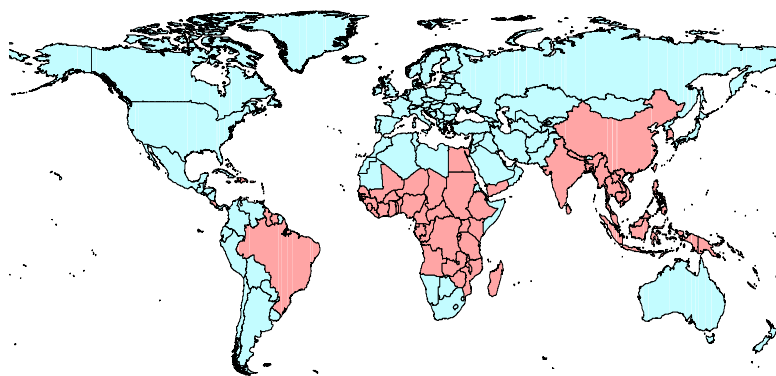


GLOBAL PROGRAMME TO ELIMINATE LYMPHATIC FILARIASIS

WHO Programme Report

2000



WHO/CDS/CPE/CEE/FIL



Global Programme to Eliminate Lymphatic Filariasis (LF)

2000 – The Programme takes off

S U M M A R Y H I G H L I G H T S

In the Countries:

- 3.2 million people in 12 countries were targeted for 2-drug, once yearly treatment in start-up-phase programmes
- 11 additional countries developed national plans of action for LF elimination (including applications for donated drugs) which were approved for activities beginning in 2001
- 34 million albendazole tablets were shipped by GlaxoSmithKline to 17 countries either initiating or about to initiate national LF programmes
- 1.7 million ivermectin (Mectizan®) tablets were shipped to 4 African countries by Merck & Co., Inc. specifically for LF elimination (in addition to the Mectizan® already donated for onchocerciasis control in those countries)
- 30 trainees from 11 countries completed International Training Centre Course on disability prevention, management and rehabilitation
- 10 countries began active Programmes of disability prevention, management and rehabilitation.

In the Regions:

- Initial regional and sub-regional meetings of the Programme Managers from LF Endemic Countries led to Regional Plans of Action in the South-East Asian, Eastern Mediterranean and American Regions; and to a Sub-Regional Plan of Action for PacELF countries of the Western Pacific Region
- Plans were agreed to complete the process of 'regionalization' of national programme coordination and support by 2001
- Sub-regional mapping of LF prevalence began in all five endemic regions
- WHO staff support for LF was strengthened in all 5 endemic regions
- Coordination between the LF Elimination Programme and control programmes for onchocerciasis was achieved, with activities underway in 4 African co-endemic countries.

At Global Level:

- First meeting of the Global Alliance to Eliminate Lymphatic Filariasis took place in Spain, with 75 delegates representing 50 different organizations or countries
- Global Alliance partners increased to 35, in addition to the national ministries of health
- Donor base for LF elimination expanded to 7 Governments, 3 Foundations and 3 private companies, in addition to endemic country support
- A Technical Advisory Group to the Programme held its initial meeting and made both general and specific recommendations around defined technical issues
- National-plan-review and drug-application procedures were finalized, with a commitment towards 'regionalization' of these activities in 2001
- The scientific bases for safety and efficacy of 2-drug regimens and for programmatic linkages with intestinal parasite control programmes were documented in scientific publications
- Testing and procurement mechanisms were established to ensure the quality of the DEC drug supply acquired by the Programme
- The first international training course in LF disability prevention, management and rehabilitation was held with newly prepared curricular materials
- Document production and distribution by the Programme included 7 training or programme manuals for drug distributors, health personnel and programme managers; 8 informational or advocacy documents; and 11 scientific articles
- The internet website www.filariasis.org was expanded to house all documents produced by the Programme and to be a forum for information exchange.

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The Global Programme to Eliminate Lymphatic Filariasis (LF)

After millennia of suffering, centuries of neglect, decades of research and years of programme development the world finally launched, in the year 2000, a Global Programme to Eliminate Lymphatic Filariasis (LF). Inauguration of this Programme at London's Royal Society for Tropical Medicine & Hygiene in January 2000 was followed in May of that year by the first meeting of the Global Alliance, a unique partnership of public-sector and private-sector organizations committed to eliminating lymphatic filariasis, with the World Health Organization (WHO) serving as Secretariat. By the end of 2000 fully 23 of the 80 endemic countries had completed national plans of action to eliminate lymphatic filariasis, 12 had already initiated programme activities and over 3 million individuals had received drugs during the start-up phase of these activities.

1. Background: Programme Progress 1997- 1999

Through 1997. Disabling and disfiguring, lymphatic filariasis remains the second leading cause of permanent and long-term disability (World Health Report, 1995) and the second leading cause of lost 'disability adjusted life years' (DALYs) among all parasitic diseases affecting humanity (World Health Report, 2000). Following major research breakthroughs in the 1980s and 1990s, however, LF was recognized by the medical community as one of a small number of diseases considered potentially eradicable with the tools currently available. The World Health Assembly responded in 1997 with a resolution calling for "the elimination of lymphatic filariasis as a public health problem", and early support for this effort came from both the Ministries of Health of the 80 LF endemic countries and a number of important international organizations including the Arab Fund for Economic and Social Development, the World Bank and the United States Centers for Disease Control and Prevention (CDC).

1998. The pace of this initiative accelerated dramatically, however, in 1998 after the Director-General of WHO and the Chief Executive of SmithKline Beecham (now GlaxoSmithKline [GSK]) signed a memorandum of understanding announced in January of that year creating the "SB/WHO Collaboration for the Global Elimination of Lymphatic Filariasis". This *single* contribution from GSK to solving health problems

in the developing world includes a drug donation and other assistance on an unprecedented scale over the next 20 years or until LF is eliminated. Other private-sector companies (most notably Merck & Co., Inc.) and international aid organizations have since pledged additional funds or drugs for this initiative. Indeed, during the first full year of its activities (1998) the Programme invested a significant proportion of its energy in establishing a broad coalition of partners to share in this global effort to eliminate lymphatic filariasis, while it simultaneously prepared the necessary programmatic and technical bases and guidelines to permit the full functioning of this massive public health undertaking.

1999. By the end of its second year (1999) the number of organizations participating in this partnership had reached 27, in addition to the national Ministries of Health of the LF endemic countries. Just as important as the number of partners, however, was the agreement among them (September 1999) of a common strategic plan to move the Global Programme forward and, subsequently (December 1999), an organizational plan that defined the LF Global Alliance as “a free, non-restrictive partnership forum for the exchange of ideas and coordination of activities with membership open to all interested parties” along with a Technical Advisory Group to WHO of “specialists selected for their expertise in LF science and programme management who will meet annually to make recommendations on all aspects of the elimination efforts in all regions of the world”; WHO serves as the Secretariat.

From the technical standpoint, 1999 also saw the development of many essential programme components, including:

- mechanisms to supply the necessary drugs to those countries using the regimen of albendazole-plus-DEC in their mass drug administration (MDA) programmes;
- the collection of appropriate evidence for safety of both that drug regimen and the albendazole-plus-ivermectin regimen used in countries where onchocerciasis co-exists with LF;
- the establishment of an International Training Centre for LF Disability Management in Brazil;
- initial development of training materials for both disability and programme management courses;

- establishment of the internet website www.filariasis.org as a principal communication tool to disseminate programmatic, scientific, advocacy and informational documents to all interested parties.

Though *all* of the necessary programmatic ‘building blocks’ had not yet been put into place, still, by the end of 1999 almost 200 000 individuals in 4 countries had been treated in pilot programmes under ‘interim monitoring guidelines’. Furthermore, for almost all aspects of the Programme the seeds for the many successful activities of 2000 (see below) were first sown during that principally infrastructure-strengthening year of 1999.

2. LF Elimination: The Programme Achievements of 2000

2.1 National programme (‘country’) activities

2.1.1 Interrupting transmission

Largely because of the many technical and programmatic activities detailed below, by December 2000, 23 countries had developed national plans of action to eliminate lymphatic filariasis that had been submitted to the Global Programme Review Group (PRG), in some cases subsequently refined, and in all cases ultimately approved by the PRG. Indeed, 12 of these 23 countries (Table 1) had already initiated their once-yearly MDA activities using the appropriate 2-drug, single-dose treatment regimen (8 countries using albendazole-plus-DEC and 4 [in the African Region], using albendazole-plus-ivermectin [Mectizan®]). The number of individuals targeted for treatment in these predominantly start-up-phase programmes was approximately 3.2 million and the reported coverage achieved generally ranged between 60% and 100% of the targeted population (Table 1). In addition, another 100 000 people received treatment as part of a large ‘operational research’ programme in Haiti serving as the precursor to a full national plan of action currently under development.

The 11 other countries whose plans of action have been approved by the PRG but whose programmes will start only in 2001 are identified in Figure 1. In addition, the plan of action from Tokelau was approved, but after extensive surveys filariasis was subsequently found to be now absent from the country. China, which has had an active filariasis elimination programme for more than 20 years is now in the final phase of its national LF elimination effort when only intensive surveillance, and no

further drug administration, is required. A further 10 countries (Figure 1) had initiated, but not yet completed, development and submission of their national plans of action by the end of 2000.

2.1.2 Disability prevention, management and rehabilitation

The principal strategy for achieving this goal of the Global LF Elimination Programme is the dissemination of the newly available disease management and prevention techniques; and training is the principal tool to effect this strategy (see 2.4.3 below). By the end of 2000, 30 individuals from 11 countries (Table 2) had completed the International Training Center course programme. Disability prevention and management were already active components of the national programmes in 10 countries, and in 9 of these countries the first training-of-trainers (ToT) courses had already been conducted by December 2000 (Table 2).

2.2 Partnership and support

2.2.1 Global Alliance

With its framework established in December 1999, the Global Alliance (that “free, non-restrictive partnership forum for the exchange of ideas and coordination of activities with membership open to all interested parties”) held its first meeting in May 2000. Hosted by the Ministry of Health of Spain in the Galician city of Santiago de Compostela, the meeting was chaired by the Honourable Secretary, Ministry of Health and Family Welfare, India, and was attended by 75 delegates representing 50 different organizations.

At these sessions the Global Alliance of partners first re-affirmed its support for the programme activities already underway and for both the existing general organization of the Programme and the plans for future ‘regionalization’ of much of the Programme focus (section 2.3.2 below). Then, subpanels composed principally of national LF programme leaders identified the critical programme elements that must be ensured by the Alliance for overall Programme success. Finally, plans were made to constitute specific sub-committees to address the following issues:

- effective communication among the Alliance partners,

- a coordinated and successful funding strategy,
- maximization of programme input from current and potential future NGDO partners.

By the end of 2000, the number of partners in the Global Alliance to Eliminate Lymphatic Filariasis had reached 35 (Table 3). Its next meeting is anticipated for May 2002 (in India).

2.2.2 Collaborating and Support Centres

The 4 WHO Collaborating Centres for Lymphatic Filariasis continued to play active and essential roles in the Global Programme during 2000, as highlighted below:

- Australia: James Cook University
 - Carrying out operational research on drug distribution and on programme impact, particularly in Papua New Guinea;
 - Initiating and promoting The Centre for Partnerships in Health;
 - Producing the Newsletter, *Filarial Update*, for Global Alliance partners.
- China: Institute of Parasitic Diseases, Shanghai
 - Assembling and translating into English the extensive programmatic and epidemiological experience in China's successful programme to eliminate lymphatic filariasis;
 - Coordinating the development of a forthcoming workshop for LF-related disability prevention, management and rehabilitation in China.
- Egypt: Ain Shams University
 - Adapting training materials to the needs of Egypt and conducting training courses to support Egypt's national Programme to Eliminate Lymphatic Filariasis;

- Supporting the operational, monitoring and evaluation components of Egypt's national Programme;
 - Carrying out operational and clinical research to support the national and Global LF Elimination Programmes;
 - Providing technical support for development of the LF elimination programme in Yemen.
- United States: Centers for Disease Control and Prevention (CDC)
- Developing training material and conducting training courses for LF-related disability prevention, management and rehabilitation;
 - Developing strategies for implementation of programmes for management of lymphoedema and genital disease caused by LF;
 - Carrying out operational research to support the implementation and monitoring needs of both the national LF activities in Haiti and those of the Global Programme;
 - Providing technical support to filariasis elimination activities and programme development in Dominican Republic, Haiti and Guyana;
 - Providing technical and organizational support to the WHO Regional Office for hosting the annual regional programme managers meeting (in Dominican Republic).

In addition to these WHO Collaborating Centres, two 'LF elimination support centres' have been established to further the efforts of the Global Alliance to Eliminate Lymphatic Filariasis. Their principal achievements during 2000 are highlighted as follows:

- United Kingdom: Liverpool School of Tropical Medicine LF Support Centre
- Promoting strategy development and coordination for the Global Alliance partnership;
 - Providing technical and financial support to national programmes (particularly related to the needs of initial mapping of LF distribution [see 2.4.1]).
- United States: Emory University LF Support Center

- Providing an economic ‘costing’ of both national and global LF elimination programmes;
- Analyzing the economic value of linking LF elimination with onchocerciasis control programmes
- Carrying out research studies to define economic impact of LF elimination programmes in selected countries;

2.2.3 Funding

Financial support for the activities of the Global Programme to Eliminate Lymphatic Filariasis comes via three main routes. The first is the direct support given by the Ministries of Health and their partners in each endemic country, support that is usually both ‘in kind’ and ‘in cash’. The second route for funding of programme activities is the channeling of donations from a variety of international and other aid organizations through WHO. The third route is the channeling of resources to country programmes and elimination activities either directly or through organizations other than WHO.

The principal donors of resources made through WHO to support both the Global Programme infrastructure and the national programme activities are listed in Table 4. Table 5 indicates the principal sources of contributions to the Global Programme made through organizations other than WHO.

2.3 Global Programme activities: process and strategy

2.3.1 Review process for national programmes

During 2000 the application forms for the donation of drugs to support national LF elimination programmes were revised and ‘finalized’. The purpose of the forms is, first, to allow definition of a national plan of action that is reviewed by the global Programme Review Group (PRG) and then to provide for the PRG and the Expanded Mectizan® Expert Committee (EMEC) that information necessary to determine the country need for donated drugs and the provisions to ensure that these drugs will be safely and appropriately used in the national programmes.

For countries where the regimen of albendazole-plus-DEC is used (i.e., those countries where onchocerciasis does *not* co-exist with LF) the

Global PRG reviews the national plan of action to ensure its compliance with 9 'minimal requirements' (Table 6). If clarification is needed, it is obtained from the national programme prior to the PRG's final approval and subsequent recommendation to WHO and GSK that the albendazole be provided according to the country request.

For countries where the regimen of albendazole-plus-ivermectin is being used (*i.e.*, those countries where onchocerciasis *does* co-exist with LF) the application review process is identical except for the following (see also section 2.6.3):

- (1) PRG recommendations from the review of the national plan of action are forwarded to both WHO and EMEC for consideration of the drug donation request;
- (2) EMEC carries out its own review of the application for donated drugs and is responsible for final approval of the albendazole and ivermectin donations for LF elimination in these countries with co-endemic onchocerciasis and lymphatic filariasis.

Re-supply of drug for subsequent years of the programme requires that annual reports and re-application forms be sent to the PRG (and EMEC where appropriate) for evaluation and recommendation.

In 2000 applications or re-applications from 20 countries were received by the PRG, 3 of these also being received by EMEC. Nineteen of the applications were approved by PRG, and 2 of these (plus 1 'previously pending' application) were approved by EMEC. One application to PRG and one application to EMEC are pending (12/00), as more information from the national programmes is being sought.

2.3.2 'Regionalization'

When the framework for the Global Alliance was established (December 1999) it was re-affirmed that, "All the partners are committed to 'de-centralization' (*i.e.*, 'regionalization')." During 2000 this process of regionalization was begun.

First, Regional Meetings of the Programme Managers from LF endemic countries were held in the South-East Asian Region (February 2000), the Eastern Mediterranean Region (April 2000) and the American Region (August 2000); and a *second*, annual sub-regional meeting was held in the PacELF countries of the Western Pacific Region (October 2000). Regional or sub-regional plans of action to eliminate lymphatic filariasis were developed or modified at these meetings; and the progress made was reviewed; technical assistance was provided by WHO staff members, particularly those serving as the 'focal points' for the Regions or the sub-regions.

Second, to 'de-centralize' the entire programme initiation and implementation process, each Regional or sub-regional 'focal point' prepared for review by the global Programme Review Group (September 2000) a draft plan for regionalizing all PRG activities. The plans and cost implications of this regionalization process were debated, and finalization of the regionalization plans is anticipated for early 2001. Further, it is anticipated that the process of regionalization should be completed during 2001 and that the last *global* PRG meeting should take place in December of that year.

2.3.3 Linkages with other programmes

2.3.3.1 Onchocerciasis Control Programmes

Both the harmonization of the drug donation sections of the country applications to the PRG and EMEC and the coordination of LF elimination activities with onchocerciasis control efforts became realities in 2000. Communities and health workers accustomed to delivering Mectizan® alone via the community-directed treatment (Com-DT) strategy in areas covered by the African Programme for Onchocerciasis Control (APOC) were re-trained to incorporate albendazole in their treatment programmes. Such coordinated LF elimination/oncho control activities were initiated in Ghana, Togo, Tanzania and Nigeria (Table 1). While operational assessment of these activities is not yet complete, there were no initial difficulties recognized in logistics, in community acceptance, or in clinical side-reactions.

To expand such coordinated efforts, it is essential to know where the two infections overlap in their geographic distributions. Therefore, mapping

studies have been supported (Table 4) and the results are described below (section 2.4.1).

2.3.3.2 Intestinal parasite control

Extensive reviews of the scientific literature were produced in 2000 to establish firmly the scientific bases for linking LF elimination programmes to intestinal parasite control programmes (sections 2.4.5 and 2.5.3). Opportunities to initiate such programmatic linkages have been identified, particularly in countries with 'model programme' activities (Zanzibar, Viet Nam) supported by the Gates Grant funds to WHO (Table 4). It is anticipated that 2001 will see the first realization of these potential, and very valuable, linkages.

2.3.3.3 Skin Care Programmes

The International Society for Dermatology and the International Skin Care Nursing Association already have active programmes in a number of countries of Africa and Asia. Since skin care management is an essential component for the disability prevention and management activities of the LF elimination programme, meetings were held with these organizations in 2000 to try to identify the most appropriate technical linkages between these initiatives that could ultimately lead to coordinated programme and training activities.

2.3.3.4 Malaria/vector control programmes

In 2000, data (still unpublished) became available that identified clearly the value to individuals of the decreased exposure to infection and acquisition of LF occasioned by the use of insecticide treated bednets. Because this additional 'transmission interruption' tool could valuably complement the drug-based intervention strategy that is the foundation of the current Global Programme, efforts to link LF elimination with bednet use programmes must be explored as a priority. Indeed, an extensive review of the potential contribution of vector biological control activities to the current strategy to

eliminate LF was commissioned in 2000 and should be available for discussion and assessment by mid-2001.

2.4 Technical achievements

2.4.1 'Mapping' the global distribution of LF

Of highest priority to the Global Programme is determination of where LF actually exists. Standardized techniques for 'mapping' based principally on antigen detection of individuals living in an area geographically and programmatically defined as an 'implementation unit' were codified in the Programme Managers manuals produced during 2000 (section 2.5.3). Such 'mapping' is an important component of most national plans of action already prepared, but the greatest uncertainty about LF distribution remains in the countries of Africa and Asia. Funding support from bilateral aid organizations (especially those of Belgium and the United Kingdom) and from the Gates Foundation has permitted the development during 2000 of a plan for progressively mapping the global distribution of LF before the end of 2003.

The first Workshop to implement such mapping in Africa was held in March 2000 and included 8 West African countries who agreed to a standardized protocol slightly modified from that in the Programme Managers manual to include sampling that would permit 'spatial analysis' as well as 'implementation-unit analysis' of the data. Mapping of 5 countries was complete by December 2000 with validation in 2 countries by external investigators. Similar Workshops and mapping programmes are planned for 2001 and beyond.

2.4.2 Monitoring and evaluation

There is no question but that active 'monitoring and evaluation' is essential for Programme success since it permits gauging the progress of the programme implementation, identifying bottlenecks that can be corrected, using available resources efficiently and recognizing and recording adverse events that might arise.

In 2000 a monitoring and evaluation strategy for national programmes was defined in the Programme Managers guidelines and endorsed by the

Technical Advisory Group (May 2000). The various activities of the Programme which must be monitored include those relating to supplies (drugs and diagnostics), disease (lymphoedema, elephantiasis, hydrocoele), drug coverage (delivery, compliance, adverse events, training activities, IEC campaigns) and epidemiologic parameters relating to parasitological and infection measures. A list of possible indicators (both process indicators and impact indicators) was prepared with defined responsibilities assigned to individuals at each level of the health care system (Table 7). This overall schema and the forms prepared to capture some of the critical data (found in the Programme Managers Guidelines) were endorsed in principle by the Technical Advisory Group (May 2000) which recommended that their use in real implementation programmes be evaluated before considering any further changes to them. Similarly, the TAG recommended that the frequency of monitoring and the strategy for sampling as defined in the Programme Managers manual should be tested for their usefulness prior to any changes in the strategies proposed.

2.4.3 Training

During 2000 there was appreciable progress in all 3 principal components of the training and capacity-building aspects of the Global Programme (*i.e.*, the development of training materials and training curricula; the establishment of training centres; and the organization and evaluation of training courses).

2.4.3.1 Training materials

Programme Manager Guidelines (one for countries using the albendazole-plus-DEC regimen and another for countries using albendazole-plus-ivermectin) were finalized (October 2000) after extensive review and critique of earlier drafts. A training module based on the Programme Managers Guidelines for Programmes using albendazole-plus-DEC has been prepared for use in the first Programme Managers training course to be held in Kuala Lumpur in 2001.

A training module, "Lymphoedema Staff Manual: Treatment and Prevention of Problems Associated with Lymphatic Filariasis" (including a learners guide and a tutors guide), was completed and first field-tested in May

2000. Following further field-testing in 2001, it will be revised and widely distributed.

A “Training Module on Lymphatic Filariasis for Drug Distributors” in countries where onchocerciasis is *not* co-endemic (including a learners guide and a tutors guide) was first field-tested in February 2000. Following revisions it will be made widely available in 2001. A similar training module for drug distributors in countries where onchocerciasis *is* co-endemic with LF (again consisting of a learners guide and a tutors guide) was prepared and field-tested in September and October 2000. Its revisions, too, will be available for wide distribution in 2001.

A manual entitled, “The Programme to Eliminate Lymphatic Filariasis – Essential Elements for Medical Personnel in Countries where Onchocerciasis is *not* Co-endemic” was prepared and field-tested during 2000; its revised version will be available in 2001. A similar manual for medical personnel in countries where onchocerciasis *is* co-endemic with LF was also prepared and field-tested in 2000 for revision and broad distribution in 2001.

2.4.3.2 Training Centres

With local state and University funding the International Training Center for Lymphatic Filariasis at the Federal University of Pernambuco (Recife, Brazil) expanded its physical plant to include additional training rooms and patient-care facilities as well as dormitory space for participating trainees. During 2000 it hosted one international training course supported through CEE/FIL (see below) as well as 3 self-funded training courses for Brazilian and other regional workers. It also trained 4 individual visiting clinical research scientists in the diagnosis and assessment of lymphoedema and in the genital consequences of LF infection.

In preparation for the first formal Programme Managers training course scheduled for October, 2001, planning meetings were held with the Institute for Medical Research (IMR) in Kuala Lumpur, a Regional Training Centre for the Western Pacific Region. The IMR is also a member of the SEAMEO Tropmed network of educational institutions throughout the South-East Asian

and Western Pacific Regions, and it is anticipated that while Programme Managers training courses will take place principally at IMR, other short training courses could be conducted at other SEAMEO Tropmed facilities (e.g., in Bangkok, Jakarta, Manila, etc.). The staff at IMR and the other SEAMEO Tropmed institutions are well versed in organizing and conducting training courses, and, therefore, should greatly aid in disseminating the necessary information throughout those regions.

For the African Region, where training needs remain great, preliminary discussions for locating regional training centres have taken place with the Ivo de Carneri Foundation (Zanzibar), the Kenya Medical Research Institute (Nairobi), the Noguchi Memorial Institute (Accra, Ghana) and the International Foundation for Dermatology (Moshi, Tanzania). It is anticipated that selection of training centres and training curricula for the African Region will be finalized during 2001.

2.4.3.3 Training courses

The first international training-of-trainers workshop for disability prevention and management took place at the International Training Center for Lymphatic Filariasis in Recife, Brazil in May-June 2000. Fifteen participants from all 5 WHO endemic regions were trained in the normal and abnormal function of the lymphatic system, the assessment of lymphoedema, and the clinical management of both lymphoedema and the urogenital problems associated with lymphatic filariasis. Subsequently, these trainees returned to their own national programmes, the majority conducting training-of-trainers courses for LF disability management and initiating their own country activities (Table 2).

Training activities involving WHO HQ staff were also carried out first in Egypt (February and May 2000) for both drug distributors (nurses) and medical doctors from endemic governorates and then in Togo (November 2000) for similar types of trainees. During these sessions the relevant training materials (see above) were field-tested for course appropriateness and subsequent revision.

Other training activities were carried out in all of the active national programmes with locally adapted training materials, generally patterned after the available WHO training materials and training modules.

2.4.4 Drug supply and logistics

Albendazole and ivermectin: The supply in 2000 of both donated drugs, albendazole and ivermectin (Mectizan®), though scaled-up enormously from the previous year, was effected very smoothly by both of the drug-donating partners (GlaxoSmithKline and Merck & Co., Inc.); coordination between the albendazole and Mectizan® shipments, where necessary, was also effective.

The number of tablets of albendazole shipped by GSK in 2000 and of Mectizan® shipped by Merck & Co., Inc. in 2000 are seen in Table 8, from which it is clear that more tablets were shipped than actually used for treatment (Table 1). This discrepancy reflects both the anticipated needs for distribution programmes in early 2001 and the unavoidable delays in some programmes' pilot activities scheduled for late 2000.

DEC: A consultant to WHO, first hired in 1999, worked full-time in 2000 to rationalize the supply and quality assurance of DEC, with the following conclusions and results:

(1) The potential market for DEC tablets to support the Global Programme to Eliminate LF is estimated at 4 billion tablets (50 mg) over the next 20 years, with the estimate for 2001 being 300 million tablets (50 mg).

(2) Five companies were identified which manufactured DEC starting material (3 in India, 1 in Brazil and 1 in Ireland). Finished pharmaceutical dosage forms are produced by at least 23 companies (14 in India and 1 each in Australia, Bangladesh, Brazil, France, Indonesia, Malta, Sri Lanka, Thailand and the United States). The WHO model list for essential drugs includes DEC tablets in 50 mg and 100 mg strengths. These strengths were identified as being currently produced by 18 manufacturers (50 mg tablets) or 13 manufacturers (100 mg tablets); other available strengths from some manufacturers are 150 mg, 200 mg, 300 mg, 400 mg and 600 mg.

(3) A videoconference of experts, chaired by the CEO, United States Pharmacopeia was convened (March 2000) to propose standards and provide guidelines to assure the quality of DEC dosage forms to be used in national programmes to eliminate lymphatic filariasis. A principal recommendation was the development of modern assays for DEC which could be evaluated by the US Pharmacopeia to replace the older, sub-standard DEC assays currently available.

(4) Subsequently, a contract was made with a Swiss pharmaceutical laboratory which developed and validated a high performance liquid chromatography (HPLC) method to assay DEC drug substance and tablets, to detect chromatographic impurities in DEC preparations and to evaluate the dissolution rates of DEC tablets. This laboratory also developed a gas liquid chromatography (GLC) method for detecting piperazines (known potential impurities of DEC drug substance and tablets). Both assays are currently under evaluation by the US Pharmacopeia and hopefully will be officially recommended for use in assessing DEC quality in the very near future.

(5) To acquire DEC for programmes needing this drug, WHO conducted a sealed-bid tender (May 2000) to 13 companies or suppliers in 7 countries (7 in India, 1 each in Bangladesh, Egypt, Holland, Indonesia, Sri Lanka, Thailand). Five companies sent acceptable samples and documentation by the required date. An independent laboratory evaluated the DEC samples from the 4 low-bid companies according to the Pharmacopeia (Indian, British, United States) used by the manufacturer. The winning bid was from the State Pharmaceutical Manufacturing Corporation of Sri Lanka (SPMC), with good quality product and a price of US \$0.92 per thousand tablets (50 mg).

(6) A three-person team of experts was sent to accompany the Sri Lankan national regulatory inspectors as they evaluated SPMC for Good Manufacturing Practices and Good Laboratory Practices (June 2000). These experts wrote a detailed report and recommended that DEC tablets continue to be purchased from SPMC, provided that SPMC implement the (relatively minor) corrective actions recommended by the assessors. Accordingly, WHO has been able to facilitate the purchase of more than 100 million DEC tablets

during 2000. The ideal logistics methods for handling this purchase of DEC effectively and efficiently are still being developed.

(7) In order to increase the number of 'accredited' suppliers of DEC tablets, two companies in India whose tablets and documentation also were acceptable after the initial sealed bid tender were scheduled for evaluation by a similar team of expert assessors in early 2001.

It is hoped that a list of 'prequalified manufacturers' of DEC can be assembled, based on the production of a product meeting quality standards assessable with the newly developed chromatographic techniques and produced under approved GLP and GMP standards. This DEC supply strategy (which already has achieved both increased quality and decreased cost) as well as other issues relating to DEC (such as the production of chewable tablets and the production of tablets of strengths different from the 50 mg or 100 mg tablets) were considered by the Technical Advisory Group (May 2000) which requested that more detailed information be made available to the TAG before specific recommendations could be made to the Programme.

2.4.5 Scientific advances

2.4.5.1 Drug treatment regimens – safety assessment

The extensive compilation of observations documenting the safety of the 2-drug co-administration regimens (albendazole-plus-DEC and albendazole-plus-ivermectin) that had been completed in December 1999 was formally published in the scientific literature (December 2000). In addition, after extensive review of the relevant literature and available experience, it was agreed that lactation should not be a contraindication to the use of albendazole, and the wording of this proscription was modified by GSK on the package insert. Further, the experience with albendazole in pregnancy (usually through inadvertent exposure) was examined and a scientific paper is now in press that records the lack of adverse effect reported in such situations.

This scientific basis for the safety of the albendazole, ivermectin and DEC regimens used in the Global Programme has permitted the development

of an appropriate protocol for expanding the experience with these 2-drug co-administration regimens through 'intensive monitoring' of 1 000-2 000 individuals at the beginning of each programme's activities until observations on approximately 20 000 intensively monitored individuals receiving each co-administration regimen have been collected. During 2000 a total of 6 475 forms were collected and the appropriate data-capture framework was established. It is anticipated that the entire collection of necessary intensive-monitoring forms will be completed in 2001. 'Passive monitoring' to look for any unanticipated serious adverse experiences (SAEs) will, of course, continue as with any marketed drug in use. Additionally, a TDR-sponsored study of experiences of pregnant women inadvertently treated with albendazole-plus-ivermectin in mass drug administration programmes in Ghana has been initiated.

2.4.5.2 LF in children

A thorough, comprehensive review of the medical literature relating to lymphatic filariasis in children was completed in 2000 by a consultant to the Programme, and the manuscript was sent for publication in the scientific literature. What has been recognized from this review and from concurrent research underway is that with the new, highly-sensitive diagnostic techniques available (antigen detection, ultrasound examination) LF can be recognized to be acquired usually in childhood, and often with as many as one-third of children infected before age 5. Initial damage to the lymphatic system by the parasites generally remains hidden (*i.e.*, 'subclinical' dilatation of the lymphatics with progressive dysfunction) for years but ultimately gives rise, especially after puberty, to the characteristic clinical features of the adult disease syndromes (particularly lymphoedema and hydrocoele).

It is also clear that children will be the greatest beneficiaries from the Global Programme to Eliminate LF. Not only will they be protected from acquiring infection through the MDAs to interrupt transmission, but they will also benefit directly from the 'deworming' effects of albendazole. Furthermore, early observations suggest that antifilarial treatment of infected children may be relatively more effective in preventing their acquisition of disease than it is in adults. Additionally, the early-age susceptibility to infection that is now recognized will also be important for monitoring the progress towards

interrupting transmission of infection, since it will permit population cohorts whose conversion to antigen positivity can be followed to be an indicator of ongoing or interrupted transmission.

Further studies to determine the optimal ways to manage children with LF will be undertaken in 2001 and it is anticipated that the linkages between WHO and UNICEF can and will be strengthened and extended to focus more fully on this important issue.

2.4.5.3 Intestinal parasite infections

In part to be able to gauge the impact of the 'beyond filariasis' effects of the MDAs conducted to interrupt LF transmission, a series of reviews was commissioned in 1998 and finally published in 2000. These defined the impact of parasitic infections on global malnutrition, assessed the public health importance of ascaris, trichuris and hookworm infections, thoroughly reviewed the efficacy and safety of albendazole in treating these infections, presented the clinical data that led to the registration of ivermectin for treating lymphatic filariasis and recorded the data confirming the safety of the 2-drug single-yearly-dose co-administration regimens used in the Global Programme to Eliminate LF.

The special Supplement to the journal Parasitology that contained these reviews was entitled, "Controlling intestinal helminths while eliminating lymphatic filariasis", and an introduction written from WHO/CPE pointed out explicitly the enormous public health advantages that could be achieved by meshing or coordinating these two programmes. It is anticipated that appropriate strategies will be developed and coordinated programmes initiated during 2001.

2.4.5.4 Ongoing research

An exercise to identify the priority research needs for lymphatic filariasis elimination was conducted (January-February 2000) among WHO and external experts. A list of 48 potential research needs was compiled and then e-mailed to 81 experts in onchocerciasis and lymphatic filariasis research and

control around the world for comments, additions and ranking according to perceived importance for filariasis elimination. Of the 50% who responded, half were experts from filariasis endemic countries. The resultant rankings (Figure 2) were analysed to identify which played to the relative strengths of TDR, and the TDR workplans (for the Task Force on Filariasis Intervention Research and for TDR Product Development) were established with these priorities considered. This process not only helped to reach a consensus on research needs, but it also helped in identifying which institutions (WHO or external collaborating partners) could most suitably address the identified research needs. For WHO, research in filariasis now focuses on the following:

- (a) Cost-effective drug delivery strategies for achieving high and sustained treatment coverage (Ghana, India, Kenya, Myanmar, Viet Nam);
- (b) Strategies for effective drug delivery in urban areas (India);
- (c) Integrated drug delivery strategies (Ghana, Mali);
- (d) Tools/strategies for advocacy and IEC to enhance drug delivery (India);
- (e) Treatment strategies effective in achieving elimination for the main vector-parasite complexes (Ghana, Kenya, India, Mali, Papua New Guinea);
- (f) Methods for community-based management of lymphoedema and related adenolymphangitis (Ghana, Kenya, Mali, Nigeria, Tanzania);
- (g) Strategies and tools for monitoring and evaluating filariasis elimination programmes (Germany, Ghana, Indonesia, Malaysia, Netherlands, Uganda);
- (h) Methods for identifying areas where there is risk of loa-associated encephalopathy after ivermectin administration (Cameroon, Nigeria);
- (i) Efficacy and safety of the albendazole-plus-ivermectin co-administration regimen in decreasing microfilaraemia (Ghana, Kenya, Zanzibar);
- (j) Pharmacokinetics of 2-drug co-administration regimens (Ghana, India);
- (k) Filarial genomes and applied genomics;
- (l) Drug discovery especially relating to filaria-specific amino acyl t-RNA transferases.

Other major research initiatives that relate to priorities for filariasis elimination are also being undertaken by all of the 'academia' partners of the Global Alliance identified in Table 3.

2.5 Communication, advocacy and documentation

2.5.1 Communication

As a critical component of national programme activities, communication was the subject of a TDR-sponsored workshop (July 2000), and it will become increasingly a focus of the social mobilization initiative of WHO's Gates-Grant supported 'demonstration project' in India in 2001 and beyond.

As a means for linking the Global Alliance partners and others interested in filariasis elimination, communication has been most directly facilitated in 2000 by the maturation and full functioning of the internet site: www.filaria.org ("Eliminating lymphatic filariasis"). The website has both public and restricted sections. The public section has 6 components: *The Elimination Programme, The Disease, News and Documents, Photo Gallery, Partnership, Research and Development*. The restricted site has 15 sub-sections that relate to the various committees or technical components of the Global Programme and is designed as a working tool for the many participants in the effort to eliminate lymphatic filariasis.

Even though the public section of the website displays a substantially higher level of scientific information than that often found on the web, during 2000 the website was accessed almost 500 000 times (Figure 3). The most popular sections being accessed were *The Disease*, the restricted intranet, *Photo Gallery, The Elimination Programme, News and Documents*. The most frequently downloaded documents were *New hope for people with lymphoedema, PELF factsheet*, and *Fact sheet on lymphatic filariasis*. The website is linked to numerous other related sites including a mirror of itself on the WHO website dedicated to the Communicable Diseases cluster. It is anticipated that the content and usefulness of www.filaria.org will continue to grow rapidly as the programme itself enlarges and achieves greater recognition during the next years.

2.5.2 Advocacy

The principal advocacy effort of 2000 was the first meeting of the Global Alliance in Santiago de Compostela (May 2000; see 2.2.1 above).

The WHO-published document from that meeting not only records the state of the Global Programme nearly one year after its overall strategy was developed and agreed to by the partners, but it also serves as a platform for launching other partner-driven initiatives at the global level.

In the Regions, 'advocacy' was both an essential element in all national programmes and a welcome consequence of programme success. Particularly in the Eastern Mediterranean Region, following a successful MDA programme in Egypt a strong advocacy instrument became available in the form of a Resolution at the Regional Meeting (September 2000) calling for efforts to eliminate LF from Eastern Mediterranean Region countries and to document its absence from all countries.

Specific documents prepared during 2000 that are useful for advocacy at all levels are indicated in section 2.5.3 below.

2.5.3 Documents produced by CEE/FIL during 2000

Information/advocacy documents

- WHO Fact Sheet on Lymphatic Filariasis (revised, September 2000)
- PELF Fact Sheet (revised, August 2000)
- Ready for Global Elimination (revised February 2000)
- Lymphatic Filariasis: informational trifold (in press)
- Eliminate Lymphatic Filariasis: Attack Poverty. Proceedings of the first Meeting of the Global Alliance to Eliminate Lymphatic Filariasis (July 2000)
- Resolution by Eastern Mediterranean Regional Committee: "Elimination of lymphatic filariasis in the Eastern Mediterranean Region" (EM/RC47/R.11) (October 2000)
- Technical Advisory Group (TAG) on the Global Elimination of Lymphatic Filariasis (ELF): Report of the TAG-ELF First Meeting (May 2000).
- Global Programme to Eliminate Lymphatic Filariasis – Programme Activities 1999 (February/2000)

Training/programme materials

- Preparing and Implementing a National Plan to Eliminate Lymphatic Filariasis: A Guideline for Programme Managers (in countries where

onchocerciasis is *not co-endemic*) (WHO/CDS/CPE/2000.15) (November 2000).

- Preparing and Implementing a National Plan to Eliminate Lymphatic Filariasis: A Guideline for Programme Managers (in countries where onchocerciasis is *co-endemic*) (WHO/CDS/CPE/2000.16) (December 2000).
- Training Module on Prevention and Treatment of Problems Associated with Lymphatic Filariasis - Part 1. Learner's Guide; Part 2 Tutor's guide (August 2000).
- The Programme to Eliminate Lymphatic Filariasis - Essential Elements *for Medical Personnel* in Countries where Onchocerciasis is not Co-Endemic (May 2000).
- The Programme to Eliminate Lymphatic Filariasis - Essential Elements *for Medical Personnel* in Countries where Onchocerciasis is Co-endemic (September 2000).
- Training Module on Lymphatic Filariasis *for Drug Distributors* in Countries in Countries where Onchocerciasis is not Co-Endemic - Part 1. Learner's Guide; Part 2 Tutor's guide (February 2000).
- Training Module on Lymphatic Filariasis *for Drug Distributors* in Countries where Onchocerciasis is Co-endemic - Part 1. Learner's Guide; Part 2 Tutor's guide (September 2000).

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2.6 Oversight/Standing Committees

During 2000 three new oversight/standing committees were created (TAG, EMEC, GGRC), and the Programme Review Group (PRG), created in 1997, developed plans for re-structuring itself.

2.6.1 Technical Advisory Group (TAG)

At the time when the organization of the Global Alliance was agreed by the partners (December 1999), a Technical Advisory Group was also created comprising “specialists selected for their expertise in LF science and programme management who will meet annually to make recommendations on all aspects of the elimination efforts in all regions of the world.” Twelve individuals were appointed by WHO, after consultation with the Global Alliance partners, to serve on the TAG for terms normally of three years. Ten countries are represented by the twelve members, six of whom are directly responsible for their own *national* Programmes to Eliminate Lymphatic Filariasis.

At the first meeting of the TAG (May 2000) the following 4 technical topics were considered in detail:

- (1) Indicators for monitoring programmes to eliminate LF;
- (2) Morbidity control – the strategy and its dissemination ;
- (3) LF as a childhood disease;
- (4) Ensuring supplies of quality DEC.

Following its deliberations, the TAG submitted the following conclusions and recommendations:

- (1) The TAG confirms the importance of the PELF as a Global Programme to eliminate a major cause of long-term or permanent disability.
- (2) The TAG considers LF to be an eradicable disease, with effective tools already available to achieve this objective.
- (3) Having reviewed activities of PELF and its PRG already underway, and recognizing the extraordinary focus and commitment of the GA, the TAG was satisfied with the technical basis for LF elimination and endorses the strong activities and leadership demonstrated by WHO and its Partners.
- (4) Recognizing the various vested interests involved, the TAG resolves to function independently in fulfilling its Terms of Reference.
- (5) There is a need to include a social scientist among TAG members.
- (6) Considering that TAG has much to learn and do in support of the programme, members of TAG request the WHO Secretariat to facilitate another meeting (TAG2) to consider key issues again this year (2000) and, if required, for TAG meetings to be held more than once per year (and for more than 2 days per meeting).
- (7) The TAG will concentrate on ensuring best possible standards of science and safety, as well as finding practical solutions for operational implementation of the PELF.
- (8) TAG members will develop interim consultations among themselves by e-mail, especially to decide topics and priorities for future meetings of the TAG.

2.6.2 Programme Review Group (PRG)

As indicated in Section 2.3.2 above, the concept of 'de-centralization' or 'regionalization' of the coordinating activities in the Global Programme was strongly affirmed by all partners during the organization of the Global Alliance (December 1999). As WHO Secretariat facilities in all Regions could support 'Regional PRGs' (providing that resources were available), each Regional 'focal point' presented to the Global PRG in September 2000 a preliminary plan and draft terms of reference for Regional PRGs. These would guide the elimination programmes regionally and form the backbone of a global oversight network responsible for LF elimination. Each Regional 'focal point' presented possibilities and costs, and it is anticipated that the full establishment of Regional PRGs to replace the Global PRG will take place in 2001. Each Regional PRG would have as one of its initial members the geographically most appropriate current member of the Global PRG in order to provide the necessary continuity between the original and newer programme

activities. Until these Regional PRGs are established, the Global PRG will continue, but dis-establishment of the Global PRG is anticipated for December 2001.

2.6.3 Expanded Mectizan® Expert Committee (EMEC)

The Mectizan® Expert Committee (MEC) was created in 1987 to oversee the donation of ivermectin (Mectizan®) for communities endemic for onchocerciasis. When Merck & Co., Inc. agreed to expand its successful Mectizan® Donation Program to include activities towards LF elimination in those onchocerciasis-endemic countries where lymphatic filariasis also co-exists (1998), additional MEC members with specific expertise were needed. Then, at the time when the organizational structure of the Global Alliance was agreed (December 1999) it was recognized that having applications go through two committees (PRG for albendazole and MEC for ivermectin) would be much less efficient than having one committee responsible for assessing the applications from countries with co-endemic onchocerciasis and LF and recommending the donation of both drugs.

Therefore, the Expanded Mectizan® Expert Committee was created (January 2000), comprising 8 members representing 7 countries, 3 of which have co-endemic onchocerciasis and lymphatic filariasis. The committee is now responsible for reviewing applications for drug donations to support early-phase or full-country programmes to eliminate lymphatic filariasis and to recommend to both Merck and GSK that sufficient supplies of drugs to meet the approved requests be donated and shipped. Applications come from the countries' Ministry of Health directly to EMEC, and correspondence from EMEC is directly with the countries. Copies of all documents are sent either simultaneously from the countries, or immediately on receipt by EMEC, to WHO which then presents them for review by the PRG relays this review to EMEC. EMEC and PRG (or their Secretariats) work closely together to try to facilitate the development of effective programmes with minimal confusion for country programme managers. The EMEC meets normally once in 6 or 9 months, but the applications for drug donations can be reviewed among Committee members by mail as well.

2.6.4 Gates Grant Review Committee (GGRC)

When a grant of US \$20 million over 5 years was awarded to the Global Alliance by the Bill & Melinda Gates Foundation (November 2000, see 2.2.3), it became necessary to establish a committee (the GGRC) responsible for executing all activities associated with the Grant in accordance with the agreed objectives. Membership on the Committee will be as follows:

(1) Up to 2 members from each of the 4 'Nodes' responsible for Grant-supported activities:

- Atlanta (Emory University, Carter Center, CDC);
- Liverpool (LF Support Centre);
- NGDO (Coordinated by InterChurch Medical Assistance and including Health & Development International, the Carter Center and other NGDOs to be recruited);
- World Health Organization.

(2) One representative from each of the following:

- The World Bank;
- CDC;
- TAG (Chairperson).

(3) Observers: one representative from each of the two pharmaceutical companies GSK and Merck & Co., Inc.; other experts as determined/invited by the Committee.

WHO will provide Secretariat support to the GGRC which will meet at least once-yearly. Other details concerning the functions of the GGRC will be defined in 2001 when the first funds will be available for disbursement to the nodal partners.

2.7. Programme staffing at WHO

Despite certain shifts in personnel, staffing levels at WHO Headquarters in 2000 remained essentially identical to those of 1999. For most of the year there were 2½-3 full-time professionals working in the Filariasis Unit along with 4 other professionals having short-term contracts (2 for 11 months, 1 for 6 months and 1 for 3 months) supported by 'extra-budgetary' donated funds. This professional staff was

supported by 3 general service staff (2 on fixed-term contracts and 1 on a short-term contract).

In the regions, too, staffing levels for filariasis elimination activities remained essentially identical to what they were in 1999. Full-time professionals serving as 'focal points' for filariasis elimination were in place in the Region of the Americas and in the Western Pacific Region, while 'part-time' professionals (i.e., those with multiple disease responsibilities) served this role in the African, South-East Asian and Eastern Mediterranean Regions.

As the Global Programme continues to accelerate, it is clear that additional staff will be necessary - in the Regions particularly to serve the technical needs of the countries, and at Headquarters to manage information and coordinate the needs of the countries with support from WHO and external sources. It is anticipated that funds from the Gates Grant will permit one additional staff member to join the filariasis unit at Headquarters and one additional professional to work in the South-East Asian Region. Funds donated by the United Kingdom are available to support a post in the African Region, and it is hoped that this additional staffing will permit the Global Programme's support to countries to be even more effective than it has been to date.

3. Targets for 2001

The Strategic plan for the Global Alliance (September 1999) projected that by the end of 2001 the Global Programme would have reached at least 30 million people with once-yearly administered drug regimens, would have completed mapping the infection in more than half the endemic countries in all Regions, would have finalized the basic training curricula and would have developed a morbidity (disability) control network of Programme Managers in all countries with LF elimination programmes. These, then, are the targets that must be met in 2001, while additionally strengthening the Programme base itself, assuring successful programme operations and quantifying the tangible benefits to society of investment in this programme. Some of the specific technical challenges that must be met to ensure success of the Programme in 2001 are listed in Table 9.

The year 2000 has met with much success in terms of initial programme activities towards LF elimination, but this is not a Programme that can now remain in

a stationary or maintenance phase. Indeed, in 2001 it must face the challenge of reaching a projected 10-fold expansion in population numbers and then must continue to accelerate programme activity over the following 5 years as well. Success will bring additional programme support, and additional programme support will bring still further success. It is clear that at the same time that country activities are expanding, efforts must also be made both to strengthen the Programme's infrastructure and to document its impact in countries where it is active. Such challenges will continue even after 2001, but there should be no delay in assembling the tools and expertise required to meet these critical challenges immediately.

The World Health Assembly has resolved to eliminate lymphatic filariasis as a public health problem; the necessary understanding and tools to achieve this goal are available, and unprecedented donations from both the private- and public-sectors have been made. What is necessary now is to take advantage of the positivity and enthusiasm that this Programme engenders and to marshal the necessary human and other resources to achieve elimination of LF, according to the timetable laid out in the Strategic Plan of 1999, a timetable formulated and agreed together by all the partners in the Global Alliance and re-affirmed at its inaugural meeting in May 2000.

Table 1: Countries with active programmes in 2000* – population targeted and coverage

	No. targeted	No. reached	Coverage	'At risk' population
AFRO				
• Ghana	480,000	n.a.	n.a.	4,000,000
• Nigeria	160,000	159,555	99+%	80,000,000
• Tanzania	29,963	22,857	76%	11,000,000
• Togo	77,000	n.a.	n.a.	1,600,000
AMRO/PAHO				
EMRO				
• Egypt	1,820,000	1,750,000	96%	2,100,000
SEARO				
WPRO				
• American Samoa	63,000	11,081	18%	63,000
• Cook Islands	18,000	13,344	74%	20,000
• French Polynesia	220,000	205,000	93%	226,000
• Niue	1,800	1,800	100%	2,000
• Samoa	152,022	145,952	96%	170,000
• Philippines	23,057	19,228	83%	36,000,000
• Vanuatu	186,678	154,739	83%	196,210

* Using 2-drug, once-yearly MDA strategy to interrupt LF transmission

n.a. Not available

Table 2: Activities towards disability prevention, management and rehabilitation in 2000

	ITC Trainees*	TOT courses**	Active Programmes†
AFRO			
• Ghana	2	No	Yes
• Nigeria	1	No	No
• Tanzania	0	Yes	Yes
• Togo	1	Yes	Yes
AMRO/PAHO			
• Brazil	6	Yes	Yes
• Dominican Republic	2	Yes	Yes
• Haiti	2	Yes	Yes
EMRO			
• Egypt	2	No	No
SEARO			
• India	2	Yes	Yes
WPRO			
• China	9††	Yes	Yes
• Philippines	1	Yes	Yes
• PacELF†††	1	Yes	Yes

* Number of trainees completing International Training Course programme (see 2.4.3)

** Training-of-trainers course conducted by ITC trainees as part of their own national programmes

† In communities providing disability prevention, management and rehabilitation for affected individuals

†† 8 of these trained in 1999

††† Pacific Programme to Eliminate Lymphatic Filariasis (the 'sub-regional' organization of 21 Pacific Island nations)

**Table 3: Partners in the Global Alliance to Eliminate Lymphatic Filariasis
(December 2000)**

National Ministries of Health	80 endemic countries
International Organizations	United Nations Children's Fund – UNICEF The World Bank The World Health Organization (WHO)
Private Sector	Binax, Inc., USA GlaxoSmithKline, United Kingdom Merck & Co., Inc., USA
International Development Agencies	Arab Fund for Social and Economic Development, Kuwait Department for International Development (DFID), United Kingdom Directorate General for Development Cooperation, Italy Ministry of Health and Welfare, Japan Ministère fédéral des Affaires sociales, de la Santé publique, Belgium Ministerio de Sanidad y Consumo, Spain Ministry of Health, Welfare and Sport, Netherlands
Non-Governmental Agencies	Bill & Melinda Gates Foundation, USA Fundação Amaury Couthino, Brazil Global 2000 of the Task Force for Child Survival, USA Health and Development International, Norway Interchurch Medical Assistance, USA The Carter Center, Atlanta, USA The Centres for Partnerships in Health, Australia The Mectizan® Donation Program, USA World Alliance for Community Health, Canada
Academia and Research Institutions	Ain Shams University, Egypt Bernhard Nocht Institute for Tropical Medicine, Germany Centers for Disease Control and Prevention, Atlanta, USA Chinese Academy of Preventive Medicine, China Danish Bilharziasis Laboratory (DBL), Denmark Emory University, Atlanta, USA Institute for Medical Research (IMR), Malaysia James Cook University, Australia Liverpool School of Tropical Medicine: LF Support Centre, UK Notre Dame University, USA Universidade Federal de Pernambuco, Brazil Vector Control Research Centre (VCRC), Indian Council of Medical Research, India Washington University in St Louis – Barnes-Jewish Hospital, USA

Table 4: Contributions to global and national filariasis elimination activities made through WHO (2000)

Donor	Principal Focus
International Development Agencies	
United Kingdom (Department for International Development)	Unrestricted Programme support; selected programme and operational research support (through Liverpool LF Support Centre)
Japan (Ministry of Health and Welfare, Japan International Cooperation Agency)	Training programmes and materials; programme support for WPR countries
Arab Fund for Economic and Social Development	Unrestricted Programme support in member states of the Arab League
Belgium (Ministère fédéral des Affaires sociales, de la Santé publique)	Support for mapping distribution of LF in Africa
Italy (Directorate-General for Development Cooperation)	Unrestricted Programme support
Netherlands (Ministry of Health, Welfare and Sport)	Unrestricted Programme support
Spain (Ministerio de Sanidad y Consumo; Province of Galicia)	Hosting of Global Alliance meeting
Private Sector	
GlaxoSmithKline	Albendazole supply, delivery and best-practice monitoring; meeting support
Bill & Melinda Gates Foundation	Global LF 'mapping', DEC supplies; 'model programme' support
Binax Inc.	Favourable pricing of diagnosis tests
Washington University Barnes-Jewish Hospital	Support for operational research

**Table 5: Principal contributions to filariasis elimination activities
not made through WHO (2000)**

Donor	Principal Focus
Merck & Co., Inc.	Mectizan® (ivermectin) supply, delivery and best-practice monitoring; meeting support
GlaxoSmithKline	Direct support to Liverpool and Emory LF Support Centres and to selected programme initiatives; meeting support
United States (Department of Health and Human Services)	Programme and 'in kind' support to operational, technical and research activities carried out through CDC
Bill & Melinda Gates Foundation	Programme implementation support for Haiti through Notre Dame University; 'demonstration project' support through Emory University, Carter Center, CDC, Liverpool LF Support Centre and selected NGOs
Other Global Alliance Partners (including particularly national Ministries of Health and their research institutions in LF endemic countries)	Restricted or unrestricted, 'in kind' and 'in cash' support to programmes

Table 6: 'Minimum requirements' for PRG approval of applications for albendazole donation

1. Ministerial commitment to the elimination of lymphatic filariasis
2. Sufficient epidemiological and parasitological data to begin operations, and provision to expand that data progressively as needed to support the requirements of a full national programme (a phased approach generally being anticipated for larger countries)
3. Potential to integrate with other public health services/programmes
4. Existence of a National Coordination Committee or a similar body
5. Clear identification of resource requirements needed to implement the intervention programme; for Applications requiring expansion of initial operations, the provision of evidence that:
 - the targets for the initial operations are being met
 - the epidemiological data are available to justify the expansion
 - the resources for that expansion are adequate
6. Technical capacity present already or a clear statement of how such capacity will be created
7. Guaranteed exemption from fees or counter-part payments to cover customs duties, acceptance and clearance; evidence of mechanisms in place for appropriate drug handling and warehousing
8. A plan for impact assessment on transmission in a subset or sentinel group of the treated population
9. The capacity to adequately identify, manage, report and monitor any serious adverse experiences with the drugs being used.

**Table 7: Indicators for monitoring the Programme
to Eliminate Lymphatic Filariasis**

Level monitored	Process Indicators	Impact Indicators	Reported by
Every Village/Urban locality of the IU targeted for MDA	<ol style="list-style-type: none"> 1. Total population in the village (Y) 2. Population eligible for Drug co-administration (Y) 3. Drugs received in adequate quantity (R) 4. IEC campaigns undertaken (R) 5. No. of drug distributors appointed (R) 6. Drug distributor adequately trained (R) 	<ol style="list-style-type: none"> 1. Drug coverage rate (R) 2. No. of lymphoedema patients following proper care 	Supervisor
Sentinel village/locality	<ol style="list-style-type: none"> 1. Total sentinel population in the village/sentinel area (Y) 2. Population eligible for Drug co-administration (Y) 3. Drug distributor adequately trained (Y) 	<ol style="list-style-type: none"> 1. Drug coverage rate by age groups and sex (Y) 2. Drug compliance rate by age groups and sex (Y) 3. Base-line parasitological, disease and vector indices (B,P) 	Independent body
Implementation Unit	<ol style="list-style-type: none"> 1. Total population of IU (Y) 2. Quantities of drugs received in the IU by date (R) 3. Quantities of drugs shipped to the villages by date (R) 4. IEC campaigns undertaken (R) 5. No. of centres where hydrocoelelectomy offered (Y) 6. No. of centres where care for lymphoedema offered (Y) 	<ol style="list-style-type: none"> 1. Overall Drug coverage rate (Y) 2. Proportion of villages achieving more than 80%, 60-80% and below 60% coverage rate 3. Drug compliance rate in sentinel sites (Y) 4. No. of filarial hydrocoeles repaired (Y) 	Responsible Health Officer of IU
Regional or Provincial	<ol style="list-style-type: none"> 1. Proportion of Implementation Units assessed for LF (Y) 2. Target population for MDA (Y) 3. Quantities of drugs shipped to regions (R) 4. Proportion of IUs covered by MDA (R) 	<ol style="list-style-type: none"> 1. Drug coverage rate (Y) 2. Drug compliance rate (Y) 3. Proportion of IUs achieving more than 80%, 60-80% and below 60% compliance rate (Y) 4. No. of filarial hydrocoeles repaired (Y) 	Provincial Director of Health Services or designate
National	<ol style="list-style-type: none"> 1. National Task Force established (Y) 2. National plan to eliminate LF prepared (Y) 3. Proportion of Implementation Units assessed for LF (Y) 4. Target population for MDA (Y) 5. Quantities of drugs shipped to regions (R) 6. Proportion of IUs covered by MDA (Y) 	<ol style="list-style-type: none"> 1. Drug coverage rate (Y) 2. Drug compliance rate (Y) 3. Proportion of sentinel sites achieving more than 80%, 60-80% and below 60% compliance rate (Y) 4. No. of filarial hydrocoeles repaired (Y) 	National Programme Officer

Table 7 continued

Level monitored	Process Indicators	Impact Indicators	Reported by
WHO Region	<ol style="list-style-type: none"> 1. No. and Proportion of countries for which LF status known and mapping of LF distribution completed (Y) 2. No. and proportion of countries established National Task Force (Y) 3. No. and proportion of countries prepared National plans to eliminate LF Elimination (Y) 4. Target population for MDA (Y) 5. Quantities of drugs shipped to countries (Y) 	<ol style="list-style-type: none"> 1. Proportion of countries covering 100%, 50% and 20% implementation unit with MDA (Y) 2. No. & Proportion of at risk population covered by MDA (Y) 3. Proportion of sentinel sites achieving more than 80%, 60-80% and below 60% compliance rate in each country (Y) 	
Global	<ol style="list-style-type: none"> 1. No. and proportion of countries established National Task Force by WHO Region (Y) 2. No. and Proportion of countries for which LF status is known and mapping of LF distribution completed by WHO Region (Y) 3. No. and proportion of countries prepared National plans to eliminate LF Elimination by WHO Region (Y) 4. Target population for MDA by WHO Region (Y) 5. Quantities of drugs shipped to countries by WHO Region (Y) 	<ol style="list-style-type: none"> 1. Proportion of countries covering 100%, 50% and 20% implementation unit with MDA by WHO Region (Y) 2. No. & Proportion of at risk population covered by MDA by WHO Region (Y) 3. Proportion of sentinel sites achieving more than 80%, 60-80% and below 60% compliance rate in each country by WHO Region (Y) 	

Figures in brackets after each indicator represents frequency of updating and reporting

Y: Yearly reporting

R: Regularly updated whenever status changes and communicated

B: Base-line recorded once before implementation of programme

P: Periodic, based on programme design (every two years)

Table 8: Donated drugs shipped in 2000 for use by countries with approved national plans of action to eliminate LF

	Albendazole tablets (400 mg)	Mectizan® tablets (3 µg)
<ul style="list-style-type: none"> • AFRO <ul style="list-style-type: none"> • Comoros • Ghana • Nigeria • Tanzania • Togo 	650,000 480,000 700,000 40,000 450,000	1,001,000 * 113,000 538,000*
<ul style="list-style-type: none"> • AMRO/PAHO† <ul style="list-style-type: none"> • Dominican Republic 	200,000	
<ul style="list-style-type: none"> • EMRO <ul style="list-style-type: none"> • Egypt 	2,900,000	
<ul style="list-style-type: none"> • SEARO <ul style="list-style-type: none"> • Bangladesh • India • Sri Lanka 	1,000,000 20,000,000 2,100,000	
<ul style="list-style-type: none"> • WPRO† <ul style="list-style-type: none"> • Cook Islands • French Polynesia • Niue • Philippines • Samoa • Tonga • Vanuatu 	20,000 270,000 2,500 4,000,000 140,000 100,000 200,000	

* Mectizan® *already provided* to these countries for onchocerciasis control in areas with overlapping LF is not included in these figures.

† Research projects (that will lead to national plans of action) received 280,000 tablets of albendazole for Haiti and 50,000 tablets of albendazole for Papua New Guinea.

Table 9: LF Elimination Programme – Principal Challenges for 2001

- Expansion of 14 existing programmes and initiation of MDAs in at least 16 additional countries
- Mapping of LF prevalence (including 'disability' [morbidity])
- Establishment of Programme Manager Training Centres in each WHO region
- Development of comprehensive information management system
- Disability control strategy: development, adaptation and implementation
- Development of guidelines for verifying absence of infection or certifying elimination
- 'Integration'/coordination of disease control programmes
- Regionalization of programme management and implementation
- Gates grant 'demonstration projects'/'model programmes'
- Impact documentation and development of framework for assessment
- Social mobilization initiatives
- Re-assessment of the role of vector biology in the Global Programme to Eliminate Lymphatic Filariasis
- Creation of programme 'funding strategy' and action plan.