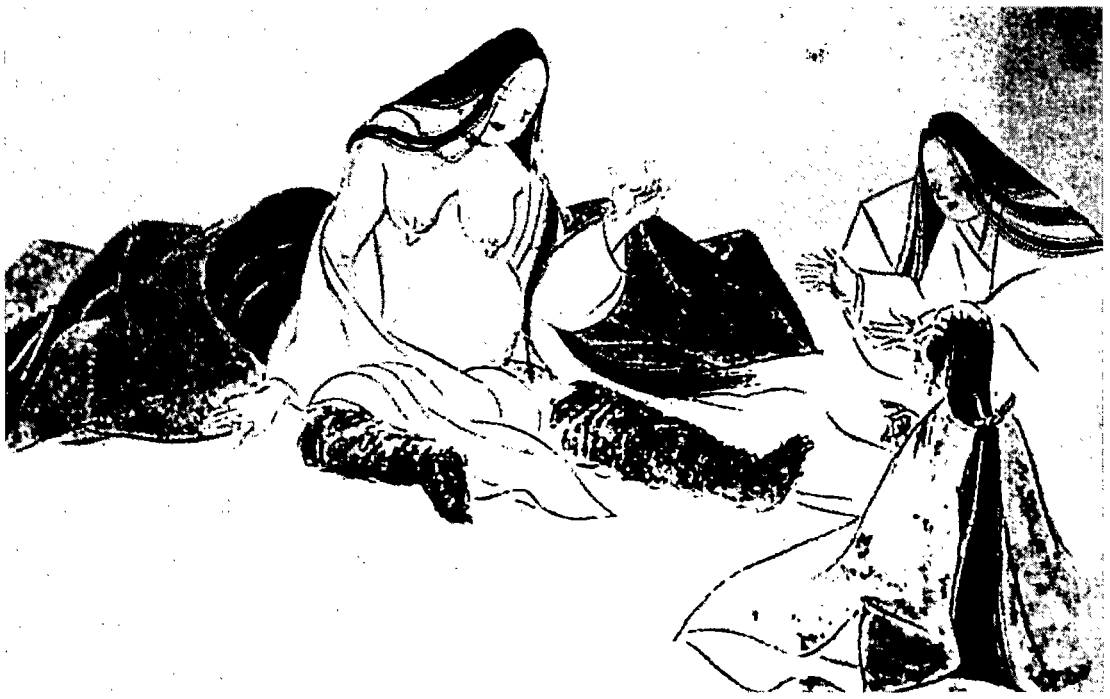
BUILDING PARTNERSHIPS FOR LYMPHATIC FILARIASIS

STRATEGIC PLAN

WORKING VERSION : SEPTEMBER 1999



World Health Organization

The Communicable Diseases Eradication and Elimination Department of the World Health Organization would like to express its appreciation to the Government of the United Kingdom and to SmithKline Beecham who supported the development of this plan

NOTE:
This strategic plan will continue to develop as the global programme develops. Thus it should be seen as "work in progress".
Copies may be requested from: World Health Organization

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Cover picture: A drawing from the late 12th Century showing a woman with elephantiasis:"Byousoushi-enakiminono". A national treasure from the Tokyo Museum. The Government of Japan successfully eliminated lymphatic filariasis from Japan between the years 1962 to 1971 with a nation-wide treatment campaign.

CONTENTS

PREFACE

Lymphatic filariasis **(LF) commonly known as elephantiasis, is a painful and profoundly disfiguring disease that has a major social and economic impact** in Asia, Africa, the Western Pacific and parts of the Americas. Until recently, little could be done to relieve the suffering and disability caused by this disease.

Today, however, significant advances have been made in understanding both the disease and its control. A global coalition has been forged among many organizations, each with a different mandate but all having a common goal: to tackle the wide-ranging and complex process of science and practice that will result in the elimination of LF as a public health problem[1] from the world.

A strong start was made in 1997 when the World Health Assembly passed a resolution calling for '*...the elimination of lymphatic filariasis as a public health problem...*'. Following this, WHO, with support from organizations including donor countries, the World Bank, the Arab Fund for Economic and Social Development, and the United States Centers for Disease Control and Prevention began developing a coalition to eliminate the disease.

The following year the coalition was given a powerful boost when SmithKline Beecham announced its commitment to form a unique private-sector/public-sector collaboration with WHO to support the global programme to eliminate lymphatic filariasis. The two organizations pledged to work together closely to undertake this massive international public health effort. Subsequently, Merck & Co., Inc. pledged to expand its ongoing Mectizan® Donation Program for onchocerciasis to cover treatment of lymphatic filariasis in all African countries where the two diseases occur together.

Individually, none of these organizations can eliminate LF; but by working together, and working through the Ministries of Health in the endemic countries, we believe that it can be done. Not all partners will work in each country, but, together, we hope to develop partnerships that will cover all of the affected countries and ensure an extraordinarily positive impact on many millions of lives.

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1 Throughout this strategic plan, the word 'elimination' is used to describe the more complete text used in the World Health Assembly resolution.

EXECUTIVE SUMMARY

This draft strategic plan has been compiled from contributions of all of the major partners now working towards elimination of lymphatic filariasis globally (see list of contributors, Annex 2). Its objective is not only to indicate an overall plan of action for the programme but also to allow each partner to define and appreciate the unique contribution that each of the organizations involved can make towards LF elimination.

There are seven major sections:

Introduction and Overview, is based largely on the LF Elimination Concept Paper[2] with additional input on the economic burden of LF[3].

The Plan, describes objectives and targets for the first 3 years of the programme and is focussed on (1) stopping the spread of infection, (2) relieving and preventing suffering and disability, (3) essential technical support and (4) strategic operational research.

The Coalition Partners and their Roles, contains descriptions, by the partnering organizations themselves, of the special strengths each brings to LF elimination. Though differing in length and degree of detail, these descriptions show what the partners see themselves as contributing.

Funding to Adequate Levels, contains a brief description of current estimates of the funding needs for LF elimination. Further work is needed here, as much of the necessary information is incomplete or out of date.

Governance and Programme Management, describes the current international governance and the process being followed to develop a global but lightweight structure for the future.

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2 Compiled by Professor D. Molyneux, Liverpool School of Tropical Medicine, Liverpool, U.K.

3 Based on a paper by Dr A. Haddix, Department of International Health in the Rollins School of Public Health, Emory University. Atlanta, GA, USA.

Integration with Other Disease Control Programmes, contains contributions from four other disease control programmes (the Onchocerciasis Control Programme/African Programme for Onchocerciasis Control, Intestinal Parasite Control Programmes, Guinea worm Eradication Programme, the Expanded Programme on Immunization) on how they see themselves working with LF elimination efforts.

The Timing, outlines a preliminary and long-term vision for the targets to be reached in five-year intervals for LF elimination to be achieved by the year 2020.

This document has been extensively reviewed by all members of the coalition and was discussed at a partners' meeting in May 1999. Further comments and suggestions are welcome.

1. INTRODUCTION AND OVERVIEW

Lymphatic filariasis is a disabling, disfiguring infection caused by parasitic worms. It is estimated that some 120 million people are infected in at least 73 countries throughout the tropics and sub-tropics. Lymphatic filariasis is a major cause of disability, acute and chronic infections, social stigmatisation, psychosocial and economic reductions in life opportunities, and a major burden on direct health and hospital resources especially through the costs for surgical intervention. As the disease is a major contributor to poverty, the programme to eliminate it will :

- reduce suffering and disability,
- improve reproductive and sexual health (primarily through reduced male genital morbidity)
- improve child and maternal health and development, through the ancillary benefits of albendazole in treating intestinal parasites,
- significantly contribute to reducing the numbers living in absolute poverty by 2015.

The development of an LF elimination programme will, in addition:

- contribute to the overall strengthening of national health systems;
- enhance the involvement of NGDOs in implementing health programmes;
- in Africa, link to the African Programme for Onchocerciasis Control (APOC) and its philosophy of community directed treatment;
- build on the desire of all in the health field to initiate innovative private-/ public sector partnerships and alliances in recognition of their inter-dependence and shared commitments to improve health;
- help to achieve the poverty elimination goals of all agencies.

1.1 The goal

Elimination of lymphatic filariasis as a public health problem by the year 2020.

1.2 Rationale and approach

- The reduction or elimination of transmission by drug treatment will protect future generations from lymphatic filarial infection and subsequent disease. Depending on the country or area, the drugs may be delivered in pill form or through the use of fortified salt.

- *Palliative, beneficial and preventive treatment of those affected is now feasible using simple interventions*. Treatment of lymphoedema/elephantiasis with soap, water, antibiotics, limb positioning, bandaging and exercise can provide exceptional symptomatic relief and prevention of both acute debilitating inflammatory episodes and further progression of disease. New surgical techniques and better management of lesions will improve the outlook for hydrocoele and other forms of male genital damage. If such approaches are successfully carried out, there will be a speedy reduction in clinical symptoms that will also facilitate community support for drug distribution and overall programme compliance.

- The use of albendazole will have an immediate and important ancillary impact on individuals' health, primarily through the benefits of 'deworming'. These benefits will be readily appreciated and thereby contribute to improved participation by communities.

- *Programme activities will be backed up with strong operational research* to regularly review and confirm that the policies and strategies followed are the most effective and efficient.

Hence, the Programme to Eliminate Lymphatic Filariasis has the following aims:

1) to reduce and eliminate transmission of lymphatic filariasis,
2) to reduce and prevent morbidity (suffering and disease) in affected individuals,
3) through the use of Albendazole, provide a deworming benefit to endemic populations,
4) provide strengthening benefits to the health services.

Other important direct benefits to national health systems, include:

- programme implementation through the national health system;
- improved national capacity in health care delivery;
- increased involvement and increased opportunities for NGDO's in programme delivery;
- improved national drug distribution systems ;
- integration of LF disease control activities both with other health sector activities and with activities in other public sectors, such as education.

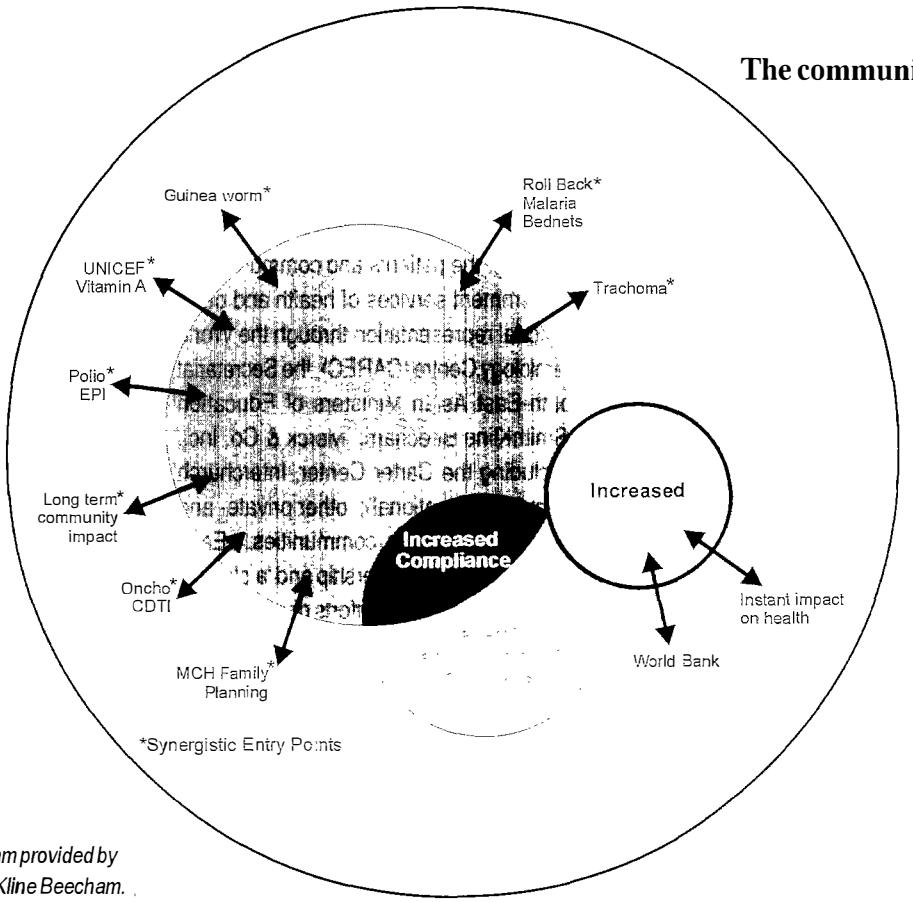


Diagram provided by SmithKline Beecham.

1.3 Critical operational issues

Especially during the early, start-up phase of the programme, the following issues need to be thoroughly addressed:

- Assessment and mapping of LF disease prevalence in adults and children;
- Effectiveness of drug treatment in interrupting transmission in large areas;
- Improving community participation in drug treatment and morbidity control;
- Mechanisms of surveillance and monitoring success of interventions;
- Optimisation of drug treatment schedules;
- Development of predictive models useful for guiding programmatic decisions;
- Relevance of vector control to programme objectives.

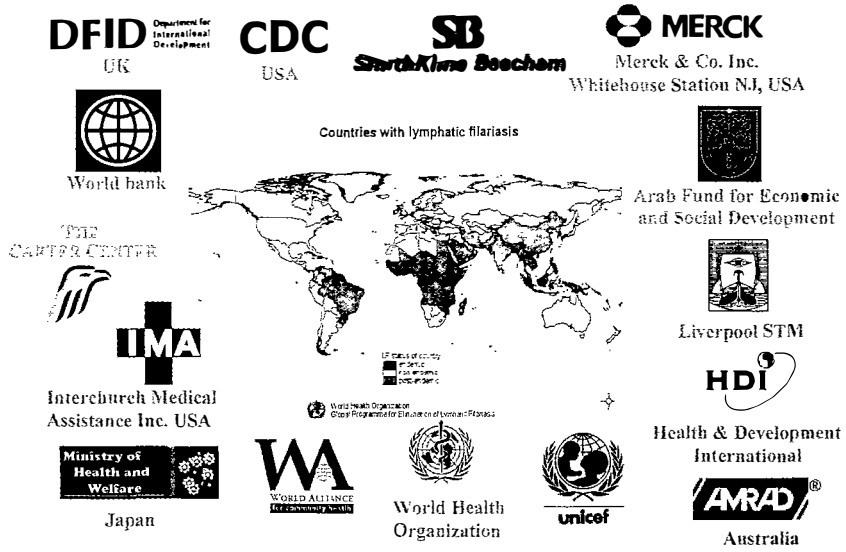
Such operational research issues can be addressed only by initiating programme activities with the inclusion of well-evaluated community trials and consequent modification of strategies based on the results.

1.4 The partners

Success will depend on strong public-private coalitions built on wide ownership, equality of stakeholders, transparency of governance, shared credit and recognition of respective roles and responsibilities.

The principal stakeholders in LF are, firstly, the patients and communities in the endemic areas; then the national government services of health and other ministries, and their international and regional representation through the World Health Organization, the Caribbean Epidemiology Centre (CAREC), the Secretariat for the Pacific Community (SPC), South-East Asian Ministers of Education Organization (SEAMEO) and others; SmithKline Beecham; Merck & Co. Inc.; the World Bank; UNICEF; NGDOs (including the Carter Center, Interchurch Medical Assistance, Health and Development International); other private- and public-sector donors; and the scientific and academic communities. Each stakeholder should have a defined role, a clear sense of ownership and 'a place at the table'. Successful experiences in earlier disease control efforts demonstrated that the essential programme components were flexibility, vision, long-term commitment, transparency, technical excellence and adaptability in the face of scientific advance.

Progress through partnership



1.5 Governance

The principal of the governance is that each year the stakeholders review progress in implementation and a concomitant strategy. At a "regional" level equivalent structures are needed in recognition of specific regional or country situations, donor priorities and historical alliances. Such an approach is compatible with decentralised programme management, but there must be excellent communication among and with these regional and international networks.

1.6LF, a disease we can do something about

Recently, there have been significant advances in our ability to control transmission of lymphatic filariasis and to reduce the grossly disfiguring consequences, pain and suffering it causes. Together with equally significant developments in diagnostic techniques, these advances led the International Task Force for Disease Eradication in 1993 to designate lymphatic filariasis as one of only six infectious diseases considered "eradicable" or "potentially eradicable".

The Programme to Eliminate Lymphatic Filariasis will have *four* major outcomes:

- stopping the spread of LF infection by eliminating transmission,
- alleviating and preventing the suffering of the affected individuals,
- supporting and enhancing activities of the ongoing 'deworming programmes' through use of albendazole
- a search for new, improved methods and strategies that can make the elimination effort quicker, more effective and more efficient.

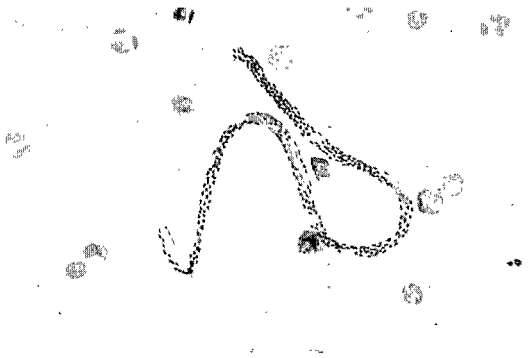
1.7 LF, a disease of poverty: the social and economic impact

The 1995 World Health Report identified lymphatic filariasis as the second leading cause of permanent disability in the world. Although LF is not fatal, the chronic symptoms often afflict individuals in their most productive stage of life and therefore impose a significant social and economic burden on society.

Lymphatic filariasis also imposes a tremendous burden on the health care systems of endemic areas. It is clear that medical treatment for lymphoedema, hydrocoele, acute attacks, and other manifestations of the disease costs millions of dollars each year. In Ghana, one-third of all surgeries are for hydrocoele repairs. A hydrocoele operation costing US $30 represents over a month of income for the average Ghanaian. In India, a hydrocoele operation represents up to three months in wages.

Lost productivity due to lymphoedema, genital damage, and acute lymphadenitis caused by lymphatic filariasis costs billions of dollars each year. It has been conservatively estimated that filariasis in India - where one-third of cases occur – has an economic cost of over one billion dollars each year; with 7–8% of male labour in some communities being lost because of chronic disease, primarily hydrocoele. One study has shown that among male weavers with chronic lymphatic filariasis there was a 27% reduction in productivity.

The high prevalence of lymphatic filariasis in some communities forces restrictions in the economic activities in which individuals can engage. On an agricultural estate in former British Guyana, where hydrocoele exacerbation and inflammation were associated with work-related trauma or strain, work days lost ranged from 4 to 60 days each year per affected worker and constituted a significant expense on the estate. In Haiti, women with lymphoedema and elephantiasis are unable to participate in marketing, the major form of economic activity available to women. In China, where transmission of lymphatic filariasis has been eliminated, the primary motivation behind the elimination campaign was the impact of the disease on agricultural productivity. Research now estimates that every US dollar invested in filariasis control in China has produced more than US $15 in benefits. The lost potential for economic development in filariasis-endemic communities is immeasurable.



In addition to this economic impact, lymphatic filarial disease imposes a heavy psycho-social burden upon affected individuals. Persons with hydrocoele and lymphoedema are often shunned and become isolated within their communities. Mocking and social stigmatization are frequent behaviours toward affected individuals. Because persons with chronic manifestations of the disease are often unable to work or marry, they become dependent for care and financial support leading to further insecurity, shame, isolation and consequent economic loss.

2. THE PLAN

Following a summary of the programme's major 'milestones' for the coming five years, each of the sub-sections below represents one of the four major spheres of activity in the LF Elimination Programme: 1) stopping the spread of infection; 2) relieving and preventing the suffering and disability; 3) essential technical support; and 4) strategic operational research.

Summary of the principal outcomes and milestones for the next five years: 1999 to 2004

This box extracts the three most critical targets to be reached in each of the coming five years. There are many other targets and these are described in detail in the later sections of this Strategic Plan:

By the end of 1999,
- Documentation completed on safety of co-administered drugs
- Two Regional implementation plans completed
- First ten countries with active LF programmes

By the end of 2000,
- 15 million people at risk, covered by active LF programmes
- Meetings for programme managers established in all regions
- Sampling techniques for certification of LF elimination validated

By the end of 2001,
- 30 million people at risk, covered by active LF programmes
- Training curricula completed
- Mapping completed in more than half of endemic countries in all Regions

By the end of 2002,
- 50 million people at risk, covered by active LF programmes
- Global review of progress – possibly by the World Health Assembly
- First ten countries certified LF free

By the end of 2003,
- 100 million people at risk, covered by active LF programmes
- Twenty countries certified LF free
- Probable implementation of revised strategies

By the end of 2004,
- 200 million people at risk, covered by active LF programmes
- Thirty countries certified LF free
- Review of potential for Regional 'eradication'

While the best current understanding of the science of eliminating lymphatic filariasis has been used to construct practical targets and strategies for action, it is clearly recognized that as the elimination effort develops, the scientific information will change and, accordingly, the recommended practices must also change.

2.1 Stopping the spread of infection (interrupting transmission)

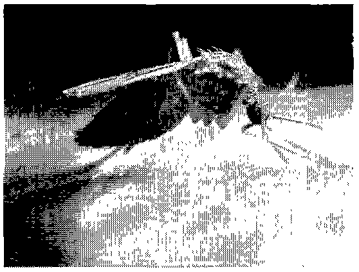
2.1.1 The principle underlying the strategy

- Mass-drug administration to entire at-risk populations can effectively interrupt transmission of lymphatic filariasis by reducing the number of parasites in the blood to levels below which the mosquito vectors can no longer transmit infection;

2.1.2 Treatment of choice for mass drug administration

- Use of once-yearly treatment with single-doses of two drugs given together (albendazole plus *either* ivermectin *or* DEC) for 4-6 years;
- Exclusive use of table/cooking salt fortified with DEC for 1-2 years.

2.1.3 Vector control: the options



Vector control has traditionally played an important role in the control of lymphatic filariasis. Measures designed to reduce vector biting densities and/or human-vector contact still provide useful supplements to the effects of treating the human population to reduce transmission, but they should not be relied upon exclusively in filariasis control campaigns.

Several current techniques appear capable of reducing transmission of filarial parasites, but they still require both validation of their impact in large-scale control programmes and assessment of their cost-effectiveness. Among the most promising are: biocides, especially *Bacillus sphaericus* (a self-reproducing, toxin-producing bacterium) for the control of *Culex quinquefasciatus* mosquitos; polystyrene beads to limit the breeding of vectors especially in enclosed urban breeding sites, such as latrines and cesspits; insecticide-impregnated bednets and curtains, such as those being used for malaria control; and indoor spraying of insecticides that are long-lasting and residually-active.

Community participation is essential for the long-term successful application of all these methods of vector control.

2.1.4 Country planning, preparation and activities

The first step in developing a programme to eliminate lymphatic filariasis is the preparation of a national Plan of Action including, as appropriate, external assistance to run the national programme. This needs to be done by the Ministry of Health (and other ministries) and an appropriate national task force. Palliative treatment for LF disease may, of course, be carried out even without waiting for an overall national plan of action to be developed. The national Plan of Action records the background, objectives, strategy, administration, management and proposed budget for the national programme. It also serves as a descriptive document for presentation to potential donors wishing to become partners in the national programme.

Based on the national Plan of Action, applications with detailed implementation plans are then prepared by the Ministry of Health for obtaining cost-free supplies of donated albendazole (for all national programmes) and donated ivermectin (for those African countries requiring use of ivermectin instead of DEC for community-wide treatment because of concomitant onchocerciasis). These applications are then reviewed for programme feasibility, integrity and sustainability by independent groups charged with these responsibilities under the donation programmes established by SmithKline Beecham (for albendazole) and by Merck & Co., Inc. (for ivermectin). Both review groups encourage the earliest and widest possible initiation of national programmes, consistent with safe and rational implementation principles.

2.1.4.1 Status (country activities) 1997 - 1999

By mid-1999 :

- 20 countries (representing all five endemic Regions) have developed national Plans of Action and/or set up National Task Forces; these are in Africa (Ghana, Nigeria, Togo and the United Republic of Tanzania), the Americas (Brazil), the Eastern Mediterranean (Egypt), South-East Asia (Bangladesh, India, Sri Lanka), and the Western Pacific (American Samoa, China, Cook Islands, Fiji, French Polynesia, Niue, the Philippines, Samoa, Tokelau, Vanuatu, Viet Nam).

By mid-1999 :

- 11 countries have submitted applications for donated albendazole;
- Eight of these have been approved to initiate limited-scale activities, where close monitoring for safety and programmatic details will be carried out.

2.1.4.2 Targets (country activities)

By the end of 1999 :

- 10 countries will have initiated pilot or small-scale national programme activities;
- applications or national POAs will have been completed by six additional countries.

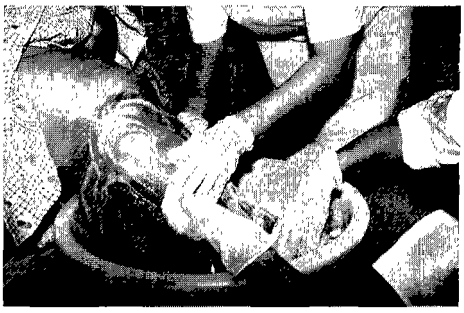
By the end of 2000 :

- upscaling of all initial pilot-phase national programmes;
- safety assessment of the co-administration regimens will have been completed after observations on at least 150 000 people;
- extension of programme activities to 15% of the global infected populations.

By the end of 2001 and beyond :

- Extension of programme activities to 25%, 35%, 45% and 55% of the infected population.

2.2 Relieving and preventing suffering and disability



2.2.1 The principles underlying the strategy

1. Lymphatic damage induced by filarial infection (frequently beginning in early childhood) causes lymphatic dysfunction that paves the way for lymphoedema, elephantiasis, hydrocoele and other clinical manifestations;
2. The most significant factor in producing lymphoedema and elephantiasis, and compounding the damage caused by filarial parasites, is bacterial 'superinfection' of the skin; these infections cause severe, febrile syndromes in patients while they destroy the delicate lymphatic vessels and exacerbate both the progression of disease and the frequency of clinical symptoms;
3. Prevention of bacterial superinfection removes some of the factors responsible for disease progression and permits partial resolution of clinical damage; this prevention can be effected through simple but regular and sustained washing and skin care;

4. For most hydrocoeles surgery is the treatment of choice; for other urogenital manifestations of filarial disease, optimal surgical procedures must still be defined.

2.2.2 The treatment of choice: intensive local hygiene

2.2.2.1 Objectives

1. To educate both patients and health workers that intensified local hygiene, bandaging, limb positioning and regular exercise can relieve suffering, prevent exacerbation and progression of symptoms, and even reverse some of the clinical damage already sustained.
2. To make morbidity control an essential component of programmes to eliminate lymphatic filariasis.
3. To ensure that all needy patients have access to quality health education and morbidity control techniques.

2.2.2.2 Status (intensified hygiene) 1997–1999

- Training modules prepared for health workers and educational material for patients (see section 2.3.2.2);
- Scientific articles published with rationale and results of 'hygiene approach' to patient management;
- International Training Center for filarial disease control established in Recife, Brazil;
- Workshops on morbidity control held in Haiti (July 1998) and China (September 1998).

2.2.2.3 Targets (see 2.2.3.3 below)

2.2.3 Surgical interventions for LF disease

2.2.3.1 Objectives

1. To disseminate as broadly as possible the most practical surgical techniques appropriate for the care of patients with filarial disease.
2. To define the pathophysiology and best surgical approaches to filaria-induced genital disease in males.
3. To define the role of surgery in management of LF disease syndromes.

2.2.3.2 Status (surgical interventions) 1997-1999

- Research underway to develop best surgical approaches to male genital disease caused by lymphatic filariasis;
- Collaborative linkages established in the medical community between filariasis workers and the communities concerned with urology and lymphology.

2.2.3.3 Targets (relieving and preventing suffering and disability)

By the end of 1999 :

- Instructional video prepared on patient self-management techniques;
- Information, education and communication material prepared on how to manage lymphoedema at community level;
- Development of techniques for mobilizing communities to support local morbidity control efforts;
- Completion of draft manuals on management of lymphodema.

By the end of 2000 :

- Field test and refine training and educational modules on morbidity control;
- International Training Center in Recife prepared to conduct two 'training of trainers' courses per year for 20 health workers per course;
- Completion of manual on urological management of genital diseases caused by LF;
- First course for health workers on morbidity control to be given at the International Training Center in Recife;
- Morbidity control programmes underway in all countries where LF elimination activities have been initiated;
- Involvement of the International Dermatology and International Urology Associations with its clinical activities of the LF elimination programmes;
- Development of mechanisms for bringing appropriate surgical techniques to needy patients;
- Development of NGO consortium focussed on alleviating the suffering associated with filarial disease;
- A cadre of trainers established for morbidity control.

By the end of 2001 :

- Educational and training modules for morbidity control complete (and available through computer-assisted learning and internet formats, as well as via traditional means);
- Training of trainers for morbidity control programmes established in every country with an active LF elimination programme;
- Network of morbidity-control programme managers established, with yearly meetings to share experiences, update knowledge and improve programme activities.

2.3 Essential Technical Support

2.3.1 Drug supplies and logistics

The supply and distribution of albendazole, ivermectin and DEC are essential elements of the programme to eliminate lymphatic filariasis. WHO has a role, along with NGDOs and other partners, to provide assistance to Member States in accessing and distributing these drugs to the endemic communities in the most effective manner possible. In some endemic areas, an alternative strategy to drug-tablet distribution programmes is to substitute DEC-fortified salt for regular table salt for 1-2 years.

The principal issues and strategies for an effective drug supply chain can be divided into the following stages/phases[5] :

- Pre-programme planning and preparation at country level, involving the Ministry of Health and including forecasting of drug requirements during the application process;
- Linkage between national lymphatic filariasis programmes (or programmes-to-be) with drug companies and the programme's expert committees;
- Shipping between drug companies and country port of entry;
- Drug arrival and formalities in country;
- Facilitation from port of entry to the Ministry of Health or designated organization (including storage);
- Transport by the Ministry of Health or designated NGDOs to the community;
- Distribution from the community to the individual;

5 Proceedings of The Annecy Workshop on Effective and Efficient Drug Distribution for Lymphatic Filariasis. Convened by Health & Development International (HDI), at WHO Collaborating Centre. Fondation Mérieux, Annecy, France, 24-26 February 1999

- Monitoring and reporting of administration, security and movement of drug inventories in the country;
- Annual reporting and re-application for continued supplies.

2.3.1.1 Objectives: (Drug logistics and fortified salt)

1. To promote and ensure country access to supplies of anti-filarial drugs;
2. To ensure coordinated and timely provision of drug supplies from drug companies to national programmes;
3. To provide assistance to Member States for the distribution of drugs to endemic communities for LF elimination;
4. Review current government policies on fortified salt so that these policies are consistent with the chosen strategies;
5. Open a dialogue with major salt producers, including representatives from key producers as part of the national advisory group;
6. Develop a national health education plan to generate the demand for fortified salt within the endemic area;
7. Develop appropriate packaging, labelling, inspection, monitoring and quality assurance for fortified salt distribution.

2.3.1.2 Status (drug supply and logistics) 1997-1999

- Technical advisory groups, together with WHO, have established the administrative procedures necessary for the donation of drugs to Member States.
- Member States have been informed of the donation programmes, and have begun to participate in the application process.
- Consultative meetings, both within WHO and including private sector and NGDO partners, have been convened to discuss strategies and develop plans to ensure the supply and distribution of drugs at national and community levels.
- Meetings on issues related specifically to shipping have been convened among SmithKline Beecham, Merck & Co., Inc. and WHO to prepare for the delivery of drugs to specific countries.

2.3.1.3 Targets (drug supplies and logistics [for DEC-fortified salt being developed]).

By the end of 1999 :

- Country activities for albendazole and ivermectin distribution will be started in 10% of endemic countries;
- Application process for both donation programmes (albendazole and ivermectin) will be fully harmonized;
- Donated albendazole and ivermectin from private sector partners will be delivered to countries in a timely fashion and in the amounts requested;
- Needed drugs will be fully distributed to specified communities in endemic countries, and the process documented to provide information to national and international partners;
- Sourcing, quality control and pricing issues relating to DEC will be resolved;
- Plans for coordinated shipment of both albendazole and ivermectin to treatment programmes to be fully developed;
- Efficient systems will be identified for the delivery, storage, distribution and reporting on distributed drugs;
- Operational research on the most effective means of drug distribution from national to community and individual levels will be initiated.

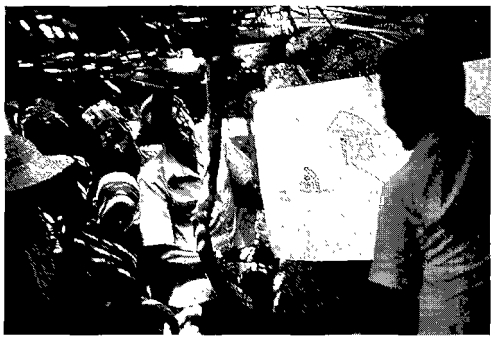
By the end of 2000 :

- Country activities for albendazole and ivermectin distribution will be started in 20% of endemic countries;
- Guidelines and other documentation on effective systems for the supply and distribution of lymphatic filariasis drugs will be produced and widely distributed;
- Information from reporting and monitoring processes will be used to improve the process and prevent misuse and wastage of drugs.

By the end of 2001 :

- Country activities for albendazole and ivermectin distribution will be started in 30% of endemic countries;
- Evaluation of different supply and distribution systems will be carried out at regional and national levels.

2.3.2 Training and Education



Training is essential for health workers to recognize and assess their local problems; to plan, implement and manage elimination activities; and to evaluate the impact of programmes on the health and productivity of the population. Education is essential for patients, the community and decision makers in order for them to support their programmes most effectively.

2.3.2.1 Objectives

1. To strengthen the capacity of the lymphatic filariasis endemic countries by providing national health workers with the skills necessary to plan, implement and evaluate national elimination programmes.
2. To provide appropriate educational materials for patients, the community and its decision makers.

2.3.2.2 Status (training and education) 1997-1999

- Training materials: First-draft training modules on morbidity control prepared both for physicians and for community health workers;
- Educational materials. Self-management treatment manual prepared for lymphoedema patients;
- International training course held on Treatment of Filarial Lymphoedema and Elephantiasis, Leogane, Haiti, 20-24 July 1998;
- National Workshop held on New Techniques for Surveillance, Treatment and Final Elimination of Lymphatic Filariasis, Guiyang, China, 26 September to 5 October 1998;
- Establishment of International Training Center for Management of Filarial Disease in Recife, Brazil.

2.3.2.3 Targets (training and education)

By the end of 1999 :

- Completion of draft training manuals – including learners' and tutors' guides – on morbidity control for trainers, physicians and para-medical personnel, and for community health workers;
- Completion of draft of technical manuals on epidemiological approach to LF elimination, and LF morbidity control for physicians;
- Field testing of training and technical manuals started;
- Establishment of International Training Centre for Management of Programmes to Eliminate LF, in Kuala Lumpur, Malaysia.

By the end of 2001 :

- Completion of training curricula;
- International training courses for programme managers, given twice a year.
- For each country initiating an LF elimination programme, at least one each of the following courses: community health workers on morbidity control, community mobilization techniques, logistics and drug distribution, and a course for epidemiologists;
- Training materials for morbidity control, drug storage and distribution, epidemiological approaches to LF elimination;
- National workshops on adaptation of training materials;
- Information, Education and Communication (IEC) materials for children, for communities, for primary health school teachers, and for community leaders;
- Development of training curricula for surgical approaches to filarial genital disease;
- Computer assisted learning (CAL) programmes on morbidity control, drug storage and distribution, and new techniques for surgeons.

2.3.3 Surveillance and programme monitoring

To achieve the elimination of lymphatic filariasis, surveillance and monitoring are essential to:

- assess the geographic distribution of LF;
- identify populations with a 'threshold' prevalence (antigenaemia) of 1% or greater;
- evaluate the effectiveness of on-going interventions,
- provide data to demonstrate that transmission has been interrupted and that elimination can be certified.

Because of the programme requirement to treat everyone in 'at risk' populations, each country's health system must first define the administrative level at which mass treatment will be implemented (i.e. state, province, county, neighbourhood, etc.). With the specific tools available to detect infection (antigen or parasite detection in humans, PCR-based methods in mosquitoes), specialised sampling approaches can be used in the administrative unit to determine the distribution of infection, to monitor changes in transmission and to certify elimination (details available elsewhere)[6].

6 *Report on a WHO Informal Consultation on Epidemiologic Approaches to Lymphatic Filariasis Elimination: Initial assessment, Monitoring, and Certification. Atlanta Georgia, USA 2-4 September 1998. WHO/FIL/99.195.*

2.3.3.1 Objectives

1. Determine global distribution of LF precisely enough to define where national elimination programmes should be active.
2. Establish both infection and process indicators to evaluate programme activities and ensure that these indicators and other management information are received at all programme levels.
3. Establish three types of surveillance systems at country level to monitor programme outcomes :

- Longitudinal community surveillance;
- Cross-sectional community surveillance;
- Background surveillance.

2.3.3.2 Status (surveillance and monitoring) 1997-1999

- A workshop held in 1998 led to the production of two guideline documents on "Epidemiologic Approaches to Lymphatic Filariasis Elimination: Initial Assessment, Monitoring, and Certification" (WHO/FIL/99.195) and "Guidelines for Certifying Lymphatic Filariasis Elimination" (WHO/FIL/99.197) in which specific infection thresholds for triggering mass treatment were defined, along with the specific tools for surveillance, monitoring and certification of national programmes;

- Diagnostic tools validated: 1) ICT antigen-detection card test for detecting human infections, through multicentre trials; 2) Polymerase Chain Reaction (PRC) technique to detect infection in vector mosquitoes, through field trials;

- Workshop held to Develop a Programme Manager's Manual and Process Indicators for Lymphatic Filariasis Elimination, July, 1999.

2.3.3.3 Targets (surveillance and monitoring)

By the end of 1999 :

- Distribution/prevalence studies leading to GIS maps at the level of 'administrative treatment units' underway in 10 countries;
- Establish a series of process and outcome indicators for programme management at all levels;
- Monitoring strategies (for 'infection' and 'process') to be incorporated into all newly initiated programme activities.

By the end of 2000 :

- Field manual produced covering "Epidemiologic surveillance and process monitoring techniques";
- Evaluate the management indicators to ensure they are being applied and are useful in all operational areas;
- Start a regular feedback system for programme managers on the status of their programmes, and for sharing with other programme managers;
- Hold annual Regional programme managers meetings;
- Assess the effectiveness of monitoring strategies in all active programmes;
- Completion of the mapping exercise in 10 countries and initiation in at least 10 more;
- Initiation of Certification activities in 'previously endemic' countries.

By the end of 2001 :

- Workshop to update and revise monitoring and certification guidelines, based on practical experience gained in the programmes;
- Refine programme management indicators;
- Mapping activities completed in >50% of endemic countries in all Regions (target for all countries to be completed, 2004).

2.4 Strategic operational research

The general principle underlying the inclusion of operational research in the Programme to Eliminate Lymphatic Filariasis is that there can be no sustained, successful, control/elimination programme for any major public health problem that does not have a strong focus of operational research built into it. The reasons are simple ones: there are no strategies or techniques that cannot be improved; there will always be problems (anticipated or not) that develop and need resolution during the course of such programmes.

2.4.1 Strengthening the scientific bases

The basic rationale to interrupting transmission is that eliminating microfilariae from the blood of infected individuals will lead to interruption of transmission. The principle underlying the morbidity control element is that ridding the affected limbs or other areas of superficial bacterial/fungal infection halts the progression of elephantiasis and allows for partial reversal of damage already sustained.

2.4.1.1 Objective

To strengthen the scientific bases upon which the Programme to Eliminate Lymphatic Filariasis is built.

2.4.1.2 Status (strengthening science) 1997-1999

1. A consensus meeting of investigators affirmed the value of 2-drug treatment regimens to safely decrease microfilaraemia and safety decrease or interrupt transmission at multiple research study sites[7].
2. The massive country-wide experience of China in interrupting transmission throughout almost all its entire endemic area was critically reviewed at a workshop in China (September 1998), and these analyses are being readied for publication for wide dissemination.
3. Research studies on the use of 2-drug, once-yearly treatment regimens or on the daily use of DEC-fortified salt to decrease microfilaraemia and interrupt transmission continue to be supported at research sites in Asia, the Pacific and the Americas.
4. Research studies documenting the effectiveness of local hygiene in reversing filarial-induced disease have been completed and published.
5. Research on the evolution of lymphatic lesions in infected children has begun.

2.4.1.3 Targets (see 2.4.3.3)

2.4.2 Optimizing old or developing new approaches

2.4.2.1 Objective

To optimize old or develop new approaches to enhance the effectiveness of the elimination programme.

2.4.2.2 Status (optimizing approaches)

1. Publication of predictive models for LF treatment-based control programmes and extension of these models to 2-drug treatment simulations.
2. Publication of guidelines for epidemiological sampling, monitoring and certification of elimination following a workshop of experts on this subject.

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7 Report from Informal Consultation on Albendazole Research Findings in Lymphatic Filariasis, 13-14 October 1998 (WHO/FIL/98.194).

3. Validation of antigen detection tests as sensitive, specific markers of infection in humans and validation of PCR techniques for detecting infection in both humans and vector mosquitoes.
4. Initiation of new approaches to integrate filariasis elimination with programmes to control onchocerciasis and/or intestinal parasite infections.

2.4.2.3 Targets (see 2.4.3.3 below)

2.4.3 Identifying and overcoming programme difficulties

2.4.3.1 Objective

To identify programme difficulties (anticipated or not) and develop techniques to overcome them.

2.4.3.2 Status (overcoming difficulties) 1997-1999

1. Preliminary pharmacokinetic assessment of co-administered ivermectin-plus-albendazole indicates that neither drug enhanced the blood levels of the other; additional studies of this regimen and albendazole-plus-DEC have been initiated.
2. Assessment of all safety-related data by an independent Clinical Research expert has been completed.

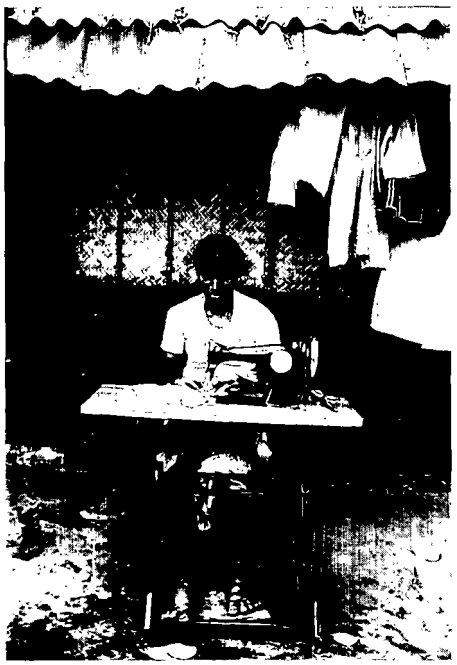
2.4.3.3 Targets (operational research)

By the end of 1999 :

- Consensus to be reached among WHO, SB and Merck & Co. that two-drug co-administration regimens (albendazole-plus-ivermectin or albendazole-plus-DEC) are as safe in clinical and community trials as the individual drugs given alone to treat lymphatic filariasis.
- Experience with the safety of these 2-drug co-administration regimens will be extended through careful monitoring of initial pilot or small-scale country LF elimination programmes, to reach numbers of approximately 100,000 treated persons per regimen.

By the end of 2000 :

- Sampling techniques for certification of elimination will be validated.
- PCR-based diagnostics for assessing infection in the vectors will be commercially available.
- Analytic or simulation models will be available to programme managers for use in individual country elimination programmes.
- Research will be initiated on disease pathogenesis to focus on issues of infection in children, reversibility of lymphatic lesions after treatment, pathogenesis of genital lesions and the clinical consequences of filaria-induced renal pathology.
- Operational research will be initiated on issues relating to drug delivery strategies (to enhance compliance); integration of filariasis elimination programmes with those for control of onchocerciasis, schistosomiasis and intestinal parasites; and impact assessment of the LF elimination programme (health, social and economic aspects).



3. THE PARTNERS AND THEIR ROLES

All partners recognize that interdependence makes for a successful coalition and that it flourishes in an environment of mutual respect, trust and free sharing of credit.

3.1 Partners in the endemic countries

3.1.1 The national health authorities

1. The national health authorities are the focal partners of the coalition. Their role is to:

- define and prioritize the problem;
- strengthen surveillance capabilities;
- improve the capacity of drug distribution systems.

2. Their prime responsibilities lie in facilitating:

- planning and resource mobilization;
- donor-partner coordination;
- training, implementation, monitoring, evaluation and operational research.

3. In addition, the National Health Services will be responsible for detecting any resurgence of the disease after the drug administration phase of the elimination programme is complete. The national health authorities may require technical support from WHO or other partners as appropriate.

4. Essential to the effectiveness of a national programme will be the activities of the health centre staff. Their role will be to:

- support the communities (rural, urban or peri-urban) and when appropriate, manage the drug supplies;
- stimulate efforts for improved patient hygiene;
- manage community-level surveillance and reporting; and
- ensure that the LF elimination activities are fully integrated with other disease control initiatives.

3.1.2 'Non-health' authorities in the endemic countries

1. Ministries of Education have a particularly important role to play in the areas where the LF Programme is operating, especially where there is also a programme for the elimination of intestinal worms.
2. Ministries of Agriculture and associated extension workers can play important roles in areas where the endemic districts are also farming areas.
3. Similarly, Ministries of the Environment may be active with the Ministries of Education in deworming programmes in some parts of the world.

3.1.3 The urban and rural communities

Communities in collaboration with local health workers have a fundamental role as they are largely responsible for the local procurement of the drugs and for supporting the Ministries in drug distribution, monitoring drug use and reporting on adverse events. With the support of the local health services, the communities will be the principal drivers of community-based disease surveillance, advocacy, health education and support for elephantiasis treatment. The role of the communities will vary from country to country but the outcome indicators will be consistent for all countries.

3.1.4 In-country NGDOs

The role of the international NGDOs is described below but nationally-based NGDOs can be at least as important. The National Task Forces will be responsible for day-to-day management with NGDOs, including the organization and mobilization of effort and resources through the NGDOs.

3.2 Bilateral Assistance or Development Organizations

Bilateral organizations are essential for the success of lymphatic filariasis elimination. Their technical and financial support for the countries will be coordinated through the National Task Forces or the Interagency Coordinating Committees already established in many countries. These Committees, often established by the needs of immunization programmes, are available for expansion to include coordination of other disease control initiatives as well.

3.2.1 Arab fund for Economic and Social Development (AFESD)

The AFESD supports country activities in the WHO Eastern Mediterranean Region including disease detection, maps preparation, morbidity control and

logistics. The AFESD is a regional development institution established in 1971 at the initiative of the Arab League. Arab Fund member countries are : Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Lybia, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi-Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates and Yemen. The Arab Fund is receptive to continued co-financing with the World Bank.

3.2.2 Japanese Ministry of Health & Welfare

The support of the Ministry of Health & Welfare, Government of Japan, focuses on capacity building in LF-endemic countries. This support provides highly specialised training activities in the areas of morbidity control and geographical information system (GIS) data management.

3.2.3 Government of the United Kingdom

The UK Department for International Development (DFID) is a strong supporter of lymphatic filariasis elimination. Their support already extends to the Liverpool School of Tropical Medicine, WHO and elsewhere. One of DFID's missions is the alleviation of poverty which leads them to support lymphatic filariasis elimination.

3.3 International Organizations

3.3.1 Centers for Disease Control and Prevention (CDC)

The Centers for Disease Control and Prevention (CDC) draws on a wide range of experience with disease elimination and eradication programmes when it focusses on the elimination of lymphatic filariasis. As a WHO Collaborating Center for Control and Elimination of Lymphatic Filariasis in the Americas, CDC's mission is to provide the scientific and technical support necessary to achieve and certify the elimination of lymphatic filariasis from the Americas. To accomplish this mission, in collaboration with a coalition of partners in government, health, development and industry, CDC can provide training, technical assistance, and epidemiologic and programmatic support to endemic countries throughout the Americas. In addition, CDC will continue to conduct research in filariasis and translate the results of this research into practical tools and guidelines for filariasis elimination programs.

CDC's current activities encompass the following areas of interest:

- Developing and assessing methods for epidemiologic evaluation and surveillance for the global elimination effort;

- Establishing DEC fortification of salt as a tool to interrupt transmission of lymphatic filariasis;
- Expanding community-based lymphoedema treatment;
- Integrating filariasis elimination with intestinal helminth control and other public health programs.

3.3.2 UNICEF

There are three areas where UNICEF has special strengths for supporting LF elimination:

- Support of NGDOs and community groups in LF-endemic areas;
- Inclusion of LF treatment in the UNICEF school de-worming programmes;
- Inclusion of LF treatment in the UNICEF twice-each-year Child Health Days.

Also, when UNICEF and WHO produce a joint statement on the efficacy and safety of DEC-fortified salt, UNICEF will consider extending its experience in iodine-fortified salt to promoting the use of DEC-fortified salt for LF elimination.

3.3.3 The World Bank

The LF Programme contributes to overall efforts to improve the health, education and development of the poor and disadvantaged by targeting the poorest communities in which parasitic disease is endemic. Client governments can now choose to join this public-private partnership and to apply for World Bank support along with other donor co-financing to distribute the donated drugs to communities in need. These efforts build on the Bank's 25 years experience with the Onchocerciasis Control Programme (OCP), the community-directed treatment approach pioneered by the African Programme for Onchocerciasis Control (APOC) and the existing use of deworming as part of child development strategies.

3.3.4 The World Health Organization

WHO will be the forum for coordination among the partners and will provide technical leadership in managing and coordinating the lymphatic filariasis elimination programme until its completion. WHO will actively solicit collaboration with a wide range of organizations and individuals.

In the early stages of the programme, coordination will be managed through the review groups described below and through similar groups developed in

the WHO Regional Offices, in the endemic countries and in existing regional organizations, for example, OCEAC and OCCGE. As the programme matures, however, other groups may be needed to respond to specific challenges in the most difficult areas.

WHO will collaborate with the national health authorities through its country and Regional Offices, and with the existing regional organizations and NGDOs.

The WHO country offices will through the National Task Forces or Interagency Coordinating Groups :

- participate in LF programme planning in the country;
- monitor the implementation of activities;
- assess progress;
- manage the importation of drugs for LF;
- support NGDOs' activities in LF elimination.

The WHO Regional offices will through the regional LF committees:

- provide technical support and coordination within their region;
- prepare, in association with the Ministries of Health, NGDOs and other partners, regional action plans based on a situation analysis in each of the endemic countries;
- participate in regular assessments of the national programmes, including basic risk factor analysis, and wherever possible, GIS;
- support and encourage annual programme managers' meetings;
- support national managers in planning, donor coordination, training, monitoring, evaluation and research;
- place special emphasis on LF surveillance and monitoring of regional programme activities and, in particular, the overseeing of drug procurement and security;
- provide technical support to national programmes and participating NGDOs for management and surveillance activities;
- provide training for all aspects of the programme.

WHO headquarters will:

- provide technical leadership and coordination of resource mobilization through the new, revised governance structure;
- develop training and technical manuals and teaching guidelines;
- promote improved disease surveillance, programme monitoring and evaluation methods;

- support its Regional offices and national programmes with expertise and consulting advice as needed and, as far as possible, with financial help;
- promote advocacy and communication of programme activities to the widest possible, relevant audiences;
- develop, update regularly and disseminate information on global disease incidence and programmatic indicators which are based on information collected from the countries, through the Regional Offices;
- support the national regulatory authorities and other country-based organizations to ensure effective and rapid detection, and follow-up of adverse events;
- promote common management methods with other disease control and elimination programmes;
- promote operational research at the national level, in collaboration with the LF partners and Regional Offices, to address programme priorities;
- ensure annual review of progress of the elimination effort through the programme's review groups, and periodically through the World Health Assembly;
- with the programme's partners, periodically review the strategic plan;
- certify lymphatic filariasis elimination where appropriate.

3.4 Academic Institutions

3.4.1 Liverpool School of Tropical Medicine, UK

In September 1998, the United Kingdom's Department for International Development (DFID) committed itself to support the Lymphatic Filariasis Elimination Programme. DFID has provided support for a DFID/SB Lymphatic Filariasis Support Centre based at the Liverpool School of Tropical Medicine where considerable LF expertise exists (entomology, epidemiology, chemotherapy, immunology, molecular biology, programme management, evidence-based medicine, health systems and clinical expertise).

The Support Centre will be established over the next 12 months and draw on LSTM expertise as well as on other UK LF resources and expertise.

The Centre will:

- Provide technical support and advice to DFID and SB and other parties on activities related to planning and implementation;
- Assist the partnerships in identifying operational and applied research requirements and capacity building;
- Facilitate implementation and integration of LF control, particularly in Africa,

through APOC/OCP and with the development of the Multidisease Surveillance and Control Centre in Ouagadougou;
- Assist development of governance and management structures to ensure the establishment of a working public/private partnership;
- Recommend to DFID on the disbursement of funds for LF control;
- Assist in programme advocacy to increase donor support and NGDO commitment;
- Liaise with SB, WB, WHO, Merck & Co., Inc. and the World Alliance (see below) to maximize linkage to other programmes so as to assist implementation;
- Assist in evaluation and monitoring of the initial-stage programmes;
- Initiate LF control opportunities between DFID bilateral health projects.

The Support Centre will be co-funded by SB and DFID for a period of 5 years. This approach is consonant with DFID policies expressed in the DFID Policy White Paper, those of the Director-General of WHO and of the President of the World Bank for innovative alliances and partnerships to achieve poverty reduction. DFID recognizes that the LF programme is timely as it falls within three priority themes of DFID health policy:

1. reducing suffering from ill health and disability,
2. improving reproductive and sexual health; and,
3. via deworming, improving child health and development.

LF elimination will also contribute to the direct alleviation of poverty, the key target of the DFID development agenda, by improving the health of poor people and reducing by 50% the numbers living in absolute poverty by the year 2015.

The Support Centre will ensure that the UK skills and knowledge are most effectively used and that the UK, itself a founding partner of the Onchocerciasis Control Programme, plays a major part in the initial stages of a partnership which bridges the contributing sectors. It is planned that SB/DFID initial commitment to substantive support for programme activities will provide an incentive for other donors to join the programme so that early implementation can commence.

3.4.2 The Emory Lymphatic Filariasis Economics Project

In September, 1998, a new project was established at Emory University in Atlanta, Georgia, USA[8] to develop and implement an economic research agenda for lymphatic filariasis elimination programmes. This project will address the multiple roles of economic information including gaining support for, planning, implementing, and evaluating lymphatic filariasis programmes.

Social and Economic Burden Studies are used to document the magnitude of the impact of lymphatic filariasis and intestinal helminth infections and to gain support for the LF elimination programme. Burden can be quantified using a variety of outcome measures including social, economic and health status measures depending upon the purpose of the study and the audience. Willingness-to-pay studies can also be used to capture the economic burden from the perspective of the individual with the disease and the community.

Cost-Benefit and Cost-Effectiveness Analyses (CBAs and CEAs) are used to establish the value of, to plan, and to fine-tune an elimination programme and to identify optimal strategies within regions and local areas. CBAs and CEAs can be used to estimate programme costs, disease prevented, future medical costs saved, and productivity losses prevented. Additionally, programmatic factors which influence outcomes can be identified and the magnitude of their effect on outcomes estimated. Threshold analyses can be used to identify the break points for critical factors that may determine the choice of prevention strategies.

Cost Analyses are used to identify programme inefficiencies, identify optimal programme size, and examine the influence of market factors, geographic location, and resource availability on cost and output. Cross-programme analysis can refine programme delivery to achieve the least cost per unit of output. It is essential that programme managers routinely keep records on resource use, allocation, and cost as well as the units of delivery or output (e.g., persons treated). Cost analysis can be done by field personnel who do not require extensive training.

Training Courses Offered by The LF Economics Project are *Introduction to Decision Analysis and Economic Evaluation,* and *Basic Cost Analysis*.

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8 Department of International Health, Rollins School of Public Health, Emory University, 1518 Clifton Road, Atlanta, GA, USA (e-mail: ahaddix@worldnet.att.net & dmcfarl@sph.emory.edu)

3.5 Private sector

3.5.1 SmithKline Beecham

In January 1998, SB announced its commitment to form a unique collaboration with WHO to support the global programme to eliminate lymphatic filariasis. The two organizations have pledged to work closely together in getting this massive international public health effort off the ground. The ongoing work of the programme is currently being overseen by a joint WHO/SB Collaboration Coordinating Committee (CCC) which meets several times a year. The need now to expand the collaboration to include other major LF partner organizations is recognized.

SB will donate sufficient quantities of its antiparasitic drug, albendazole, for use in all LF endemic countries for as long as it takes to eliminate the disease. It is estimated that 4-5 billion tablets could be required over the 20 or more years needed to achieve this goal.

In addition to donating its drug worldwide, SB is supporting the LF programme with grants and additional help with coalition-building, planning, training and communication initiatives. The company believes that it can assist the LF programme more effectively by direct involvement in start-up activities and through teamwork with other committed governmental, nonprofit, bilateral and multilateral organizations.

Since the start of SB's entry into the LF programme it has helped establish a number of essential building blocks. Grants have allowed WHO to convene regular meetings of the Programme Review Group, comprised of tropical medicine and international public health experts, in order to evaluate and make recommendations on SB albendazole donations. Further funding in 1999 will also allow WHO to establish an LF Technical Advisory Group later in the year.

SB grants in 1998 -1999 have already allowed several important LF workshops to take place and proceedings to be published. The workshops have focused on key issues that can lead to immediate actions required for implementation of the LF programme.

Workshop topics included:

- Epidemiologic Approaches – Assessment, Monitoring & Certification (Atlanta, September 1998);
- Albendazole Research Findings (Geneva, October 1998);
- Partners Forum (Geneva, October 1998);

- Socio-Economic Research Agenda (Atlanta, November 1998);
- Communication Efforts (Atlanta, November 1998);
- Effective Drug Distribution (Annecy, February 1999 – co-sponsored with Health and Development International [HDI]).

Major support has also been given to the Carter Center, for a 3-year programme on initial LF control in two states in Nigeria, and to Emory University's Rollins School of International Public Health to establish a unit working on the economics of LF. SB is currently working with DFID on a proposal to jointly fund the lymphatic filariasis support centre at the Liverpool School of Tropical Medicine.

SB is also funding the services of a global communication firm, Manning, Selvage and Lee (MS&L), to work directly with WHO, CDC, SB and other partners to provide essential advice and information tools for the joint LF Communication Task Force.

3.5.2 Merck & Co., Inc.

Merck & Co., Inc. has committed to expand its Mectizan® Donation Program to include the treatment of lymphatic filariasis in African countries where it is medically necessary (i.e., where lymphatic filariasis and onchocerciasis and/or loaisis are co-endemic). Merck will provide Mectizan® (ivermectin) free-of-charge in these countries to help control the disease and to support WHO's goal of elimination as a public health problem by the year 2020.

In 1987, Merck announced that it would donate Mectizan® for as long as needed, wherever needed, to treat onchocerciasis (river blindness) and to help bring the disease under control as a public health problem. To facilitate this Program, Merck established the Mectizan® Expert Committee - an independent group of experts in tropical medicine and public health to review and approve applications for free supplies of Mectizan®. Today, the Mectizan® Donation Program (MDP) and its Expert Committee are charged with the broad goal of promoting the medically responsible use of Mectizan® for the treatment of onchocerciasis in Africa and the America's. The MDP oversees the application and approval of Mectizan® treatment Programs on behalf of Merck & Co., Inc. and liaises between Merck, non-governmental development organizations and ministries of health on such matters as drug procurement, shipping, distribution, training/education, as well as safety, medical and technical issues.

The Mectizan® Donation Program for the treatment of river blindness is now in its twelfth year. To-date, more than 350 million tablets have been donated

and, in 1998 alone, an estimated 25 million people were treated through on-going treatment programmes in 31 of 35 endemic countries. Through the continuing collaboration of an international, multi-sectoral coalition involving Merck, MDP, WHO, the World Bank, the international donor community, numerous non-governmental development organizations, ministries of health and local communities, there is hope that onchocerciasis can be eliminated as a major public health problem and socioeconomic constraint within the next decade. The donation of Mectizan® for lymphatic filariasis will take place through the same system successfully established for the treatment of river blindness.

3.5.3 The Centre for Partnership in Health / World Alliance for Community Health

The Centre for Partnership in Health was established by Placer Dome Inc. on 21 September 1998. The Centre was established to act as the secretariat for the World Alliance for Community Health, a private sector initiative in cooperation with the World Health Organization. Placer Dome is implementing a policy of mining and sustainability through strategic partnerships with communities, government, special interest groups and international institutions. It is through such partnerships that Placer Dome strives to improve social conditions and governance in the local communities where it operates. The Centre for Partnership in Health is one such initiative and it is playing a key role in developing strategies for sustainable development and improved health programs throughout the world.

The Centre for Partnership in Health is committed to supporting the global programme for filariasis elimination through the SmithKline Beecham/World Health Organization programme. World Alliance members will be encouraged to support filariasis control activities in their countries of operation where filariasis is endemic. It is considered that partnerships such as the World Alliance for Community Health and the World Health Organization will become significant vehicles to support this global filariasis elimination initiative.

3.5.4 AMRAD ICT

AMRAD ICT, a division of the Australian based organization AMRAD Operations Pty Ltd, develops, markets and distributes a range of rapid point-of-care diagnostic tests world-wide for a number of diseases such as malaria, tuberculosis, hepatitis and filariasis.

The AMRAD ICT Filariasis whole blood diagnostic test has been developed to assist in the major world initiative to break the transmission cycle of Lymphatic Filariasis, and eventually, eradicate this debilitating disease. The AMRAD ICT Filariasis rapid diagnostic test, also known as the 'antigen' or the 'card' test, has

5.3 Targets (governance)

By the end of 1999 :

- A new structure will be agreed and dates fixed for the first meetings.

By the end of 2000 :

- Each of the newly formed groups will review their constitutions and agree to necessary modifications.

During the final proof stage ofthis Strategic Plan a meeting was held on 2 December 1999 at which the *modus operandi* for the partnership was agreed. The text below is an extract from the report of the meeting.

LF governance was proposed with:

- an Alliance that would be a free, non-restrictive partnership forum for the exchange of ideas and the co-ordination of activities;
- a WHO Technical Advisory Group modelled on the former Expanded Programme on Immunization Global Advisory Group; and
- WHO serving as the secretariat for the partnership.

Following discussion of this proposal it was agreed that "A partner hip had been formed" and seven "Guiding Principles" were agreed upon. A procedure was also agreed for the process for reviewing plans of action and drug application and finally, terms of reference for the Alliance and the Technical Advisory Group were agreed and dates selected for the first meetings.

Co-ordination of fund-raising and information-sharing were seen as a special challenge for the future but nevertheless, it was agreed that the partnership would operate with the "*...highest level of transparency on operations and income flows...*".

The meeting closed in a spirit of optimism and partnership.

6. INTEGRATION WITH OTHER DISEASE CONTROL PROGRAMMES

One of the fundamental tenets of the programme to eliminate lymphatic filariasis is the leadership of the Ministries of Health in coordination with other disease control or eradication programmes. The four sections below give examples where collaborative integration in different programme activities will be particularly valuable.

6.1 Onchocerciasis Control Programmes

6.1.1 Objective

To develop collaboration between activities for the control of onchocerciasis and the elimination of lymphatic filariasis at global, regional and national levels.

6.1.2 Status (onchocerciasis collaboration) 1997-1999

- Discussions on collaboration between APOC/OCP and the LF elimination programmes are underway at the policy level;

- An epidemiologist and a social scientist working with APOC/OCP met with LF counterparts during June-August 1999 to re-draft onchocerciasis programme guidelines to accommodate integrated LF elimination efforts.

6.1.3 Targets (onchocerciasis collaboration)

By the end of 1999 :

- To expand the focus of the OCP/APOC Committee of Sponsoring Agencies (CSA) to include LF activities;
- To launch 'start-up' activities combining onchocerciasis and lymphatic filariasis control using the community-directed treatment approach;
- Begin epidemiologic assessment of LF distribution in OCP/APOC countries.

6.2 Intestinal Parasite Control Programmes

The tools and strategies recently developed for filariasis control/elimination are similar to those used in controlling intestinal nematodes, the major differences being that the most effective approach to lymphatic filariasis involves the use of a two-drug regimen given once a year while the recommended approach to intestinal parasite control involves single-drug treatment given 2-3 times/year.

Countries may be classified as follows :

- *Stage 0. Investigation and classification*

Countries and areas where the status of lymphatic filariasis is unknown or where there is endemicity but no active control programme.

- *Stage 1. Start-up projects*

Countries and areas active in LF elimination for the period early 1999 to early 2000, when intensive safety monitoring will be required until the numbers of people treated has increased to >100 000. Also, countries and areas where the programme has been launched in a limited number of districts before expanding to all LF-endemic areas.

- *Stage 2. Going to scale*

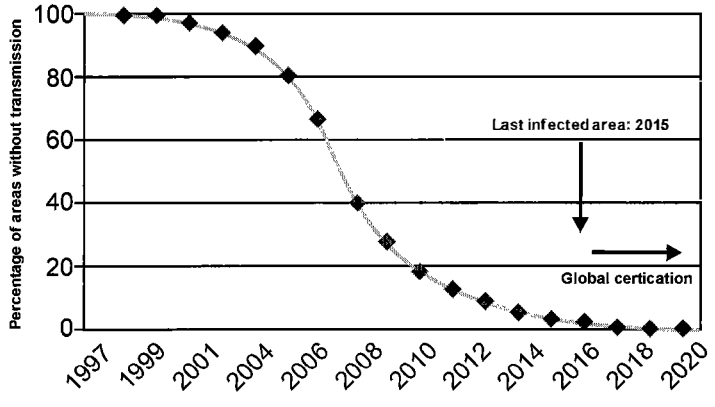
Countries and areas where LF is endemic and all endemic districts are engaged in a national elimination programme.

- *Stage 3. Surveillance and mopping up*

Countries and areas where treatment programmes have completed the targetted programme plans and little or no transmission remains.

- *Stage 4. Certification*

Countries and areas where there have been no reported cases for five years.



Annex 1

Countries where lymphatic filariasis is endemic (or was once endemic and is not yet certain to be free from transmission)[11]

Angola	American Samoa	Antigua and Barbuda	Bangladesh
Barbados	Benin	Brazil	Brunei Darussalam
Burkina Faso	Burundi	Cambodia	Cameroon
Cape Verde	Central African Republic	Chad	Chagos Islands
China	Colombia	Comoros	Congo
Cook Islands	Costa Rica	Côte d'Ivoire	Cuba
Djibouti	Dominica	Dominican Republic	Egypt
Equatorial Guinea	Eritrea	Ethiopia	Fiji
French Guano	French Polynesia	Gabon	Gambia
Ghana	Guadeloupe	Guam	Guinea
Guinea-Bissau	Guyana	Haiti	India
Indonesia	Iran	Kenya	Kiribati
Laos	Liberia	Madagascar	Malawi
Malaysia	Maldives	Mali	Marshall Islands
Martinique	Mauritius	Micronesia	Montserrat
Mozambique	Myanmar	Nauru	Nepal
New Caledonia	Niger	Nigeria	Niue
Northern Marianas	Oman	Pakistan	Palau
Panama	Papua New Guinea	Philippines	Puerto Rico
Republic of Korea	Réunion	Rwanda	Ryukyu Islands
Samoa	Sao Tome and Principe	Saudi Arabia	Senegal
Seychelles	Sierra Leone	Singapore	Solomon Islands
Somalia	Sri Lanka	St Kitts and Nevis	St Lucia
Sudan	Suriname	Taiwan	United Republic of Tanzania
Thailand	Togo	Tokelau Islands	Tonga
Trinidad and Tobago	Tuvalu	Uganda	US Virgin Islands
Vanuatu	Venezuela	Viet Nam	Wallis and Futuna
Yemen	Zaire	Zambia	Zimbabwe

11 This list is currently under review