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LYMPHATIC FILARIASIS ELIMINATION IN THE AFRICAN REGION: PROGRESS REPORT

EXECUTIVE SUMMARY

1. Lymphatic filariasis in Africa is caused by a filarial worm, *Wuchereria bancrofti,* that is transmitted mainly by female *Anopheles* and *Culex* mosquitoes. Lymphatic filariasis occurs in 39 of the 46 Member States of the WHO African Region. It is estimated that 420 million people are at risk of the disease in the Region, representing 38% of the global burden.

2. The main complications of lymphatic filariasis are elephantiasis, lymphoedema and hydrocele. It is estimated that 4.6 million cases of lymphoedema and over 10 million cases of hydrocele occur in Africa. LF is one of the most debilitating and disfiguring diseases. The socioeconomic consequences of LF include stigma lost or diminished productivity and high treatment costs.

3. Recognizing the public health, social and economic significance of lymphatic filariasis, the Fiftieth World Health Assembly, in 1997, passed a resolution calling for the elimination of lymphatic filariasis as a global public health problem by 2020. Following the passing of the resolution, two drug manufacturers donated albendazole and ivermectin to the lymphatic filariasis programme for as long as the drugs would be required.

4. The Programme for Elimination of Lymphatic Filariasis is now active in 20 countries; nine are at the stage of mass drug administration (MDA) and 11 have either completed disease mapping or are in the process of mapping. Therapeutic coverage rates are satisfactory (more than 70%) and have been improving. Because of financial constraints, however, less than 10% of the at-risk population are covered by MDA. Implementation of other programme components, such as vector control and disability management and prevention, are being delayed.

5. If adequate resources are made available, lymphatic filariasis elimination by 2020 is possible in the African Region.

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Background

1. Lymphatic filariasis (LF), also known as elephantiasis, is caused by a filarial worm, *Wuchereria bancrofti* that is transmitted in Africa mainly by female *Anopheles* and *Culex quinquefasciatus* mosquitoes. Lymphatic filariasis occurs in 39 of 46 Member States of the WHO African Region (see map, Annex 1). It is estimated that at least 420 million people in the Region are at risk of the disease, representing 38% of the global burden.

2. The main manifestations of LF are elephantiasis, lymphoedema and hydrocele (see photos, Annex 2). It is estimated that 4.6 million cases of lymphoedema and over 10 million cases of hydrocele occur in Africa. These complications make LF one of the most debilitating and disfiguring diseases.

3. The socioeconomic consequences of the disease include stigma, lost or diminished productivity and high treatment costs. The latter financially hinder health services struggling with limited resources. For example, in an endemic area in Ghana, one-third of all surgeries are for hydrocele repairs, and a hydrocele operation costs US$ 30, representing over one month's income for the average Ghanaian.

4. Recognizing the public health, social and economic significance of LF, the Fiftieth World Health Assembly in 1997 passed a resolution (WHA50.29) calling for the elimination of LF as a global public health problem by 2020. Following the passing of the resolution, two drug manufacturers donated albendazole and ivermectin to the Global Programme to Eliminate Lymphatic Filariasis for as long as the drugs would be required.

5. The African Region launched the Programme for Elimination of Lymphatic Filariasis (PELF) in 2000. To date, 20 countries of the 39 endemic Member States are implementing the programme.

6. This report describes the progress made so far in the elimination of LF in the African Region.

Programme for Elimination of Lymphatic Filariasis

7. The goal of the Programme for Elimination of Lymphatic Filariasis is the elimination of LF as a public health problem by the year 2020. The specific objectives are:

(a) to improve the general health status of endemic populations through increased access to public health interventions, preferably working through existing health structures and programmes;

(b) to reduce and ultimately interrupt transmission of LF in all endemic communities by means of (i) mass chemotherapy using albendazole co-administered with either ivermectin or diethylcarbamazine and (ii) vector control;

(c) to alleviate the suffering of people with overt disease such as elephantiasis and hydrocoele by use of specific morbidity control tools;

(d) to set up an effective monitoring system that will continually assess progress of the programme and highlight operational issues or problems related to programme implementation;

(e) to continually improve programme delivery through operational research.

8. Specific targets of the programme are:

(a) by 2005, mapping will be completed and all endemic communities needing interruption of transmission interventions, such as mass drug administration and vector control will be identified;

(b) by the end of 2007, programme managers from all endemic Member countries will be trained to coordinate activities in their own countries;

(c) by the end of 2007, all endemic Member countries will develop national plans for lymphatic filariasis elimination and project proposals for mass drug administration, vector control, and disability management and prevention activities;

(d) by the end of 2010, all endemic Member countries will implement national LF programmes, covering all (100%) endemic communities and treating with chemotherapy at least 65% of the at-risk population per round of mass drug administration;

(e) by the end of 2010, community-based lymphoedema management programmes will be initiated in all endemic communities;

(f) by the end of 2010, the hydrocele burden will be reduced by at least 80% in endemic communities;

(g) by the end of 2010, all endemic Member countries will have functional monitoring systems to assess the progress of the programme and the third round of mass drug administration;

(h) by the end of 2020, LF will be eliminated as a public health problem in all endemic communities of the African Region.

9. The main strategies of PELF are:

(a) interruption of disease transmission through mass drug administration and vector control which reduce parasite loads in humans to low level (prevalence less than 1% in children under 5 years of age) whereby they no longer sustain transmission;

(b) disability management and prevention to alleviate the suffering of those already disabled by the disease and to prevent progression of early stages to advanced morbidity.

Progress

10. The Programme for Elimination of Lymphatic Filariasis was launched in 2000 at both global and regional levels. At the same time, four countries in the African Region also launched national programmes: Ghana, Nigeria, Tanzania and Togo. A global alliance to eliminate lymphatic filariasis as a hindrance to socioeconomic development was also formed. The alliance mobilizes additional funds to complement government contributions to ensure scaling up of activities. Formation of a partnership for the African Region is in process. In the African Region, the Regional Strategy for Lymphatic Filariasis Elimination was drafted in 2001.

11. The Regional Programme Review Group was established in 2001 and held its first session the same year. Four subsequent meetings were held to review national plans of action and country re-applications for drugs. Of the 12 national plans submitted and reviewed, nine have been implemented. The same nine countries submitted 22 annual re-applications for drugs which were reviewed by the Regional Programme Review Group.

12. A mapping methodology has been developed by WHO, and the circulating filarial antigen test is the simple tool recommended and used. The WHO Regional Office for Africa supports countries in building capacity for mapping by offering methodology workshops. These workshops started in 2000; to date, three workshops have trained health personnel from 20 countries. The workshops have been systematically held so that mapping in the Region is completed by 2005, the global target for completion of mapping.

13. Countries in the Region are at different stages of mapping: 15 countries have completed mapping, and five countries are in the process of mapping (see Annex 3). Thus, of the 39 endemic countries targeted, 20 (representing 51% of the target) have started elimination activities. The estimated population at risk in the countries where mapping has been conducted is summarized in Annex 4.

14. The mass drug administration (MDA) target for the WHO African Region is 48.5 million by the end of 2005 (see Annex 5). From 2002 treatment figures, 9 956 118 people were treated against a regional annual treatment objective (RATO) of 16.1 million (this represents 60%). For 2003, tentative figures indicate that 16 695 847 were treated against a RATO of 21.6 million (representing 77.3%). These figures represent less than 10% of the total at-risk population that need to be treated in the African Region (see Annex 4).

15. Mass drug administration has been on-going in nine countries; in two of these countries (Comoros and Togo), MDA covers the entire at-risk population. It is very important to reach the entire at-risk population so as to put sufficient pressure on parasite loads and hence interrupt transmission.

16. Vector control is being developed and carried out in collaboration with mosquito control in malaria programmes.

17. Six countries (Burkina Faso, Ghana, Kenya, Nigeria, Tanzania and Uganda) have reported managing a total of 8 781 cases of lymphoedema and conducting 4 339 hydrocele surgeries. Kenya and Uganda are at the beginning stage of disability management. Funding for disability management and prevention has not been available.

18. The Regional Office has developed a software program (PELFDATA) for electronically recording LF data. National coordinators and data managers from ten countries have been trained to use the software. It is currently being implemented in three countries (Benin, Burkina Faso and Togo). Burkina Faso, Ghana and Togo have conducted special surveys to determine if reported therapeutic coverage rates are consistent with observed coverage rates.

Constraints and challenges

19. The major constraints are insufficient financial and human resources, co-endemicity of loa loa and weak national health systems. These have resulted in slow scaling up of activities and delayed implementation of some components of the programme (e.g. vector control).

20. The main challenge is to cover the entire population at risk in a reasonable timeframe so as to put sufficient pressure on microfilariae loads and hence reach the goal of interruption of transmission. Other challenges include achieving and sustaining high therapeutic and geographical coverage rates. Additionally, at this stage of programme implementation, collection of reliable evaluation data is critical so as to get a clear indication as to whether the programme is moving towards its goal. There is further need for mapping of loa loa endemicity to ease mass drug administration. Commitment and ownership of the programme by endemic Member States should be strengthened.

The way forward

21. With concern for the public health and socioeconomic significance of LF and from the experience gained so far, PELF will guide future activities. There is a need to intensify advocacy in order to strengthen ownership of the programme and reinforce support from partners. At the same time, synergies should be created between PELF and other public health programmes, both within and outside the Division of Prevention and Control of Communicable Diseases, so as to improve cost-effectiveness and efficiency. Reaching and sustaining high geographical and therapeutic coverage rates should be accelerated in order to meet the elimination goal set for LF. Other important activities are surveillance and monitoring; endemic countries will be supported to include these in their plans of action in order to support informed decision-making.

Conclusions

22. PELF is a pro-poor programme which was hailed by the international community and the endemic Member States of the Region which are keen to implement it. When the global programme was launched in 2000, four countries of the African Region

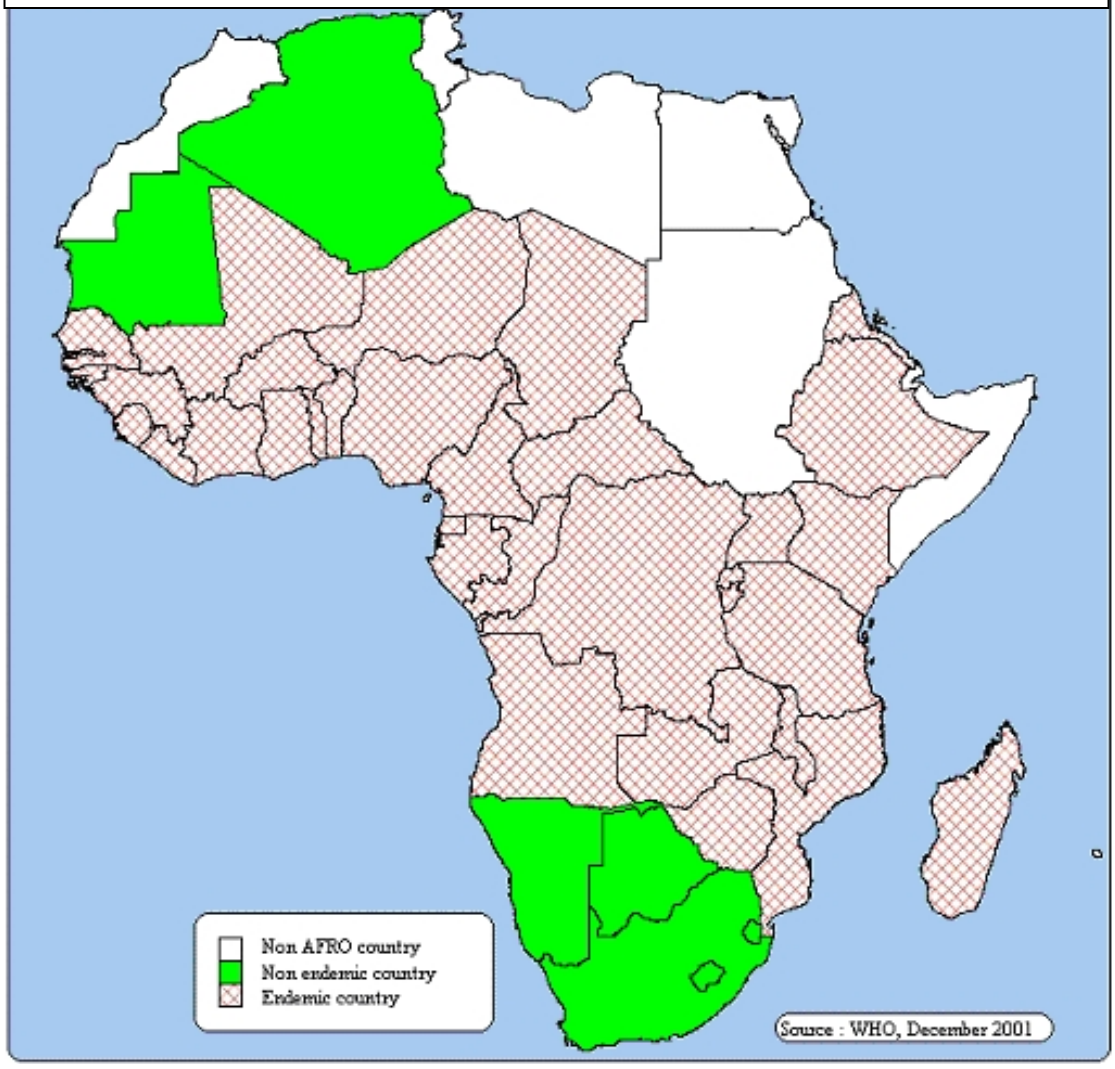
immediately took steps to initiate national programmes. To date, 20 of the 39 endemic countries of the Region are implementing the programme.

23. Of the 20 countries implementing LF elimination activities, nine currently are doing MDA. Therapeutic coverage rates are satisfactory (more than 70%) and have been improving over the years. Because of financial constraints and inadequate staffing, however, less than 10% of the at-risk population are covered by MDA so far. In addition, the implementation of other programme components, such as vector control and disability management and prevention, are being delayed.

24. There has been significant progress in the implementation of PELF so far. However, a lot remains to be done. With the contributions of all the stakeholders (governments of affected countries, communities, partners) lymphatic filariasis will be eliminated in the African Region by 2020.

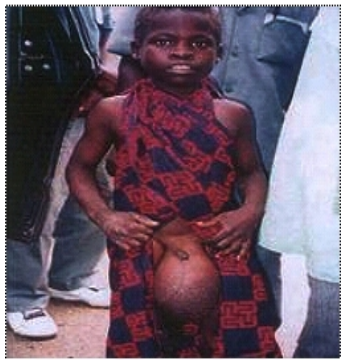
ANNEX 1

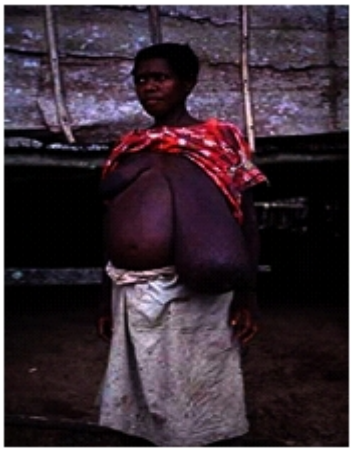
DISTRIBUTION OF LYMPHATIC FILARIASIS IN THE WHO AFRICAN REGION

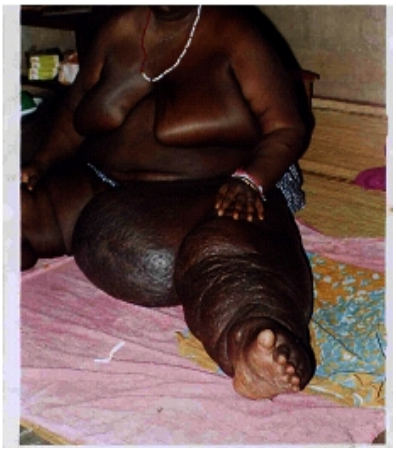


ANNEX 2

MANIFESTATIONS OF LYMPHATIC FILARIASIS







ANNEX 3

ANNEX 3

STATUS OF MAPPING AND MDA* FOR LYMPHATIC FILARIASIS IN THE AFRICAN REGION, 2003

Mapping complete, MDA started	**Mapping on-going, MDA started**	**Mapping complete, no MDA**	**Mapping started, to be completed in 2004**
Benin Burkina Faso Comoros Ghana Togo Uganda	Kenya Nigeria Tanzania	Cameroon Côte d'Ivoire Equatorial Guinea Gambia Madagascar Malawi Mali Niger Senegal	Zambia Zimbabwe

* MDA—mass drug administration

ANNEX 4

MAPPING RESULTS SHOWING NUMBER OF PEOPLE AT RISK OF LYMPHATIC FILARIASIS BY AFRICAN COUNTRY, 2003

Country	Total no. of persons examined	Prevalence* Range	Prevalence* Ave.	Total IUs in country	Total IUs surveyed	No. IUs endemic (%)	Total pop. at risk	Total pop.**	Mapping status
Benin	4 874	1.2–12.5	2.09	77	77	48 (62.5)	3 430 000	5 720 000	Complete
Burkina Faso	6 246	2.0–74.0	28.98	53	53	53 (100.0)	12 997 000	11 087 000	Complete
Cameroon	6 356	3.0–97.4	58.92	153	122	98 (80.3)	9 483 757	14 300 000	Complete***
Comoros	Different method of assessment used			3	3	3 (100.0)	578 000	632 000	Complete
Côte d'Ivoire	3 305	1.4–45.5	7.81	51	42	28 (66.6)	14 000 000	13 937 000	Complete***
Equatorial Guinea	1 166	2.3–8.1	5.84	17	17	15 (88.2)	420 000	420 000	Incomplete
Gambia	792	1.0–3.0	0.02	37	6	5 (83.3)	1 200 000	1 169 000	Complete
Ghana	11 098	1.0–39.4	6.34	110	77	44 (57.1)	9 957 300	18 338 000	Complete***
Kenya	Different method of assessment used			70	6	6 (100.0)	2 700 000	27 799 000	Incomplete
Madagascar	3 871	1.2–56.0	9.01	111	87	69 (79.3)	TBA	15 353 000	Complete
Malawi	2 913	14.0–35.9	9.20	28	28	27 (96.4)	9 845 000	9 845 000	Complete
Mali	4 845	1.0–78.1	31.80	49	49	49 (100.0)	10 766 900	11 480 000	Complete
Niger	3 837	1.0–52.0	12.10	35	35	32 (91.4)	12 149 245	9 788 000	Complete****
Nigeria	Different method of assessment used			774	26	26 (100.0)	80 000 000	118 369 000	Incomplete
Senegal	4 379	1.0–57.0	15.84	35	21	21 (60.0)	TBA	8 762 000	Complete
Tanzania (Mainland)	3 933	4.0–72.0	42.84	108	52	11 (47.8)	20 000 000	30 799 000	Complete
Tanzania (Zanzibar)	Different method of assessment used			12	12	12 (100.0)	914 174	-	Complete
Togo	4 456	1.0–36.0	1.00	30	30	7 (23.3)	1 123 757	4 317 000	Complete
Uganda	6 980	1.9–26.8	7.80	56	56	24 (42.0)	TBA	20 256 000	Complete
Zambia	2 199	0.3–52.6	10.30	54	8	5 (62.5)	TBA	8 275 000	Incomplete
Zimbabwe	3 011	7.0–68.0	29.25	59	44	44 (100.0)	TBA	11 439 000	Incomplete

* Results from areas where positive cases were detected.
** Best available estimates.
*** Some IUs were excluded from mapping; these were classified non-endemic based on ecological factors.
**** There was a re-demarcation of IUs after mapping was completed.
IU = implementation unit (in most countries this is a district)
TBA = To be advised

ANNEX 5

PROGRESSION AND TARGETS FOR MDA IN THE AFRICAN REGION