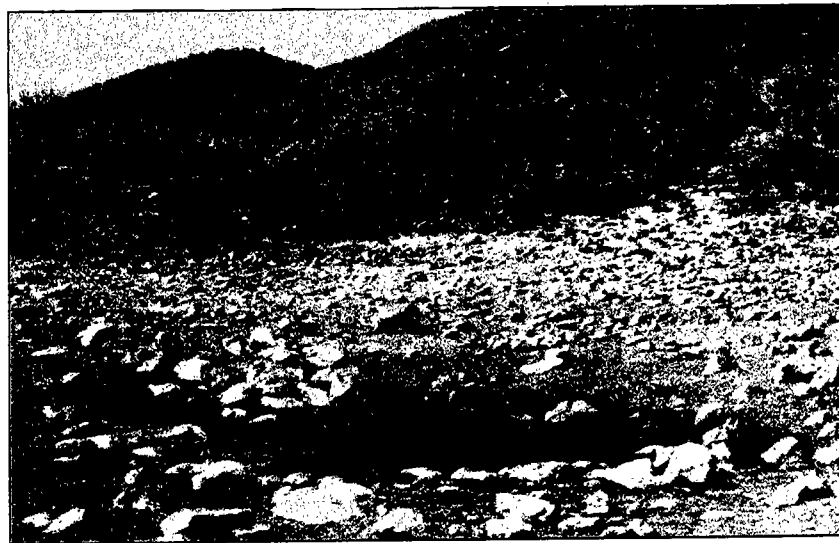
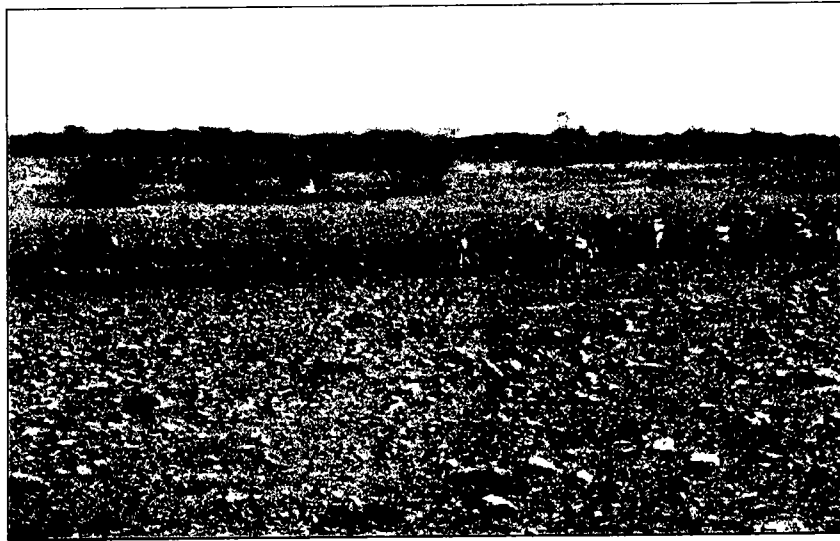
DISTRICTS	No. (%) of supervisors interviewed	No. (%) interviewed who have been trained in Guinea worm	No. (%) interviewed who can define an imported case of Guinea worm	No. (%) interviewed who have a register for Guinea worm	No. (%) interviewed who have an up-to-date register for Guinea worm	No. (%) interviewed who claimed sending monthly reports to the district	No. (%) interviewed who claimed to be supervised monthly	No. (%) interviewed who go to collect data	No. (%) interviewed who do other health-related activities
TRANSZOIA	5	5/5 (100%)	5/5 (100%)	5/5 (100%)	2/4 (50%)	2/4 (50%)	5/5 (100%)	1/5 (20%)	5/5 (100%)
WEST POKOT	3	2/3 (66%)	2/3 (66%)	1/3 (33%)	0/2 (0%)	1/3 (33%)	0/3 (0%)	0/3 (0%)	3/3 (100%)
TURKANA	2	0/2 (0%)	2/2 (100%)	0/2 (0%)	0/2 (0%)	0/2 (0%)	0/2 (0%)	0/2 (0%)	2/2 (100%)
TOTAL	10	7/10 (70%)	9/10 (90%)	6/10 (60%)	2/8 (25%)	3/8 (37%)	5/10 (50%)	1/10 (10%)	5/5 (100%)

Annex 1: Map of Kenya



**Map of Kenya showing the five districts surveyed between 1989 and 1994.
Three require Guinea worm surveillance: Turkana, West Pokot and Trans-Nzoia.
All other districts are recognised free of the disease.**

Annex 2: Turkana typical water holes



Typical permanent spring and water whole in the Turkana desert where domestic animals are taken to drink. There are some 7 to 10 water sources throughout the plains.

Annex 3: Terms of reference for external review

Kenya, like all Member States of the World Health Organization (WHO) has adopted the World Health Assembly resolution WHA39.21 (1986) and, as a member of the African Region, the regional resolution AFR/RC38/R13 (1988) both related to the eradication of dracunculiasis. As a result of the implementation of interventions to interrupt transmission and prepare for eradication, the Kenya Guinea Worm Eradication Programme (KGWEP) has reported the interruption of local transmission of the disease in 1994. However, Kenya continues to notify imported cases from highly-endemic neighbouring countries. In the light of the recommendations made during national programme review meetings in 1995 (Lomé), 1997 (Nairobi) and 1998 (Abuja), it is felt essential that the KGWEP should call for an external evaluation of its Programme.

The general objective the review was to verify the absence of local transmission of Guinea-worm disease and to assess the capacity of the existing Kenyan surveillance system to detect the eventual occurrence of any case in the three concerned districts of Trans-Nzoia, West Pokot and Turkana. The evaluation should specifically:

- validate the result of zero indigenous cases of dracunculiasis;
- evaluate the risk of reintroduction of the disease in the country;
- evaluate the capacity of the surveillance system in place to detect and contain any eventual Guinea worm cases in the country;
- assess the knowledge of the community and health workers about Guinea-worm and its prevention;
- identify all appropriate community-based programmes which are used or could be used to ensure acceptable Guinea worm surveillance;
- assess the state of the existing archives necessary to prepare for certification;
- contribute to the introduction of “rumour registers” and reinforce the reward system;
- make any suggestions, if necessary, to reinforce or improve the existing surveillance system to meet certification requirements.

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