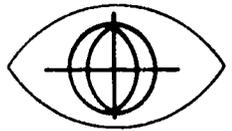


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FINAL REPORT

MATCHING GRANT NUMBER PDC-0174-G-SS-1102-00

(COVERING THE PERIOD 01 July 1981 - 30 June 1985)

INTERNATIONAL EYE FOUNDATION

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the
International
Eye Foundation

INTERNATIONAL EYE FOUNDATION
MATCHING GRANT - FINAL REPORT
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EXECUTIVE SUMMARY

This is the final report for a matching grant program carried out by the International Eye Foundation with support from the United States Agency for International Development between 1981 and 1985. The original grant was for a three year period with a total budget of \$1,800,000 (\$900,000 from USAID and \$900,000 from IEF). Due to delays in implementation of planned activities in some countries the program was extended for one further year, but with no additional financing.

Initially, activities under this matching grant program were to have been carried out in the following countries: Ecuador, Egypt, [Guinea], (Haiti) Honduras, Malawi, and Puerto Rico. After the first year of grant operations, the activities in Haiti were suspended, and were not resumed. Two years into the grant, programs in Kenya and Saint Lucia were brought under the grant "umbrella". The activities being carried out in Egypt under this grant were terminated after two years when the IEF received an OPG to carry out training activities in primary eye care and blindness prevention in that country. Likewise, activities in Guinea were suspended in 1984. The planned activity in Ecuador was not initiated under this grant, due, in part to manpower shortages within the IEF.

Table I illustrates the range of activities that either were, or were to have been, carried out in each country. Except as noted above, all planned activities were accomplished during the life of this grant.

TABLE I.
SUMMARY OF COUNTRY ACTIVITIES

COUNTRY	ACTIVITIES				
	I	II	III	IV A B C	V
Ecuador		X			
Egypt		X	X	X	
Guinea		X		X X	
Haiti		X	X	X X	
Honduras		X	X	X X X	
Kenya		X	X	X X X	
Malawi	X	X	X	X X X	X
Puerto Rico				X X	X
Saint Lucia		X	X	X X X	X

- I. Operational research of blindness prevalence and etiology
- II. Program planning and development
- III. Program implementation
- IV. Manpower development and training
 - A. Physician
 - B. Ophthalmic auxiliaries
 - C. Primary eye care for general health workers
- V. Regional Training Program

Two programs covered under this grant underwent comprehensive evaluations while the grant was in effect. These were carried out by Management Sciences for Health, under contract to USAID, in Honduras and Malawi. The findings of these evaluations emphasized the positive impact of IEF activities on the eye health capabilities of the Ministries of Health in both countries and, at the same time, noted management deficiencies which may have limited the effectiveness of these and other IEF projects. Stimulated in part by these reports and by management staff changes, the IEF undertook a headquarters' management evaluation early in 1985 with assistance from a management consultant. The recommendations arising from this study were adopted by the Foundation's Board of Directors, and implementation was begun shortly before completion of this grant.

This matching grant has had a significant positive impact on the IEF in terms of institutional development and the Foundation's ability to respond positively to requests for assistance. This impact has not been limited to activities covered under the grant. The matching grant provided incentives both to the IEF, to seek new sources of funding, and to potential donors, who, knowing that their financial support could have a multiplier effect, were more willing to provide that support. As noted later in this report, funding from private sources has increased dramatically in the four years since the matching grant was initiated, and dependence by the IEF on USAID for financial support has declined substantially.

Chapter 1

INTERNATIONAL EYE FOUNDATION

MATCHING GRANT NUMBER PDC-0174-G-SS-1102-00

FINAL REPORT

INTRODUCTION

This is the final report for the International Eye Foundation's Matching Grant from the United States Agency for International Development which commenced on 1 July, 1981 and was completed on 30 June, 1985. The originally proposed budget for the three year grant period totalled \$1,800,000 (\$900,000 each from U.S.A.I.D. and I.E.F.) with additional inputs from host governments (Ministries of Health). Subsequently the grant period was extended for an additional year with no increase in the overall budget amount.

HISTORICAL BACKGROUND

The International Eye Foundation was founded in 1961 by Dr. John Harry King, Jr., a pioneering corneal surgeon, as the International Eye Bank under the auspices of the CARE/MEDICO network. The original purpose of the International Eye Bank was to provide a mechanism for the transfer of eye

banking technology to the developing countries of Asia and Latin America. The International Eye Bank became the International Eye Foundation and was incorporated as an independent non-profit organization in 1969. By then, the extent, causative factors, and socio-economic impact of blindness had become more widely recognized and the organization's role had expanded to encompass activities to improve the quality and availability of eye health care services in general, in addition to eye banking.

The purpose of the International Eye Foundation, as stated in the by-laws adopted in 1969 is

...the promotion of peace through the prevention and cure of blindness worldwide... through a program of fellowships, surgical teaching missions, research, and distribution of ocular tissues... and other educational, scientific, and charitable projects...

In 1972, the I.E.F. was registered with the Department of State as a private voluntary organization and began receiving significant grants in support of its programs of assistance.

Today, while its general purposes remain the same, the focus of the International Eye Foundation's activities has shifted from the relative sophistication of eye banking and corneal transplantation to a more generalized emphasis on blindness prevention and the primary health approach to eye care. All of the IEF's programs center on the concept of helping others to help themselves; program activities are designed to provide needed clinical services while at the same time providing appropriate training to health workers at all levels, leading eventually to self-sufficiency in eye health care.

The programs developed by the International Eye Foundation have been widely recognized as models for the development of appropriate, effective eye health care systems. Early in 1985, the IEF was admitted into official relations with the World Health Organization, further recognition of the quality of its programs for the prevention and cure of blindness.

Chapter 2

BACKGROUND TO GRANT AND PROJECT CONCEPT

Blindness is a devastating human and socio-economic problem throughout the developing world. The blind person is generally incapable of meaningful, productive employment and, in addition, requires at least one other person on a nearly "full-time" basis to provide for his or her basic needs. It could be said (though this has yet to be demonstrated in a scientific study) that each blind person represents two individuals removed from production. This is a serious and often unnecessary drain on already overburdened and fragile economies.

The World Health Organization has estimated that there are more than 42 million blind people in the world [1]. Research by the International Eye Foundation and the WHO indicates that as much as 75 to 80 percent of the blindness in developing countries is either preventable or curable.

The pattern of blinding disease and ocular morbidity varies considerably throughout the world. Known rates in countries throughout the developing

1. Data available from African Regional Meeting for Planning Blindness Prevention Strategies, Bamako, Mali, February, 1980

world are particularly high. Blindness prevalence rates of from 1.5 to ten percent have been reported in specific locations [2].

Because of the large numbers of preventable and curable blind and the scarcity of available resources, the IEF stresses integration of eye health care activities into overall preventive, promotive, and curative health care activities of host governments.

As has been shown in other primary health care activities, primary eye care workers must have appropriate support, supervision, and referral capabilities after training. The fundamental tenets of the IEF's integrated blindness prevention program are:

1. The training of village level health workers in the public health aspects of blindness prevention;
2. The recognition and treatment of eye disease at an early stage; and
3. Appropriate management/referral to other cadres of health workers who can not only treat, but who can also serve to train, support, and supervise these village level health workers.

To be effective, blindness prevention activities must interact with other disciplines within the health sector. Such interaction produces dialogue and cooperation between health providers; traditional practitioners; nutritionists; health planners; health administrators; community leaders such as chiefs and sub-chiefs in Africa; and mobile outreach teams.

2. Social Science and Medicine, Pergamon Press, Volume 17, Number 22, 1983

For blindness prevention intervention programs to be effective in meeting the needs of people and cost-effective for governments and organizations involved in this work, assessment of the problem of treatable and preventable blindness should be carried out to guide the development of a comprehensive prevention and treatment program. Such assessment should include a review of the resources available to address the problem, as well as the extent and nature of the causes of blindness.

Program planning must be done in close coordination with on-going or planned primary health care activities within the Ministry of Health or other appropriate body. The proposed blindness prevention and treatment activities should be coordinated with overall health care activities centered upon developing increased capabilities in eye care on the part of existing health care workers.

2.1 Primary Eye Care as an Infrastructure for the Development of Primary Health Care

As outlined by the participants of the Alma Ata Conference [3] primary eye care and other specific health care activities may be used as a means of

3. ALMA ATA 1978: Primary Health Care. Report of the International Conference on Primary Health Care, Alma-Ata, U.S.S.R., September, 1978, p. 15, Chap.2, Para. 27, 28

developing a community infrastructure for health care delivery which is capable of being expanded from the original activity into one including a broad range of primary health care activities selected by the community.

Based on this concept, primary health care activities have begun with such programs as EPI, maternal and child health, malaria control, and, more recently, primary eye care.

An example of this process can be gleaned from the IEF's experience in Kenya. During the Kenya Rural Blindness Prevention Project of the IEF, a pilot community intervention was initiated. A group of approximately sixty community residents, selected by clan leaders, were provided very basic training in primary eye care and blindness prevention (about twenty hours of instruction). Many of these "community health workers" were illiterate or only semi-literate, and none had any previous training in any health-related area. Following their training, these workers rapidly picked up on the importance of and proper role of sanitation, personal hygiene, water development, and the value of maternal and child health care. Within a very short period, several water collection tanks had been built by the community, and the workers trained by the project had supervised the construction of over 1,000 pit-latrines! Primary eye care provided the stimulus for initiation of other health-related activities.

There are a number of explanations as to why such phenomena are possible. It has frequently been observed in IEF project that the drama of restoring sight by a simple operation or the relief of pain and infection from the human eye has a very dramatic and lasting effect on the local community. Such

curing and healing develops a confidence among members of the community regarding the capability of health care workers. Repeatedly, this confidence has been demonstrated by the ever-increasing number of people who utilize available outpatient and inpatient services and who responded to the village health worker in blindness prevention and eye care program activities at the most peripheral level in the field without the benefit of permanent facilities or sophisticated equipment. This confidence in the eye care system at the most elementary or primary level can and may be expanded to include other sectors of primary health care tailored to meet a specific area, regional, or national need. It is important to note, however, the importance of adequate referral capability in order to treat those cases referred by the primary eye care worker.

At the governmental and inter-governmental levels, the International Eye Foundation has also undertaken a series of regional meetings to plan strategies for blindness prevention through primary eye care. To date, two regional meetings were held in 1980; the first in Bamako, Mali, in February, the second in Lilongwe, Malawi in September. The commitments and consensus from medical and administrative delegates from each nation involved in these meetings have been to pursue the concept of integrating blindness prevention and primary eye care into existing or planned primary health care activities. It was determined that one of the most cost-effective and efficient methods of developing broad-based screening and referral patterns as well as implementation of blindness prevention measures was the primary eye care system. The International Eye Foundation and World Health Organization have promoted and endorsed these recommendations.

2.2 The Use of Primary Eye Care to Stimulate Community

Health Development

As has been noted, primary eye care can be utilized as a health care infrastructure capable of expansion into primary health care through the following activities:

1. Primary eye care workers can be developed from several sources in the village or community.
2. A short, on-scene, training course can give these workers the necessary skills to detect and treat eye disease at an early, pre-blinding, stage, to refer cases beyond their capability to manage, and to encourage community action for prevention of blindness. These activities are the same as those necessary for general health preventive measures and include immunization, nutrition education, vector control, waste disposal, a clean water supply, and early self-referral for care.
3. Supervision and referral sources for these primary eye care workers can be provided by further training of existing health care workers such as community nurses who are generally in charge of the lowest level health facilities within Ministry systems;
4. Community pressure for a greater scope of health care activities by the primary eye care worker emerges as confidence develops in their

abilities.

5. As the community identifies additional health needs, curricula will be developed to provide the necessary training to the village health worker.
6. Gradual expansion of this process will result in the development of multi-faceted health care workers, building on the infrastructure developed to deliver primary eye care.
7. Supply systems adequate to meet the needs of the village level health care workers will be developed or strengthened.

Chapter 3

THE IEF'S APPROACH TO THE PROBLEM

One of the goals of the IEF is to alleviate blindness and reduce the overburden of individuals with curable and preventable blindness. To realize its goal, the IEF has, in its programs over the years, focused on the following activities:

1. Integrating primary eye care with already existing primary health care systems in developing nations;
2. Integrating and relating with other sectors of health and economic development, e.g., maternal and child health and family planning clinics, nutrition clinics and nutritionists, water development programs for improved water quality and availability; and community-based action schemes;
3. Conducting comprehensive surveys to be used by national governments in planning changes or additions to health care services;
4. Utilizing experience gained in past and on-going successful blindness prevention and treatment programs as models which can be altered, modified, or duplicated for other developing country programs;

5. Involving host country governments in consciousness raising activities such as newspaper and radio campaigns in the area of blindness prevention, village meetings, and others;
6. Training non-physician health care personnel in the principles and practice of intra-ocular surgery as well as diagnosis and treatment of external eye disease;
7. Training of various levels of health personnel in blindness prevention and eye care;
8. Training teams to operate at the village level to teach community health and sanitation;
9. Developing technology which is appropriate, cost-effective, and uncomplicated; and
10. Cooperating with WHO, USAID offices in Washington and on the mission-level, and other organizations in national, sub-regional, and regional programs for the prevention and cure of blindness.

3.1 Conceptual Framework for the Matching Grant Program

Based on the above, four functional types of interrelated activities have been developed and carried out under the matching grant program. The individual country programs have combined all or part of these activities,

depending on local circumstance, expressed need of the Ministries of Health, and IEF capability. Basically, these activities can be summarized as follows:

- Surveying the extent and causes of blindness and the availability of resources, as well as the planning and design of delivery systems in order to increase service availability and efficacy;
- Upgrading the ophthalmic skills in prevention and treatment of blindness by personnel principally delivering primary eye care, but also including personnel at the secondary and tertiary levels who fill supervisory and referral roles;
- Training the trainers of primary health personnel to deliver courses in the prevention of blindness and primary eye care; and
- Designing primary eye care infrastructures which may be expanded to include a broader range of primary health care activities where no such primary health infrastructure already exists.

The various countries targeted by the IEF in this Matching Grant were and are appropriate recipients of this assistance because the vast majority of each country's population exist at a subsistence level with little or no access to modern (as opposed to traditional) medical services. Availability of eye health services at any level is severely limited when available at all. Each of the countries has blindness rates in excess of one percent (with some, such as Guinea, estimated as high as five to ten percent).

As noted above, activities carried out under this grant have varied substantially from country to country. There are three basic reasons for

these differences:

- When this grant was initiated, the target countries were at varying stages of development in their blindness prevention/eye health programs;
- Assistance may have been requested for a regional activity, such as that provided to the Basic Science Course in Ophthalmology at the University of Puerto Rico, which has provided training for ophthalmologists from throughout Latin America; and
- Limitations on financial inputs necessitated targeting those countries where a variety of blindness prevention and eye health activities would be implemented, without complete dependence on funding under this grant (i.e., commitment of resources from host governments, and other national and international agencies).

3.2 Beneficiaries

As noted previously, blindness prevention activities of the IEF are dedicated to assisting governments to provide basic preventive, promotive, and therapeutic eye care to those for whom such care is otherwise unavailable.

In most developing countries, this has been translated into program activities centered about rural villages or communities and the surrounding (mainly subsistence) agricultural population. In a typical rural-based

outreach program such as the Kenya Rural Blindness Prevention Project, approximately ten percent of the total country population interfaced directly with the program activities over a three-year period. As blindness prevalence is significantly higher in the rural population who make up the majority of these patient contacts, the percentage of those with preventable or curable blindness affected is thought to be greater than ten percent.

The "ripple" effect of educating village leaders in community action aimed at promoting general as well as ocular disease prevention further increases the numbers of beneficiaries.

Those with curable blindness are brought to the realization that their condition may be helped by surgery and seek attention in greater numbers, further increasing the effectiveness of program activities.

School children educated to the need for early attention to eye disease as well as the community actions which can be undertaken to prevent blindness stimulate their parents and the community to further action.

The pyramid of ages in developing countries is such that approximately 70 percent of the population is comprised of women of child-bearing age and under-15's. IEF projects have been weighted towards schools, maternal and child health clinics, and under-five clinics, so that clearly defined segments of the population will most benefit from blindness prevention and primary eye care.

More specifically, the beneficiaries of the IEF matching grant program fall into two distinct categories:

1. those provided primary eye care, i.e., screened, diagnosed, simply treated, and provided preventive services; and
2. those provided sight saving or sight restorative operations.

In the first category, it is estimated that there have been well in excess of 1.2 million beneficiaries, whether diagnosed and provided preventive eye care directly by IEF personnel or by those local personnel trained under IEF auspices to provide eye care during the life of the project.

In the second category, it is likewise estimated that there have been well over 12,000 beneficiaries, a figure approximately one percent of the total number of beneficiaries served during the life of the project.

It is inevitable and necessary in any eye health care delivery program that those patients requiring sight restorative surgery actually be provided these curative services. Otherwise, the preventive activities will not appear ultimately beneficial to the population affected.

Chapter 4

REVIEW AND ANALYSIS OF PROJECT RESULTS - BY COUNTRY

As initially proposed, the IEF's matching grant was to have included activities as follows:

1. Guinea: Starting virtually from "scratch", activities initially centered on the provision of a trained ophthalmologist who, in turn, was to provide training to Guinean physicians in ophthalmology. Building on this base, the activities were to have expanded to include paramedical workers throughout the country.
2. Ivory Coast: This was to have been the sight of a regional training center in which the IEF had been requested to provide primary eye care training for the trainers of primary health care workers from a 20-nation consortium. This consortium project "Strengthening Health Delivery Systems" (SHDS) maintained five training locations for francophone and anglophone Central and West Africa.
3. Malawi: A multi-faceted program was planned for Malawi, which included provision of services, strengthening the eye health care delivery system, and the provision of training at appropriate levels to health care workers.

4. Egypt: This program was developed in response to a request from the Ministry of Health to assist in providing preventive, curative, and educational eye health care in the MOH central referral facility, the Giza Memorial Institute of Ophthalmology. The program revolved around the rotation of U.S. physicians to train, provide preventive and diagnostic services, perform surgery on charity eye cases drawn from the entire country, and plan expanded outreach prevention of blindness services within the MOH.
5. Honduras: To work with the Ministry of Health to expand and consolidate the primary eye care delivery system by training additional trainers of primary health care personnel, supervising and upgrading posted auxiliary personnel in rural health centers and assisting the MOH to assess further needs and plans in prevention of blindness activities.
6. Haiti: Provision of preventive, curative, and educational eye health care to the client population of the Albert Schweitzer Hospital in Deschappelles, located in the interior Artibonite Valley of Haiti where no other eye care was available to the population of nearly 1,000,000 people.
7. Puerto Rico: To train and upgrade the primary eye care delivery, training, and supervisory skills of both physicians and paramedical personnel who train in a regional center serving the Spanish-speaking areas of Latin America. This training covers basic sciences (in ophthalmology), blindness prevention and treatment, and the development of programs to deliver primary eye care.

During the life of the matching grant, three of these countries (Guinea, Ivory Coast, and Haiti) were dropped from this grant. Details of this will be presented in the individual country sections of this report. In addition, the following activities in two countries (St. Lucia and Kenya), were added to the grant:

1. St. Lucia: Development and strengthening of eye health services and training at the Ministry of Health's Victoria Hospital in Castries through the provision of an ophthalmologist; and
2. Kenya: Turn-over phase of the previous IEF OPG in support of the Kenya Rural Blindness Prevention Project and provision of further assistance to the Ministry of Health in the strengthening of its training program for Ophthalmic Clinical Officers.

4.1 HAITI

The intent of the IEF project in Haiti was to assist in the development of eye health services in the interior Artibonite Valley, an impoverished rural area with a population of about one million people and no regularly available eye services. The base for the project was the Albert Schweitzer Hospital at Deschappelles. Activities in Haiti were undertaken in collaboration with Yale University, which undertook to identify ophthalmologists who would serve as Project Director on a rotating basis. The project was also intended to

provide training opportunities for senior residents in ophthalmology from Yale.

During the first year of the matching grant, three senior residents from Yale served with the I.E.F. in Haiti: Drs. Edgardo J. Ortiz, Warren Fagadau, and Barry Teasley. Each of these physicians spent a three month period at the Albert Schweitzer Hospital. A total of just over 4,500 patients were examined and treated in the eye clinic, with approximately 200 patients undergoing surgery for various conditions, primarily for the removal of cataracts.

Aside from the substantial number of patients examined and treated, the activities in Haiti were less successful than had been hoped. A number of factors contributed to this:

- The physicians who served in the project had only a limited understanding of the nature of the IEF and the Haiti project and therefore did not initiate activities designed to train local personnel and encourage blindness prevention activities;
- Reporting procedures were not clearly defined and the participant physicians therefore did not report on a regular basis or in any detail; and
- Financial constraints brought about in part by Yale's inability to make any contribution to the operation of the project severely restricted the scope of activities that were possible.

At the end of the first year of this matching grant, the IEF's involvement in this program was suspended pending an "in-house" examination of how the

project could best be operated. It was decided that a new collaborating partner, able to contribute to the support of project activities, should be sought. Ultimately it proved impossible to identify a new partner, and the program in Haiti was dropped from the matching grant entirely.

4.2 PUERTO RICO

The IEF matching grant activity in Puerto Rico is intended to train and upgrade the primary eye care delivery, training, and supervisory skills of both physicians and paramedical personnel from the Spanish speaking areas of the Americas. This training covers basic sciences in ophthalmology, blindness prevention and treatment, and strategies for the development of programs to deliver effective and appropriate eye health services. The program is conducted in collaboration with the Department of Ophthalmology of the University of Puerto Rico and is the only existing Spanish-language program of this type.

The IEF involvement in this program consists primarily of the provision of fellowships to course participants. Over the life of the matching grant 54 fellows have taken part in this important program. Table II provides details on the numbers and countries of origin of the IEF-sponsored fellows. A detailed description of the training provided under this program appears in Appendix C.

The training provided under this program opens a number of options for the participants. It is a tacit understanding of the program that most

participants will continue their ophthalmic training on return to their home countries. Either following, or in conjunction with this continued training, these individuals can and reportedly do provide training to paramedical personnel and their fellow physicians in primary eye care and basic principles of blindness prevention. In addition it is assumed that these fellows will play an active role in the development of blindness prevention programs.

TABLE II
IEF-SPONSORED FELLOWS AT THE UNIVERSITY OF PUERTO RICO
BASIC SCIENCE IN OPHTHALMOLOGY COURSE

COUNTRY	1981-82	1982-83	1983-84	1984-85
Argentina		2		
Bolivia	1	1		1
Brazil	1	1		1
Chile	1	1		
Colombia	1	1	2	1
Dominican Republic	1	2	2	2
Ecuador	1	1	1	1
El Salvador	1	1	1	1
Guatemala	1	1	1	2
Haiti	1	1	1	
Honduras	1	1		
Paraguay	1	2	1	2
Panama			1	
Peru		1	1	
Venezuela	1	1		
Uruguay		1	1	1

Support for the IEF-provided fellowships comes from the William M. and Ramona Carrigan Family Endowment for Blindness Prevention in the Americas, which was established at the IEF by the Carrigan's in 1982. The program is carried out under the supervision of Dr. William Townsend, a cornea specialist

and former IEF-fellow.

4.3 HONDURAS

The IEF's program of assistance in Honduras was initially funded under an OPG, which was completed in September, 1981. At that time, Honduras was included under this matching grant. The purpose of the matching grant activity in Honduras has been to further assist the Ministry of Health in the training of nurses, nurse auxiliaries, nurse-tutors, and other health personnel at the first referral level, who would in turn be able to train, supervise, support, and provide referral services for primary health workers providing primary eye care. In addition, central referral services were strengthened to provide for central provision of curative services and professional training of medical and medical auxiliary personnel.

Under the terms of the matching grant the following activities have been undertaken:

1. In conjunction with the Ministry of Education, a training program for secondary school directors was developed, and 210 directors trained to perform visual acuity screening in school children.
2. Nearly five hundred nurses and nurse auxiliaries were trained in primary eye care. This training enables the nurses to recognize eye disease at an early stage and either provide appropriate treatment or referral to central facilities. In addition, nurses were trained in those

individual and community-wide measures aimed at preventing eye disease in rural areas.

3. Nurse supervisors and tutors were trained in the central nursing schools and in each province to serve as sources of continuing medical education for the nurses trained in the program.
4. Thirty-six Peace Corps volunteer nurses were trained to act as counterpart instructors in each of the health regions of the country and to provide on-going instruction in primary eye care in the Schools of Nursing.
5. Over thirty physicians (both ophthalmologists and general physicians) were provided with training seminars in various levels of eye care delivery. Topics covered ranged from the subspecialty areas of ophthalmology, i.e., diseases of the retina, cornea, and extraocular muscles, to general blindness prevention and simple eye care. Six visiting professors were provided by the International Eye Foundation to conduct this training at the San Felipe Hospital in Tegucigalpa.
6. Five Honduran ophthalmologists were brought to the U.S. for short-term fellowships in corneal, ophthalmic plastic, and retinal surgery. In addition, one ophthalmologist received training in fluorescein angiography, and assistance was given in establishing the first fluorescein angiography unit in Honduras at the San Felipe Hospital.
7. Equipment and supplies were provided to the Ministry of Health (primarily for the San Felipe and Leonardo Martinez Hospitals in

Tegucigalpa and San Pedro Sula, respectively) to enable physicians who participated in the seminars to provide necessary eye health services.

8. In conjunction with World Relief, the IEF Deputy Medical Director, Dr. Lawrence M. King, Jr., went to La Mosquitia to conduct an informal survey of blindness and eye disease among the Misquitos Indians. Dr. King later returned to this area to conduct a training seminar in primary eye care and blindness prevention for Ministry of Health and Mission physicians responsible for provision of medical care to the Indians. In addition, Ms. Tamara Oberbeck, the IEF consultant in Honduras, provided similar training for nurses working in this region.

In October, 1982, the IEF's full-time Project Director, Ms. Tamara Oberbeck, was withdrawn as the nurse training program developed by the IEF had been completed. However, Ms. Oberbeck has continued to act as a consultant for the IEF program in Honduras and has made several trips to provide further follow-up training. In each of the trips made since the completion of her full-time employment in Honduras, Ms. Oberbeck has provided training in ophthalmic anatomy and physiology; recognition of common eye problems (glaucoma, cataract, strabismus); management of ocular emergencies; and measuring visual acuity. These sessions are important, not only because of the valuable information they provide, but also for the eventual multiplier effect they can have. During the first of these follow-up sessions, for example, six nurses from Choluteca nursing school completed training. They, in turn, completed training for 60 nursing students the following year, and will train as many in subsequent years since this has now been incorporated into the standard nursing curriculum.

The training provided by the IEF under the matching grant has had a valuable impact on the development of eye care services in Honduras at all levels. Through training of nurses and nurse tutors, with the consequent "multiplier effect" of such training, the availability of eye care service is greatly expanded. The chain of training, support, supervision, and referral has been carefully developed and taught in each session. The overall effect has been to stimulate an increased demand for eye care services at all levels. In addition, the program for the provision of visiting professors and fellowships has advanced the expertise of the Honduran ophthalmologists involved, thereby having a positive effect on the practice of ophthalmology in the country. The impact of the project's training activities was noted in the joint USAID/MSH evaluation carried out in 1983. (See Appendix G.)

4.4 SAINT LUCIA

The IEF has conducted a combination national and regional blindness prevention activity from St. Lucia since late 1981. These activities have been under the rubric of the matching grant since 1983. In Saint Lucia, the IEF has provided consulting and technical assistance to the Ministry of Health by seconding full-time and short-term ophthalmologists to provide direct curative services and help plan and implement a program of blindness prevention on an island-wide basis.

As with other IEF programs, training of paramedical personnel is an integral part of the Saint Lucia activities. Over the past four years, over

100 Saint Lucian nurses have received training in the principles of primary eye care delivery and blindness prevention, and approximately 38 senior nurses from St. Lucia and neighboring islands have received training in intermediate eye care and public health ophthalmology.

As an essential component of this program, a Saint Lucian physician, Dr. Emsco Remy, was selected by the Ministry of Health in 1983 to undergo appropriate training to enable him to become a locally-certified eye specialist. This training is provided in Barbados under an IEF program which seeks to train sufficient numbers of physicians in ophthalmology at the diploma level to enable each of the islands of the eastern Caribbean to attain self-sufficiency in eye care up to the secondary level. Dr. Remy completed his initial training in Barbados in June, 1984, and returned to work with the IEF ophthalmologist in Castries. At that time, it was anticipated that this he would assume responsibility for provision of eye care services following about one year of clinical/surgical practice under the IEF ophthalmologist's supervision. However, in April, 1985, the Ministry of Health selected Dr. Remy to be the recipient of a fellowship for further ophthalmological study in Israel under a bi-lateral assistance program with the Israeli government. Dr. Remy is expected to return to Saint Lucia sometime in 1986.

In the meantime, the Ministry of Health is seeking a second candidate for training in Barbados. When this second candidate finishes training (anticipated for June, 1987), Saint Lucia will be in a position of self-sufficiency in eye health care. The IEF anticipates continuation of its program in Saint Lucia through that time, and then plans to "move" the program to another island.

In July, 1984, Dr. Harry Pappas assumed responsibility for the direction of the IEF program in Saint Lucia. Dr. Pappas is a glaucoma specialist, as have been the previous project directors. Dr. Pappas served in Saint Lucia for one year, and during his tenure significantly expanded the scope of activities in the eye care program. Among other things, he extended the rural outreach activities to provide coverage for all Ministry of Health facilities in the country, each receiving regular periodic visits from an ophthalmologist or ophthalmic auxiliary, and initiated a "muscle" clinic to provide regular therapy for those patients with ocular muscle problems (amblyopia, etc.). This last activity was initiated at the suggestion of Dr. Pappas' wife, a Registered Orthoptist. Dr. Pappas completed his "tour of duty" in Saint Lucia in June, 1985.

The IEF program in Saint Lucia provides a useful example of the role the IEF can and does play in creating awareness among both governments and the general population of the importance of and necessity for adequate eye care. Initially, the Ministry of Health was reluctant to commit resources to the development of the eye health system, feeling that eye disease and blindness were not priority public health problems. Only after the IEF program had been providing services and developing an on-going public education campaign for some time did the Ministry come to appreciate fully the extent of preventable and curable eye disease and blindness. Having recognized the problem they readily accepted the principle of training a local physician in ophthalmology to provide for the routine eye care needs of the island. In addition, through the IEF's training of paramedical personnel, the Ministry has come to accept and recognize the role of these health workers as care providers.

Realizing the importance of this program and simultaneously the need for its continuation, the government, in 1983, initiated a pilot fee-for-service program in the eye clinic in Castries. Patients pay on a sliding scale according to their abilities to pay and some other age and employment related criteria, and the income so generated is used to support clinic operations. The Ministry of Health feels that the program has been successful and recently initiated fee-for-service policies throughout the health system. Thus, the IEF has succeeded indirectly in bringing about significant changes in public policy, to the benefit of all areas of health care in Saint Lucia.

4.5 GUINEA

The matching grant activity in Guinea had as its goals:

1. The development of central curative and teaching services to serve as the initial step in the development of a national blindness prevention and treatment program; and
2. To assist the Ministry of Health in long-range planning for delivery of eye health care services in areas outside of the capital city, stressing eye health care, both preventive and curative, in rural areas.

Eye health care in Guinea has lagged behind the delivery of other health care services. Prior to the initiation of IEF activities, there was only one ophthalmologist to serve the entire population of approximately 5,000,000. At the request of the Ministry of Health, the International Eye Foundation began

a program to train general practitioners in the delivery of eye health care services appropriate to the needs and resources of the country with the training being done in the local medical facilities assuring that the physicians are trained to recognize, treat, and begin the development of preventive services for those conditions causing eye disease and blindness in Guinea.

As eye health care services have in the past only been available in Conakry, it was necessary to develop a cadre of personnel capable of providing curative services in the outlying hospitals as the first step toward national program development. During the period of matching grant activities, six physicians and several "majors" (clinical officers with at least ten years experience who pass an examination, entitling them to the rank and position of physician) were trained in the provision of specialty eye health care services. In addition, two ophthalmic nurses were trained in examination and operating room techniques.

Two IEF ophthalmologists served in this project in Guinea. Each combined teaching with clinical and surgical responsibilities. The IEF project director was withdrawn in November 1983 due to political upheavals and difficulties in working with the Guinean ophthalmologist.

In late 1982, the then President of Guinea designated a building to be converted to a National Ophthalmic Training Center. Initial costs were born by the Ministry of Health with IEF inputs consisting of completion of design specifications and blueprints and the provision of ceramic tiles for the operating rooms. In 1984, U.S.A.I.D. provided a grant to enable the

completion and equipping of this building, and matching grant activities were suspended.

While the orientation of this program at first glance appears to be mainly in the area of curative services, it is important to recognize that prior to IEF involvement there were virtually no eye health care services available except in a very limited sense at the Donka Hospital in Conakry. As noted previously, the IEF firmly believes that a successful primary eye care/blindness prevention program requires the presence of a reasonably efficient curative service. It has been shown in other projects that it is futile to mount a blindness prevention campaign unless problems identified during the preventive activities can be provided with direct curative services in a timely fashion. It is with this thought in mind that the Ministry of Health has developed, in conjunction with the I.E.F. this logical, progressive development of the national program.

This project has been notable in the degree of collaboration and assistance provided by corporations involved in Guinea. The Martin-Marietta Corporation, its subsidiary Halco Mining Company and the Compagnie des Bauxites de Guinee, a mining consortium of which Halco is a member, have provided extensive assistance in transporting equipment and supplies, and provision of local housing and transportation for project expatriate staff. This private sector involvement has been essential for the continued operation of IEF activities.

4.6 EGYPT

The specific purposes of the matching grant activities in Egypt were as follows:

1. To upgrade the Ministry of Health Central Eye Health Care Delivery facilities;
2. To provide direct services to the overwhelming number of curable blind;
3. To upgrade the capabilities of Egyptian physicians, both to deliver eye health care services and to train ophthalmic health workers from outlying areas in modern techniques of blindness prevention and curative eye health care delivery; and
4. To provide a physician exchange program in which U.S. physicians work in Egypt and Egyptian physicians are brought to the U.S. for short-term fellowship training in areas of need as identified by the Ministry of Health.

Shortly after the start of the project, activities were moved from the Giza Memorial Research Institute of Ophthalmology to the Rod-el-Faraq Hospital in North Cairo. Sufficient diagnostic and therapeutic equipment was provided at the latter to equip two outpatient examining "lanes" and to instrument one operating room. Assistance was given to the hospital in developing a fluorescein angiography laboratory in order to adequately diagnose and provide

preventive care to patients suffering from diabetic eye disease. In addition, assistance was given in the development of a contact lens facility adequate to provide "bandage lenses" to patients suffering from corneal disease requiring this special form of therapeutic or preventive intervention. Finally, a microsurgical operating room capability was developed and the technology made available to the Egyptian physicians. A large amount of commodities were provided in the form of suture material, medications, bandages, and expendable diagnostic equipment.

Three U.S. physicians were continually in Egypt working at Rod-el-Faraq Hospital providing direct curative patient services in conjunction with counterpart Egyptian ophthalmologists with each U.S. physician seeing an average of 500 outpatients and performing 40 to 50 surgical procedures during their three month rotation. In addition, each U.S. physician prepared and delivered a series of lectures on various subjects in ophthalmology to assist in the training program for Egyptian physicians studying to become eye specialists.

During the two year period under which matching grant activities were carried out in Egypt, six Egyptian ophthalmologists received training in various sub-specialty areas of ophthalmology in the U.S. Both the ophthalmologists and their areas of study were identified by the Ministry of Health and the Director of the Rod-el-Faraq Hospital based on their expressed needs in support of their program of blindness prevention and treatment.

International Eye Foundation staff made multiple trips to Egypt providing technical assistance and program formulation and implementation and, in

addition, have served as consultants to the Ministry of Health in developing a national eye care program.

With the consent of the Ministry of Health, these activities were terminated in the summer of 1983, when the IEF signed an agreement for the implementation of an Urban Primary Eye Care/Blindness Prevention Project in the Khalifa District of Cairo under the Ministry of Health with U.S.A.I.D. funding.

4.7 MALAWI

Specific outputs of the IEF's matching grant activities in Malawi represent wide-ranging integration of blindness prevention activities into Malawi's health system.

Since the inception of the matching grant in 1981, the institutionalization of primary eye care into the existing medical care delivery services in Malawi has been an on-going process. Health care personnel at all levels -- health surveillance assistants, midwives, and community and enrolled nurses -- have been trained in treating common ocular diseases and referring patients requiring surgery.

Training at a more sophisticated level, that of medical assistant in ophthalmology, was also instituted and carried out during the period of the matching grant. The IEF was, and is, the implementing agency in an eight

nation African regional (anglophone) medical assistant's course in ophthalmology. With assistance from the World Health Organization and the Royal Commonwealth Society for the Blind, and under the aegis of the Ministry of Health of Malawi, the initial course was held in 1983 for a period of one academic year.

Twenty medical assistants --two each from Zimbabwe, Zambia, Botswana, Swaziland, and Lesotho and ten from Malawi-- were trained in blindness prevention principles including all aspects of public health ophthalmology and surgical and medical eye disease in the initial course. Two IEF ophthalmologists headquartered at the principal Ministry of Health tertiary hospitals in Lilongwe and Blantyre designed didactic curriculae and practical work for the students.

Sixteen ophthalmic medical assistants were trained in the 1984 course. Students from Uganda and Gambia were in attendance in addition to the representatives from the six southern African countries already committed to the training course. The third course, to begin in October 1985, will include twenty student candidates.

Many of these newly-trained OMAs (Ophthalmic Medical Assistants) become the first health workers to be so-trained in their countries. In the case of Malawi, there are now more than 40 OMAs trained and working at rural, district and central posts. Many work un-assisted diagnosing, treating, and referring eye patients. All of them perform certain ocular operations, and several have been subsequently trained in intraocular (cataract) surgery in Malawi. This "multiplier" training effect is considered essential for basic health services

in a country like Malawi, where there is only one indigenous ophthalmologist.

Training of community and enrolled nurses was also accomplished annually in Malawi since 1981. Classes averaging 55 nursing students yearly have been trained at Queen Elizabeth Central Hospital in Blantyre in basic blindness prevention -- control of ophthalmia neonatorum in infants, trachoma and vitamin A deficiency in children, and identification and referral of blinding ocular disease in adults.

At medical training centers in Lilongwe and Blantyre, general medical assistant students have been similarly trained. The combined class numbers 75 yearly; the addition of blindness prevention to their curriculae began with IEF involvement in Malawi in 1981. Many of these students were sufficiently stimulated by their initial exposure and subsequent practice of eye health care to later apply for the regional OMA course as candidates from Malawi.

The following in-house training activities at central hospitals were institutionalized by the IEF project:

- intra-ocular surgical training (mainly cataract surgery) for OMAs and nurses. There are now six nurses and OMAs capable of performing excellent cataract surgery unassisted by an ophthalmologist.
- Monthly medical staff conferences at each central hospital (Kamuzu Central Hospital in Lilongwe and Queen Elizabeth Central Hospital in Blantyre).
- Regular weekly teaching rounds at the eye wards and out-patient clinics at both central hospitals.

- Apprenticeship training of OMAs in the local spectacle workshop.

A major nutritional and ocular survey was carried out in the Lower Shire Valley of Malawi during September and November 1983. The IEF was the implementing organization in collaboration with the Ministry of Health of Malawi. Cooperating agencies included WHO, Helen Keller International, the Royal Commonwealth Society for the Blind and the International Center for Epidemiologic and Preventive Ophthalmology (ICEPO) of Johns Hopkins University. Three teams examined 6,600 survey members and the exercise was heavily weighted toward under 6s. Data entry and analysis was carried out by ICEPO; high rates of vitamin A deficiency, trachoma, cataract, and glaucoma make preventable and avoidable blindness in the Lower Shire Valley a target for intervention in the coming three years. Childhood blindness was high (1.1/1,000) and is largely due to vitamin A deficiency and external ocular infection, both preventable. (See Appendix I for the summary report on this survey)

With the addition of two ophthalmologists to Malawi's health services, therapeutic and teaching services have been augmented considerably since 1981. The numbers of outpatients examined and treated and surgical operations increased annually. In 1984, approximately 147,000 outpatients were examined and treated and 1,850 ocular surgical operations were performed at central and district hospitals supervised by IEF ophthalmologists.

Books, diagnostic and surgical equipment, and medications valued well over \$250,000 have been donated for use by government health workers in Malawi by the International Eye Foundation during this period. Most of this consignment

was acquired through in-kind donations to IEF.

The IEF worked closely with PHAM (Private Hospital Association of Malawi) units, including mission stations and hospitals at Thyolo and in the Lower Shire Valley. In the private sector, the IEF was able to raise Kwacha 25,000 (\$18,000) through a donation by the Rotary Club of Blantyre with which the IEF has worked closely. The Lion's Club of Blantyre has contributed a further \$19,000 since 1981 for the spectacle bank project.

Based on the results of the 1983 Lower Shire Valley survey, a major project for intervention of blinding disease, particularly as it concerns children, is being implemented. Primary health care workers on motorcycles (acquired through the Rotary Club of Blantyre match), trained by IEF personnel, will mass dose under 6s in the Lower Shire Valley with vitamin A 200,000 I.U. every six months; mass treat inflammatory trachoma with tetracycline ointment and provide immunization (measles) for under 6s; diagnose and refer ocular surgical disease for appropriate operations at two district hospitals and one central hospital (Blantyre). This project is integrated within the framework of the Malawi Ministry of Health and will be supported by USAID and UNICEF.

Eight OMAs have been made mobile from their district hospital posts to health centers, health posts, and villages on motorcycles since 1981, as have been six health surveillance assistants working in the Lower Shire Valley.

In addition to training and teaching of key health care personnel in Malawi's governmental health system, other principal effects on target groups include:

1. The restructuring and implementation of preventive eye care and blindness prevention activities for Malawi's southern region, population 4.0 million.
2. The design and implementation of a comprehensive primary health/eye care and nutrition intervention project to a high-risk community in the Lower Shire Valley of Malawi.
3. Expansion of clinical, surgical and therapeutic ocular services via mobile (motorcycle) medical assistants in rural Malawi, based at district hospitals.

Through promotional activities (talks, newspaper publicity and radio) much local interest was generated for support of IEF activities. Two local organizations -- the Lion's Club of Blantyre and Rotary Club of Blantyre -- have made blindness prevention and health care in Southern Malawi priority projects. Both of these organizations will continue to work with Malawi-based IEF projects. Malawi's President Banda twice visited project activities of IEF at Queen Elizabeth Central Hospital in Blantyre since 1981 and enthusiastically supports the project work and IEF's contributions.

Largely because of IEF's presence, a national prevention of blindness committee within the Ministry of Health was established in 1983. This official MOH committee meets regularly to coordinate blindness prevention activities within the country. Because of the influence of this committee and that of the Chief Medical Officer, Dr. Moses Chirambo, several activities in the health sector were defined as health priorities: expansion of training of

medical assistants in blindness prevention; blindness prevention as a national health priority; and disease prevention in the Lower Shire Valley.

The project attracted attention of international organizations outside of Malawi, including the World Health Organization. WHO's support of the 1983 Lower Shire Valley nutritional and ocular status survey was followed up by provision of support for a second public health survey, that of defining the extent and problem of onchocerciasis in a focus of endemnicity in Thyolo District. RCSB (Royal Commonwealth Society for the Blind) also augmented preventive health activities by providing vehicles and partial salaries for mobile eye units for Malawi. These units are supervised by IEF personnel.

4.8 KENYA

Following the completion of the Kenya OPG in December, 1983, the IEF activities there were brought under the terms of this grant. Many of the activities initiated in Kenya under the IEF's Kenya Rural Blindness Prevention Project (KRBPP) have been taken over by the Ministry of Health, and a local PVO, the Kenya Society for the Blind. This latter agency has been assisted in its assumption of responsibility for KRBPP-initiated mobile prevention units and training of health workers in primary eye care by the Royal Commonwealth Society for the Blind.

Under the matching grant, the IEF ophthalmologist in Kenya continued to provide field training for the students in the University of Nairobi's Master of Medicine in Ophthalmology program. This field training included both

clinical work, and experience in the management of rural eye work. This has been especially important for these students, all of whom will eventually serve as Provincial and/or District Eye Surgeons, since they would otherwise have no exposure during their training to rural eye care.

In addition, the IEF ophthalmologist serves as a member of the National Prevention of Blindness Committee, the body responsible for advising the Ministry of Health on the further development and extension of eye care services in the country.

Finally, the IEF ophthalmologist works closely with the Ministry of Health's Primary Eye Care and Blindness Prevention Education and Training Unit, which has been assigned responsibility for the provision of all training and education in primary eye care and blindness prevention for the Ministry's general, front-line health workers in the rural areas.

These activities are directly related to the final evaluation of the Kenya OPG, conducted in November 1983 by two independent consultants. The major recommendations made in this report were:

- Planning of eye work in Kenya had reached an important stage by the time of the evaluation. Many activities were in the phase of being established, and the next year or two will determine if the establishment will be of longer duration.
- The IEF had made great strides in its efforts to achieve institutionalization of its activities, however, further action over the next few years would be essential to achieve the stated goals and

objectives.

- The major aim of creating awareness of primary eye care and blindness prevention among great numbers of rural Kenyans and health workers - specifically eye personnel - was achieved to a great extent.

At the end of June, 1984, the IEF ophthalmologist in Kenya, Dr. Randolph Whitfield left the IEF to become the Africa Regional Medical Advisor for the Royal Commonwealth Society for the Blind. In July, Dr. Teferra Tizazu, the then project director for the IEF in Malawi was transferred to Kenya to assume responsibility for the IEF's program there.

In conjunction with the IEF's transfer of Dr. Tizazu to Kenya, there was an exchange of letters between the IEF headquarters and the Kenyan Ministry of Health. These letters served to define the IEF role in Kenya and outlined various activities to be undertaken. (See Appendix D for copies of this correspondence).

One of the activities undertaken by Dr. Tizazu was a reorganization of the training program for Ophthalmic Clinical Officers which is conducted each year by the Ministry of Health at the Medical Training Center, Kenyatta National Hospital. This reorganization was to have been a precursor to the development of a regional training program for these officers, along the lines of the program set up by Dr. Tizazu and the IEF in Malawi (See page 38).

One of the first tasks completed by Dr. Tizazu was the development of a formal curriculum for the training course. A copy of this is contained in Appendix C. In December, 1984, this curriculum was formally accepted by the

Ministry of Health and the Medical Training Center, with implementation slated for January, 1985, the next intake date for the course.

In addition to his formal teaching duties in the Clinical Officers' Course, Dr. Tizazu also continued the supervision of the Primary Eye Care training unit. This unit is operated by two Ophthalmic Clinical Officers who have each received formal training in Community Ophthalmology at the Institute of Ophthalmology, University of London. Under Dr. Tizazu's supervision, this unit produced a periodic newsletter for health workers which dealt with various topics relating to eye care and blindness prevention. The addition, the unit conducted approximately 5 one-day training seminars per month for audiences consisting of primary school teachers, community and registered nurses, general clinical officers, Medical Officers (physicians) and their fellow Ophthalmic Clinical Officers. During the past year over 1,500 health and related personnel have received training in primary eye care and blindness prevention through this Unit.

During the past year, the Kenya Ophthalmic Program continued to benefit from substantial donations of supplies through the International Eye Foundation. Over a two month period in late 1984 and early 1985, Pfizer International, through its Kenyan subsidiary, donated over 70,000 tubes of much-needed terramycin eye ointment. This essential medicine is generally in short supply in Kenya, and this donation was sufficient to meet the needs of the entire ophthalmic program for six months.

Chapter 5

MANAGEMENT: REVIEW AND ANALYSIS OF HEADQUARTERS/ SUPPORT FUNCTIONS

5.1 HEADQUARTERS ACTIVITIES

The Bethesda headquarters of the IEF serves as the center for coordination of international operations. It is here that requests for assistance are received, evaluated, and a decision made as to the best means to respond. Policies and procedures for program development, management, and continuation are made by the Executive Director, in consultation with both headquarters and field personnel and acting in concert with the Board of Directors.

Program activities are evaluated, and "cross-fertilization" between various programs is developed on a continual basis. Frequent communication with field personnel through letters and telephone is encouraged. As each program differs from the others in diverse ways, the lessons learned in one can sometimes be cross-referenced to problems arising in a second. Similarly, teaching and training techniques, and audiovisual aids developed in one

program are evaluated and shared among the others.

The first of what is hoped will be an annual or bi-annual meeting of IEF project directors was held in November, 1984. One of the primary functions of this meeting was to enhance this cross-fertilization and to ensure that lessons learned in one activity are shared. This also provided an opportunity for project directors to discuss in detail their specific needs in the field of "home office" visits and consultations as well as budget planning. By involving project staff in both program-specific and overall IEF planning, it is anticipated that the collective experiences of the group will enrich the planning and implementation process of the Foundation.

5.2 COLLABORATING ACTIVITIES

Coordination between the IEF, other non-governmental and inter-governmental agencies is planned and implemented centrally. Collaborative activities are developed which are program-specific and regional in nature. Short courses relating the IEF's approach to local and regional development assistance programs are prepared and delivered in the International Centre for Eye Health of the University of London on an annual basis.

The IEF has continued to organize and participate in national and international meetings and forums, as a method whereby it is possible to share information with others. In July of 1983 the Executive Director and the

Administrative Director represented the IEF in Lima, Peru at the Pan American Association of Ophthalmology bi-annual meeting. In February, 1984, the Medical Advisory arm of the IEF held its Vth World Congress in Cairo, Egypt. Over 850 ophthalmologists from around the world participated in this meeting, presenting scientific papers, participating in panel discussions, and providing insight to new ways to continue the fight against blindness around the world.

Each year the IEF is a scientific exhibitor at the American Academy of Ophthalmology Annual Meeting and provides an educational display and take-home materials concerning blindness prevention worldwide to this gathering of over 14,000 ophthalmologists, nurses, ophthalmic technicians, and other health professionals.

The IEF continued its participation in the Combined Federal Campaign as a member of the International Service Agencies. Informational materials were refined and supplied to provide prospective donors with background on the blindness prevention activities of the IEF. In addition, the IEF participates in the activities of InterAction, a consortium of private voluntary agencies involved in international development, and has initiated application procedures for membership in PACT, another PVO consortium.

In addition to the above activities, many of the IEF's field projects are carried out in collaboration with other agencies and institutions. These include the following:

World Health Organization
UNICEF
Pan American Health Organization

International Agency for the Prevention of Blindness
Massachusetts Eye and Ear Infirmary
Harvard University
Howard University
Johns Hopkins University
 Wilmer Institute
 Dana Center for Preventive Ophthalmology
 (International Center for Epidemiology and
 Preventive Ophthalmology)
University of Puerto Rico
University of the West Indies
University of London/Institute of Ophthalmology
Royal Commonwealth Society for the Blind
Operation Eyesight Universal
Helen Keller International
Christoffel Blindenmission
Kenya Society for the Blind
Malawi Council for the Handicapped
Caribbean Council for the Blind
Grenada Society of Friends of the Blind

5.3 STAFFING

During the past year, the IEF has undergone significant staffing changes. In December, 1984, Mr. Jack W. Swartwood, the Administrative Director, left the Foundation to accept a position elsewhere. In June, 1985, Dr. Teferra Tizazu resigned his position as Project Director in Kenya to engage in private consulting on eye care development.

In April, headquarters capabilities were strengthened significantly with the addition of Dr. Marilyn Mayers as Administrative Manager/Caribbean. Dr. Mayers brought with her extensive experience in program design and evaluation and substantial language capabilities; the latter had for many years been a significant constraint in the development of new programs. Dr. Mayers is

fluent in French and Arabic, knows Spanish, and has a working knowledge of various other languages.

5.4 EVALUATION

Evaluation and monitoring of on-going programs are vital components of both headquarters and field activities. On an informal level the process of evaluation and monitoring occurs on a daily basis. Project staff are encouraged to continually assess their roles in the context of the host country's ophthalmic program and project goals and objectives. Headquarters staff members meet regularly to discuss project progress and plans through review of field correspondence, reports, and telecommunications.

On a formal level, projects are generally evaluated twice over the normal three-year project period; once at mid-term, and once near the completion of project activities. Generally, these evaluations are carried out by outside consultants, though, where feasible members of the headquarters staff also participate.

During this matching grant, the IEF activities in Honduras and Malawi underwent formal evaluation. In both cases the evaluations were conducted by Management Sciences for Health under contract to U.S.A.I.D. The reports on these evaluations are quoted in Appendices G and H.

In light of the evaluation reports on the IEF's Honduras and Malawi

activities prepared in 1983 and 1984, which cited several areas of administrative weakness requiring attention, the Foundation engaged an outside consultant to conduct an evaluation of headquarters operations early in 1985. Among the tasks carried out by this consultant were the following:

1. Conduct background interviews with all headquarters personnel and other relevant individuals to define the current situation and the problems;
2. Develop information on the status and plans for each of the IEF's existing projects through review of formal implementation plans when available, with special emphasis on the issue of institutionalization;
3. Identify additional headquarters requirements in terms of staffing and operational areas such as fund-raising and liaison with various funding agencies;
4. Formulate and evaluate alternative organizational approaches; and
5. Define duties and responsibilities for members of headquarters staff (both existing and planned) in light of the alternative organizational approaches developed.

The consultant's report was completed in March, 1985 and submitted to the IEF's Board of Directors shortly thereafter. A copy of this report is contained in Appendix F. The Board of Directors agreed unanimously to accept the recommendations contained in the report and instructed that it be implemented immediately. A follow-up to this evaluation is planned for early in 1986.

5.5 ROLE OF THE BOARD OF DIRECTORS

The IEF's Board of Directors is generally responsible for establishing Foundation policy and providing guidance in the direction taken by IEF programs of assistance. The Board is responsible for the selection of the Executive Director and other members of the IEF's senior staff.

The Board membership is drawn from the ophthalmic profession, and corporate, legal, and philanthropic interests. All have in common a dedication to the prevention and cure of blindness in the developing world.

The terms and conditions for service on the Board of Directors are outlined in the Foundation's By-Laws, contained in Appendix M. A complete listing of current Board members can be found in the Foundation's Annual Report for 1984-1985, in Appendix L.

Chapter 6

FINANCIAL REPORT

6.1 MATCHING GRANT EXPENDITURES AND FINANCIAL INPUTS

As stated previously, the original grant was for a three-year period and called for expenditures totalling \$600,000 per year for each year of the grant (\$300,000 each from U.S.A.I.D. and the I.E.F.). However, during the first two years of the grant, expenditures were not at anticipated levels due, in part, to delays in implementation and an initial inability on the part of the IEF to meet fund raising targets. Over the life of the grant, expenditures totalled \$1,813,763.93. Of this, \$900,000 came from U.S.A.I.D., and \$913,763.93 was provided by the I.E.F. A summary statement of expenditures under this grant is contained in Appendix J.

6.2 FUND RAISING

Over the period covered by this grant, the IEF has continued to increase its fund raising capabilities in the private sector to increase support for

development assistance and humanitarian activities. Each of the Matching Grant country-specific activities has been supported in part by combinations of corporate, foundation, and individual support, both financial and in-kind.

As in the past, participating governments have committed significant resources and personnel to the collaborative programs, thus becoming directly involved in the planning, implementation, and management leading to host-country institutionalization.

As previously noted, the International Eye Foundation continues to participate in the Combined Federal Campaign. As one of the charitable organizations under the International Service Agencies consortium, the IEF is approved by the Office of Personnel Management to receive contributions from both the domestic and overseas campaigns. Total contributions for this year are in excess of \$150,000, from both the overseas and domestic campaigns.

During the past year, significant foundation support was provided by a number of small private foundations. In addition, the IEF received corporate cash contributions in excess of \$100,000. Additional corporate in-kind donations of ophthalmic medications, sutures, and medical equipment were valued in excess of \$2,900,000. Other individual contributions and regular supporters of the IEF provided over \$100,000 in cash. The Carrigan Endowment has reached a fund balance of over \$385,000. The Society of Eye Surgeons of the IEF provided nearly \$10,000 in dues and fees during this past year for the purpose of providing training and prevention of eye disease. See Appendix K for further details.

This matching grant has had a highly beneficial impact on the IEF's

fundraising practices and capabilities. This has traditionally been one of the Foundation's weakest areas of operation. The matching grant provides incentive for both the Foundation (to pursue fundraising more aggressively to meet the grant's financial goals) and potential donors, who are more willing to make donations when they know their gifts will have a "double" impact. This holds true for corporate, foundation, and individual donors.

The matching grant program has also had the effect of making the IEF less dependent on government funding for the operation of its programs. In the past, the IEF received as much as 80 percent of its funds from USAID; now that figure has been reduced to approximately 61 percent [4].

4. Based on figures from the audited statement of accounts for FY 84-85, and not including gifts-in-kind. If the latter are included the figure is even further reduced, to 21 percent.

Chapter 7

LESSONS LEARNED

During the four years over which this matching grant has been in effect, several points have emerged which merit emphasis. These will be useful to the IEF in planning and implementing new programs and reviewing existing ones, and could be used to guide the development of eye health programs in almost any setting.

7.1 PROGRAM PLANNING

1. National blindness prevention and treatment programs should be based on scientifically sound national data on the prevalence, etiology, and geographic distribution of eye disease and visual loss. This, however, is frequently not affordable. It has been found that intelligent estimates derived from meetings with local eye specialists and other health workers, anecdotal data from persons knowledgeable in patterns of eye disease and local environmental conditions, review of hospital and clinic records, combined with personal observations based on

observations made during visits to rural areas and villages is an acceptable means to develop data suitable to initiate program planning and implementation.

2. Ministries of Health must develop and publish a firm policy on the approach to the delivery of eye health care, both preventive and curative. In so doing, a general method of approach should be outlined, followed by specific plans for action by properly trained and supervised health workers at all levels. It may not be possible to elicit such a statement of policy, however, until concrete results have been shown in "pilot areas" where a successful program has been implemented.
3. Program planning should include inputs from all relative departments of the Ministry of Health, including those relating to physicians, nurses, medical auxiliaries, preventive and community medicine, maternal & child health, nutrition, training, public sanitation, public education, planning, resource allocation, and others. If the various departments are not available or interested in collaborating in the early planning stage, they should at least be kept informed of the program's activities.
4. Intervention programs should be planned on the basis of the wishes, priorities, and realistic capabilities of community/^{members} educated as to the extent of the problem relating to eye disease and blindness. Data should be made available as to possible solutions to the problem, and strategies for intervention developed and implemented complying with the wishes, priorities, and capabilities of the community.

7.2 EYE HEALTH CARE DELIVERY

1. Curative services should be provided as near as possible to where patients live, especially in remote areas. Patients living in rural areas and identified as needing specialty eye care often travel long distances to compete for clinic space and physician time in overcrowded central facilities, often at prohibitive costs in travel expenses, food, lodging, and lost productive time to other family members who must accompany them. Thus, the cost-effectiveness of "local" care, in terms of distance and the attendant savings of time, should not be overlooked.
2. It is important that health workers at all levels be trained to provide appropriate eye health care and to utilize the referral system as indicated. When this referral system is properly organized, the benefits, both personal as well as cost, then permit both primary eye care as well as first-referral level health workers to identify persons with visual loss and serious eye disease, and allow for realistic utilization by patients in the rural areas.
3. The public, all health workers, and political/social leaders in the communities should understand how to properly utilize the various components of the national blindness prevention and treatment program. The role, capabilities, authority, and responsibility of each cadre of

health worker in regards to eye health care delivery should be clearly understood in order that expectations and capabilities are comparable.

When a primary eye care worker or the staff of a Ministry health facility has been trained to undertake preventive and curative services in eye health, that fact should be made public to encourage utilization.

4. Central curative facilities must be upgraded to provide the consultant eye specialist services appropriate to the increased numbers of patients referred for care who have serious eye disease. This is best accomplished by in-country training where possible.
5. It is not appropriate to focus development assistance efforts solely on the primary health care worker. Adequate provision MUST be made for ongoing training, support, supervision, and provision of referral sources for patients identified as needing more advanced care than the primary level worker can supply.
6. Ministries of Health must take an active, participatory role in institutionalizing program activities.

7.3 DEVELOPMENT ASSISTANCE

1. It is vital that Ministries of Health contribute to the actual costs of implementing projects through:

- Assigning adequate numbers of appropriate personnel to either participate or to be trained under the project activities.
 - Providing suitable training facilities, clinic space, operating room time, and hospital beds to accommodate the expanded needs in providing curative services. It is critical that budgetary planning be done to provide the increased amounts of medications and surgical supplies required as a result of programs. This continuity of supplies is essential to program success.
 - Collaborating with non-governmental sources of funding such as the World Health Organization, local and international PVO's, service clubs, individuals, and multi-national corporations employing host-country nationals.
2. Assistance agencies should be made aware that arbitrary time limits imposed due to funding cycles may not coincide with those of Ministries of Health. Arrangements should be made for compromise, being careful not to exceed the absorptive capability of the Ministries.
 3. Assistance programs may vary markedly from country to country, depending on the stage of development of the health system, the level of awareness of the decision-makers, and the capability of the system to successfully incorporate additional training for its health workers.
 4. Program evaluations should be simple, cost-effective, and relative to the aims and inputs of the program. It is prohibitively costly and time consuming to attempt to measure changes in prevalence and incidence of

certain phenomena. Rather, it is acceptable to quantify the numbers of people trained, their utilization, the impact on the health delivery system, and the numbers of persons provided preventive or curative services which were previously not available.

5. IEF project personnel should meet annually to discuss their specific program's successes, failures, lessons learned, and to share training materials and methodologies developed.

Appendix A

**COUNTRY INFORMATION FOR AID-SUPPORTED
PVO PROJECTS**

COUNTRY INFORMATION FOR
AID-SUPPORTED PVO PROJECTS

616

Organization: International Eye Foundation A0930
Project/Grant Number: PDC-G174-G-SS-1102-00 Proj # 93580174
Grant Dates: 1 July 1981 through 30 June 1985 07/01/81 06/30/85
Funding Mechanism: Matching Grant DCU Unit 903
Country: EGYPT 263

Project Purpose: To assist the Ministry of Health in the provision of preventive, curative, and educational eye health care in an M.O.H. central referral facility.

Project Implementation:

Start Date: July 1981 Estimated Completion Date: September 1983
Status: Project Terminated after two years of operation.
(See report section on Egypt activities.)

Project Funding Information:

YEAR:	81-82	82-83	83-84	84-85
AID \$:	7,119.56	15,372.25	4,801.38	0.00
PVO \$:	1,465.39	6,218.11	9.12	0.00
INKIND:	20,000.00	75,000.00	0.00	0.00
LOCAL:	Local inputs limited to personnel and facilities.			
TOTAL:	28,584.95	96,590.36	4,810.50	0.00

Location in Country: Cairo (Giza Memorial Research Institute of Ophthalmology and Rod el-Faraq Hospital)

PVO Representative in Country: None

Local Counterpart/Host Country Agency: Ministry of Health

617

COUNTRY INFORMATION FOR
AID-SUPPORTED PVO PROJECTS

Organization: International Eye Foundation
Project/Grant Number: PDC-0174-G-SS-1102-00
Grant Dates: 1 July 1981 through 30 June 1985
Funding Mechanism: Matching Grant
Country: GUINEA 675

Project Purpose: Provision of ophthalmic services and training of Guinean physicians and paramedicals in basic ophthalmology. Strengthening ophthalmic services provided through Ministry of Health facilities.

Project Implementation:
Start Date: 1981 Estimated Completion Date: 1988
Status: Project suspended pending completion of OPG-sponsored work on completion of referral facility in Conakry. To be resumed in 1986 (planned).

Project Funding Information:

YEAR:	81-82	82-83	83-84	84-85
AID \$:	18,944.17	62,772.68	38,665.21	4,587.00
PVO \$:	24,671.46	42,045.37	7,418.07	1,131.34
INKIND:	50,000.00	75,000.00	50,000.00	0.00
LOCAL:	Local inputs limited to personnel, facilities			
TOTAL:	93,615.53	179,818.05	96,083.28	5,718.34

Location in Country: Conakry, Donka Hospital

PVO Representative in Country: None

Local Counterpart/Host Country Agency: Ministry of Health

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COUNTRY INFORMATION FOR
AID-SUPPORTED PVO PROJECTS

Organization: International Eye Foundation
Project/Grant Number: PDC-0174-G-SS-1102-00
Grant Dates: 1 July 1981 through 30 June 1985
Funding Mechanism: Matching Grant
Country: Haiti 521

Project Purpose: Provision of preventive, curative, and educational eye care to the client population of the Albert Schweitzer Hospital in Deschappelles.

Project Implementation:

Start Date: July, 1981 Estimated Completion Date: May, 1982
Status: Project terminated due to financial constraints.
See report section on Haiti.

Project Funding Information:

YEAR:	81-82	82-83	83-84	84-85
AID \$:	6,871.16	0.00	0.00	0.00
PVO \$:	1,730.45	0.00	0.00	0.00
INKIND:	10,000.00	0.00	0.00	0.00
LOCAL:	Limited to provision of personnel & facilities			
TOTAL:	18,601.61	0.00	0.00	0.00

Location in Country: Albert Schweitzer Hospital, Deschappelles.

PVO Representative in Country: None

Local Counterpart/Host Country Agency: Ministry of Health

**COUNTRY INFORMATION FOR
AID-SUPPORTED PVO PROJECTS**

Organization: International Eye Foundation
 Project/Grant Number: PDC-0174-G-SS-1102-00
 Grant Dates: 1 July 1981 through 30 June 1985
 Funding Mechanism: Matching Grant
 Country: HONDURAS 522

Project Purpose: To work with the Ministry of Health to expand and consolidate the primary eye care delivery system by training additional trainers of primary health personnel, supervising and upgrading posted auxiliary personnel in rural facilities, and assist in strengthening of physicians' skills.

Project Implementation:

Start Date: 1979 Estimated Completion Date: 1988
 Status: Continuing (see report section on Honduras)

Project Funding Information:

YEAR:	81-82	82-83	83-84	84-85
AID \$:	10,007.17	20,654.62	3,214.00	39,320.92
PVO \$:	14,875.23	11,774.16	10,796.36	22,055.40
INKIND:	35,000.00	35,000.00	25,000.00	40,000.00
LOCAL:	Limited to personnel, facilities, some supplies			
TOTAL:	59,882.40	67,428.78	39,010.36	101,376.32

Location in Country: Country-wide, San Felipe Hospital, Tegucigalpa.

PVO Representative in Country: Ms. Tamara G. Oberbeck
 USAID/Honduras
 APO, Miami, FL 34022

Local Counterpart/Host Country Agency: Ministry of Health

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COUNTRY INFORMATION FOR
AID-SUPPORTED PVO PROJECTS

Organization: International Eye Foundation
Project/Grant Number: PDC-0174-G-SS-1102-00
Grant Dates: 1 July 1981 through 30 June 1985
Funding Mechanism: Matching Grant
Country: MALAWI b12

Project Purpose: To assist the Ministry of Health in the provision of services, strengthening the eye health care delivery system, and the training at appropriate levels to health care workers on a national and regional basis.

Project Implementation:
Start Date: Oct. 1981 Estimated Completion Date: 1988
Status: On-going (see report section on Malawi)

Project Funding Information:

YEAR:	81-82	82-83	83-84	84-85
AID \$:	21,656.36	94,989.68	114,322.89	161,453.20
PVO \$:	25,460.62	17,467.66	52,754.18	5,118.82
INKIND:	50,000.00	50,000.00	50,000.00	50,000.00
LOCAL *:			30,000.00	7,000.00
TOTAL:	97,116.98	162,467.34	247,077.07	223,572.02

Location in Country: Blantyre, Lower Shire Valley

PVO Representative in Country: Dr. Larry T. Schwab
P.O. Box 2273
Blantyre, Malawi

Local Counterpart/Host Country Agency: Ministry of Health

621
612

**COUNTRY INFORMATION FOR
AID-SUPPORTED PVO PROJECTS**

Organization: International Eye Foundation

Project/Grant Number: PDC-0174-G-SS-1102-00

Grant Dates: 1 July 1981 through 30 June 1985

Funding Mechanism: Matching Grant

Country: PUERTO RICO/LATIN AMERICA REGION 598

Project Purpose: To train and upgrade the primary eye care delivery, supervision, and training skills of both physicians and paramedicals from Latin America

Project Implementation:

Start Date: 1968 Estimated Completion Date: Indefinite
Status: On-going (see report section on Puerto Rico)

Project Funding Information:

YEAR:	81-82	82-83	83-84	84-85
AID \$:	6,924.13	0.00	0.00	0.00
PVO \$:	14,563.17	27,084.13	41,854.07	30,701.19
INKIND:				
LOCAL:	12,000.00	12,000.00	12,000.00	12,000.00
TOTAL:	33,487.30	39,084.13	53,854.07	42,701.19

Location in Country: University of Puerto Rico, Rio Piedras

PVO Representative in Country: Dr. William Townsend
L-9 Union Street
Garden Hills, Guaynabo, P.R. 00657

Local Counterpart/Host Country Agency: University of Puerto Rico

**COUNTRY INFORMATION FOR
AID-SUPPORTED PVO PROJECTS**

Organization: International Eye Foundation
 Project/Grant Number: PDC-0174-G-SS-1102-00
 Grant Dates: 1 July 1981 through 30 June 1985
 Funding Mechanism: Matching Grant
 Country: KENYA 6/5

622

Project Purpose: Provision of assistance to the Ministry of Health in the strengthening of its training program for Ophthalmic Clinical Officers, and the supervision of the Primary Eye Care/Blindness Prevention Training Unit.

Project Implementation:

Start Date: 1983 Estimated Completion Date: 1986

Status: In progress, but winding down (see report section on Kenya).

Project Funding Information:

YEAR:	81-82	82-83	83-84	84-85
AID \$:	0.00	0.00	38,322.77	56,950.04
PVO \$:	0.00	0.00	27,191.05	65,914.74
INKIND:	0.00	0.00	50,000.00	75,000.00
LOCAL:	provision of personnel, facilities, office space			
TOTAL:	0.00	0.00	115,513.82	197,864.78

Location in Country: Nairobi, country-wide

PVO Representative in Country: Teferra Tizazu, M.D. *
 c/o Kenya Society for the Blind
 P.O. Box 46656
 Nairobi, Kenya

*Until 6,85

Local Counterpart/Host Country Agency: Ministry of Health,
 Kenya Society for the Blind
 Royal Commonwealth Society for the Blind

**COUNTRY INFORMATION FOR
AID-SUPPORTED PVO PROJECTS**

623

Organization: International Eye Foundation
Project/Grant Number: PDC-0174-G-SS-1102-00
Grant Dates: 1 July 1981 through 30 June 1985
Funding Mechanism: Matching Grant
Country: SAINT LUCIA 546

Project Purpose: Developing and strengthening of eye health services and training at the M.O.H.'s Victoria Hospital in Castries and island-wide.

Project Implementation:

Start Date: 1981 Estimated Completion Date: 1988
Status: On-going (see report section on Saint Lucia)

Project Funding Information:

YEAR:	81-82	82-83	83-84	84-85
AID \$:	0.00	0.00	29,548.12	47,671.03
PVO \$:	0.00	0.00	52,881.89	20,983.20
INKIND:	0.00	0.00	30,000.00	40,000.00
LOCAL:	0.00	0.00	10,000.00	10,000.00
TOTAL:	0.00	0.00	122,430.01	118,654.23

Location in Country: Castries and island-wide

PVO Representative in Country: IEF Ophthalmologist
Eye Department
Victoria Hospital
Castries, Saint Lucia

Local Counterpart/Host Country Agency: Ministry of Health,
Caribbean Council for the Blind

Appendix B

LOGICAL FRAMEWORK

INTERNATIONAL EYE FOUNDATION

MATCHING GRANT

LOGICAL FRAMEWORK MATRIX - MATCHING GRANT PROGRAM PROPOSAL

SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>A.1. GOAL</p> <p>To alleviate blindness and reduce the overburden of curable and preventable blindness.</p>	<p>A.2. MEASUREMENT OF GOAL ACHIEVEMENT</p> <ol style="list-style-type: none"> 1. Percentage of each LDC population which has access to or is reached through integrated eye care programs. 2. LDCs have institutionalized capabilities to deliver low cost preventive and curative services to the poorest majority. 3. Numbers of people screened, treated, and receiving curative and preventive eye care services. 	<p>A.3. MEANS OF VERIFICATION</p> <ol style="list-style-type: none"> 1. IEF reports 2. Host Country reports 3. AID reports 4. International and national agency reports (WHO) 5. Analysis of local institutional capabilities by independent evaluators. 	<p>A.4. GOAL</p> <ol style="list-style-type: none"> 1. Institutionalized capability in eye care among selected LDCs importantly complements general health care programs in developing countries. 2. That all echelons of LDC governments will fulfill their respective responsibilities to insure success of the program. 3. Host Country governments remain stable.
<p>B.1. PURPOSE</p> <p>Establish an institutionalized capability for prevention and treatment of blindness and eye disease in selected LDCs.</p>	<p>B.2. END OF PROJECT STATUS</p> <p>Institutionalized capability for prevention and treatment of blindness and eye disease established in selected LDCs.</p>	<p>B.3. MEANS OF VERIFICATION</p> <ol style="list-style-type: none"> 1. IEF reports 2. Host Country reports 3. AID reports 4. International and national agency reports (WHO) 5. Analysis of local institutional capabilities by independent evaluators. 	<p>B.4. PURPOSE</p> <ol style="list-style-type: none"> 1. LDCs, both private and public sectors, recognize the need for eye care programs and collaborate for their success. 2. Continued demands for IEF services to plan, implement, and manage and evaluate low cost, integrated curative and preventive eye care delivery systems. 3. IEF can continue to strengthen and expand its capabilities to identify and utilize resources, both technical and financial, available in the U.S. and Host Countries.

SUMMARY

OBJECTIVELY VERIFIABLE INDICATORS

MEANS OF VERIFICATION

IMPORTANT ASSUMPTIONS

C.1. OUTPUTS

1. Low-cost blindness prevention and primary eye care programs planned and designed.
2. Assessments of availability of resources completed.
3. Skills of personnel delivering primary eye care as well as providers of care on secondary and tertiary level upgraded.
4. Advanced training for supervisory and referral personnel.
5. Blindness prevention and health education materials developed, adapted, and distributed.
6. Trainers of primary health care workers trained to deliver courses in primary eye health care.
7. Primary eye care infrastructures designed or developed to which primary health care may be added.
8. Patients provided preventive, curative, and educational eye care services.

C.2. OUTPUT INDICATORS

1. Low-cost programs planned and designed with Ministers of Health in three LDCs.
2. Availability of resources assessed in three LDCs.
3. Skills of primary eye care providers as well as health personnel in secondary and tertiary levels upgraded in five LDCs.
4. 15 Training Fellowships provided per year for supervisory and referral skills for personnel.
5. Six countries provided primary eye health care and educational materials in appropriate form and language.
6. Trainers of primary health care workers trained in six countries to deliver courses in primary eye health care.
7. Two primary eye care infrastructures designed in two countries to which primary health care may be added.
8. Approximately, 1,190,000 patients provided eye care services.

C.3. MEANS OF VERIFICATION

1. IEF reports
2. Host Country reports
3. AID reports
4. International and national agency reports (WHO)
5. Analysis of local institutional capabilities by independent evaluators

C.4. OUTPUTS

1. Host governments follow through with commitments to establish local treatment and training centers.
2. Local institutions cooperate fully in assigning auxiliary personnel for in-service training.
3. IEF program development and management capabilities fulfill program objectives.

D.1. INPUTS

1. AID - funding
2. IEF - a) funding
b) administrative skills
c) technical skills

D.2. BUDGET/SCHEDULE

See Attached Budget

D.3. MEANS OF VERIFICATION

1. Fiscal reports
2. Vouchers
3. Audits

D.4. INPUTS

1. Aid funding will be at the level anticipated.
2. IEF funding will be at the level anticipated.

Appendix C

COURSE DESCRIPTION

BASIC SCIENCE COURSE IN OPHTHALMOLOGY

UNIVERSITY OF PUERTO RICO

**BASIC SCIENCE COURSE IN OPHTHALMOLOGY
FOR LATIN-AMERICAN PHYSICIANS**

C.1 Background and Specific Aims of Training Program

The training of ophthalmologists in Latin American has been handicapped by the absence of adequate facilities and personnel for the teaching of a basic science course in Ophthalmology that will aid the further training of the Latin Americans for careers as teachers-investigators in ophthalmology.

The Department of Ophthalmology of the University of Puerto Rico School of Medicine has recognized, for several years, the importance of establishing this basic course in ophthalmology to provide a needed training site for Latin Americans, who due to language barriers, have not been able to fully obtain the benefits from the training facilities in the United States. Puerto Rico, as part of the United States and with its bilingual education, is in a privileged position to assume this responsibility.

A communication dated January 7, 1964, from Dr. Benjamin F. Boyd, Professor of Ophthalmology at the School of Medicine of the University of Panama and Executive Director of the Pan American Association of Ophthalmology, emphasized the need of this basic course for Latin America. He wrote:

"It is particularly fortunate that this project is contemplated at this time. In a recent visit that I made to different countries in Latin America, I was particularly impressed with the interest that the new generation of professors and young physicians who are taking a Residency in their own country, have in the importance of the basic sciences. Many institutions in the different countries are making great efforts to establish courses in basic science for their own men but not one country has the facilities, the resources and the staff to give the type of Basic Science Course which the University of Puerto Rico has in mind. The overwhelming majority of the Professors in Latin America have expressed to me enthusiasm with this project. We feel that this would be the most outstanding contribution to the teaching of ophthalmology in Latin America. As you know, we have ample clinical material but lack the facilities to integrate it with the Basic Sciences. The Professors feel that if the project contemplated by the University of Puerto Rico were to become a reality, they would continue their efforts to improve the Basic Science Courses in their own countries because the Puerto Rico program could not possibly meet all the needs of Latin America, but they would send to Puerto Rico the most promising candidates to residencies in ophthalmology in their respective countries.

You may rest assured that the Pan American Association of Ophthalmology and the different teaching institutions of Latin American would give full cooperation to the University of Puerto Rico in this extremely important project. The different countries would send to Puerto Rico the best candidates for Residencies in Ophthalmology and the visiting Professors from Latin America which you may so desire."

Ten students from Latin America will be admitted to the course yearly. Students will be graduates from medical schools fully recognized in their own country upon recommendation of their respective Faculty of Ophthalmology as men who are interested in academic medicine and research. It is understood that the said faculty in each country will provide continued training in ophthalmology following our basic course in order to complete the full training sought by the program.

C.2 Description of Training to be Provided

The course will be of four months duration, with intense teaching for about 510 hours, beginning every year about January 15.

The teaching will be in Spanish but there will be facilities for the simultaneous translation from English to Spanish when the Visiting Professors cannot lecture in Spanish.

Instruction will be presented by lectures, demonstrations, laboratory work, dissection and conferences to provide them with a review of the current status of the fundamental medical sciences as they apply to ophthalmology. The faculty include members of the basic sciences and clinical departments of the University of Puerto Rico School of Medicine and guest lecturers.

C.3 List Of Individual Topics And Approximate Hours Of Instruction

ANATOMY	(40 hours)
ANESTHESIA	(4 hours)
BIOCHEMISTRY	(20 hours)
BIostatISTICS	(8 hours)
EMBRYOLOGY AND HISTOLOGY	(20 hours)
GENETICS	(9 hours)
GLAUCOMA	(18 hours)
IMMUNOLOGY AND IMMUNOCHEMISTRY	(8 hours)
MEDICAL OPHTHALMOLOGY	(15 hours)
MICROBIOLOGY AND EXTERNAL DISEASES	(30 hours)
MOTILITY	(36 hours)
NEURO-ANATOMY	(16 hours)
NEURO-OPHTHALMOLOGY	(10 hours)

OPHTHALMOSCOPY	(36 hours)
OPTICS	(20 hours)
PERIMETRY	(16 hours)
PHARMACOLOGY	(12 hours)
PHYSIOLOGY	(32 hours)
RADIOLOGY	(8 hours)
REFRACTION	(24 hours)
SLIT LAMP BIOMICROSCOPY AND GONIOSCOPY	(15 hours)
SURGERY	(22 hours)
SPECIAL LECTURES	(20 hours)
GLAUCOMA	
EXTERNAL DISEASES	

Appendix D

**LETTER OF AGREEMENT WITH THE MINISTRY OF HEALTH,
KENYA; 1984**

MINISTRY OF HEALTH

Kenya 1116

Telegrams: "MINHEALTH", Nairobi

Telephone: Nairobi 27381

When replying please quote

Ref. No. DC/7/4/61A/57
and date



AFYA HOUSE

CATHEDRAL ROAD

P.O. Box 30016, NAIROBI

13th March, 1984

Mr. R. Douglass Arbuckle,
The International Eye Foundation,
7801 Norfolk Avenue,
BETHESDA,
MARYLAND 20814, (301) 986-1830.

Dear Mr. Arbuckle,

It was nice to meet you once again in my office yesterday 12.3.84.

I was delighted to note that the International Eye Foundation has still got interest in the Kenya Ophthalmic Programme and you have identified an Ophthalmologist who would support us in our Programme during the next year or so.

I wish on behalf of the Rural Blindness Prevention Committee to thank your organisation for this.

From the Curriculum Vitae submitted of Dr. Teferra Tizazu he appears suitable to me. There should be no problem in offering him employment with the Ministry of Health. He will, of course, be required to register himself with the Medical Practitioners and Dentists Board. It is the Medical Practitioners and Dentists Board which will advise the Ministry as to his suitability for employment as a Consultant Ophthalmologist.

I am enclosing herewith application for employment forms for Dr. Tizazu to complete and return to me at the earliest.

I take this opportunity once again to thank you for the interest you have shown in our Programme.

Yours sincerely,

(Dr. J.J. Thuku)

CHAIRMAN

PREVENTION OF BLINDNESS COMMITTEE

Encl.

c.c.

Dr. A.M. Awan,
Kenyatta National Hospital,
NAIROBI.

MINISTRY OF HEALTH

15/11

Telegrams: "MINHEALTH", Nairobi
Telephone: Nairobi 27381
When replying please quote
Ref. No.DC/7/4/61A/
and date



BY AIR MAIL

AFYA HOUSE
PERSONNEL DIVISION
CATHEDRAL ROAD
P.O. Box 30016, NAIROBI

5th June, 19⁸⁴

Mr. R. Douglass Arbuckle,
Deputy Administrator,
The International Eye Foundation,
7801 Norfolk Avenue,
Bethesda,
MARYLAND 20814(301) 986-1830.

Dear Mr. Arbuckle,

Thank you very much for your letter of 17th May, 1984. I am very pleased to note that you are following progress on our Eye Programme. I myself I'm very satisfied with what is happening.

Dr. Musyoki and Mr. Macharia will be proceeding to London this month. The World Health Organisation has agreed to sponsor Dr. Musyoki.

As for Dr. Teferra Tizazu there should no problem about his bringing his household goods to this country. I have, however, been advised that it is important/there is /that a written agreement between the International Eye Foundation and this Ministry regarding his secondment to the Kenya Ophthalmic Programme. With this agreement it will be possible for him to import duty free into this country his personal belongings.

It is vital, however, that Dr. Tizazu has his registration with the Medical Practitioners and Dentists Board ready before he comes to Kenya.

I look forward to seeing you in Nairobi later this month on your way to Cairo from Guinea. I am copying this letter to Dr. Tizazu for his information.

Yours sincerely,

(Dr. J.J. Thuku)

CHAIRMAN

KENYA OPHTHALMIC PROGRAMME

c.c.

Dr. Teferra Tizazu,
P.O. Box 30375,
Lilongwe 3,
MALAWI.



5 June, 1984

The Permanent Secretary,
Ministry of Health
P.O. Box 30016
Nairobi, KENYA

ATTN: Dr. J.J. Thuku

Dear Sir:

REF: Letter of Agreement Between the Ministry of Health,
Government of Kenya and the International Eye Foundation

This letter will constitute an agreement between the Ministry of Health of the Government of Kenya and the International Eye Foundation for the provision of assistance to the Kenya Ophthalmic Program by the latter.

The International Eye Foundation will provide the services of a fully-qualified and experienced ophthalmologist to be based at the Kenyatta National Hospital, Nairobi to work with the Primary Eye Care/Blindness Prevention Education and Training Unit and the Clinical Officers (Ophthalmic) training program and provide clinical services at Kenyatta Hospital. In addition, the IEF will provide the following support for this ophthalmologist:

1. Salary and fringe benefits at normal IEF scales, but not including that portion of salary to be paid by the Ministry of Health (see below);
2. Housing Allowance, to be the difference between the Ministry of Health's standard housing allowance and the actual cost of the ophthalmologist's accommodation;
3. Transportation to and from Kenya for the ophthalmologist and his family, plus roundtrip transportation for home leave half way through his term of service; and
4. Local transportation and per diem for the IEF ophthalmologist.

The Ministry of Health of the Government of Kenya agrees to provide the following:

1. Salary, at the normal scale for Ministry of Health-employed consultant ophthalmologists;
2. Housing Allowance, at normal Ministry of Health rates; and
3. Assistance for the ophthalmologist in clearing his personal effects and automobile through customs as is normally provided for expatriate employees of the Ministry of Health.

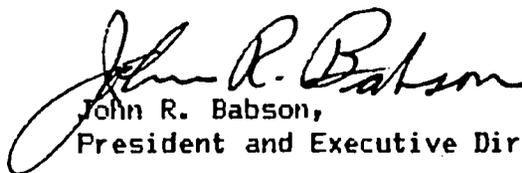
The IEF will provide the services of this ophthalmologist for a period of three years, commencing from 1 August, 1984. The ophthalmologist will be entitled to normal leave time as provided by the Ministry of Health for its employees plus a one month period of home leave half way through his term of service. The IEF reserves the right to withdraw the ophthalmologist before the completion of the three year term if, for some reason, he is unable to carry out the duties described above and below.

The Ministry of Health has agreed that the ophthalmologist provided by the International Eye Foundation will be based at Kenyatta National Hospital and assigned to work with the Primary Eye Care/Blindness Prevention Education and Training Unit and the Clinical Officer (Ophthalmic) Training Course, in addition to normal clinical duties. This ophthalmologist will not be subject to transfer or reassignment of duties without prior concurrence of both the Ministry of Health and the International Eye Foundation.

The ophthalmologist selected by the International Eye Foundation to be seconded to the Ministry of Health of the Government of Kenya has been identified as Dr. Teferra Tizazu, currently IEF's Project Director in Malawi. Dr. Tizazu's particulars have already been submitted to the Ministry of Health and the Kenya Medical Practitioners and Dentists Board.

The IEF is pleased to be able to continue its support of the Kenya Ophthalmic Program.

Sincerely yours,



John R. Babson,
President and Executive Director

cc: Dr. Randolph Whitfield
IEF Project Director, Kenya

Chief Consultant Ophthalmologist,
Kenyatta National Hospital

Executive Secretary,
Kenya Society for the Blind

/brda

Dr. Teferra Tizazu,
P.O. Box 30375, Lilongwe 3, Malawi

Chairman,
Prevention of Blindness Committee

Regional Representative
R.C.S.B.

Appendix E

CURRICULUM FOR OPHTHALMIC CLINICAL OFFICERS' TRAINING

CURRICULUM FOR OPHTHALMIC CLINICAL OFFICERS' TRAINING

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CURRICULUM FOR OPHTHALMIC AUXILIARIES

1. INTRODUCTION

A. The aims of this course are twofold:

1. To train Clinical Officers/Medical Assistants/Nurses in accordance with the behavioural objectives outlined below.
2. To lay the foundation in basic theory on which further training and refresher courses can build.

B. General Behavioural Objectives:

At the completion of this course, the Clinical Officer/medical Assistant/ Nurse Clinician should be able to:

1. Diagnose and treat common eye diseases in Kenya/Africa within the limits of his training and equipment and refer those conditions that require the skill of an ophthalmologist.
2. Follow up and give maintenance therapy to patients with chronic eye diseases and post-operative cases and to assist in the distribution of aphakic and presbyopic spectacles.
3. Perform basic therapeutic and extra-ocular surgical procedures (e.g. suturing, excision of pterygium, etc.) and render first aid in eye emergencies.
4. Participate as a team member in promoting the health of the community through health teaching, sanitation and control of communicable diseases.
5. Administer a Mobile Eye Unit which will include supervision of driver maintenance of equipment and ordering of drugs and supplies.
6. Supervise and give comprehensive care to hospitalised patients.
7. Give treatment and advise on health matters (including nutrition) to mothers and young children.

- C. Duration of course: 9 months (36 weeks)
 Course requirement: Clinical Officer/Medical Assistant/
 Nurse Clinician with at least two years
 field experience.
 Intake: 10-15 persons
 Probable Opening
 Date:

D. Outline of Course

It is very important that each subject be introduced at the correct stage: to introduce pathology of Eye Diseases, for example, before the student has acquired a good understanding of Anatomy and Physiology is futile and will lead to learning by rote and a completely empirical approach to clinical medicine. In the introduction to each subject in this syllabus, it is stated exactly when it is to be introduced and how it is to be co-ordinated with other subjects.

2. SYLLABUS

A. LECTURES

1. QUARTER - 5 weeks

Anatomy of the globe and adnexia	10 hours
Physiology of the eye	5
Refractions (presbyopia, Myopia,, hyperopia)	5
ocular examination	5

2. QUARTER - 14 weeks

Diseases of the lids and lacrimal apparatus	10
Diseases of conjunctiva	15
Diseases of cornea and sclera	10
Diseases of uveal tract	15
Diseases of lens - cataract	10
Glaucoma	10

3. QUARTER - 9 weeks

Diseases of the retina	5
Diseases of the orbit	5
Strabismus	5
Nutritional diseases	10
Diseases of the optic nerve	5
Tumours	5

4. QUARTER - 9 weeks

Therapeutics and toxicology	10
Operating theatre techniques	10
Prevention of Blindness and Rural Ophthalmology	15
Rehabilitation of the blind	5
Administration, Record-keeping, data collection, etc.	5

NB There will be tests after completion of each quarter

B. PRACTICALS

1. Out-patient Department

examination techniques
diagnosis, treatment, refraction (presbyopia)
irrigation of lacrimal apparatus
use of diagnostic instruments
visual acuity
visual field, tonometry, ophthalmoscopy

2. Ward:

Ward management

patient care: pre-operative and post-operative

nursing procedures; drug administration, basic
dressing & bandaging

aseptic technique

injections

preparation of patients

record keeping

3. Operating Theatre

aseptic technique

care of equipment

draping of patient

scrubbing for surgery

sterilization

tray preparation

extra-ocular surgical procedures

4. Community based activities

Management of MEU

management of health centre

training, coordination and supervision of primary
health care workers

5. DIDACTIC LECTURES

1. ANATOMY AND PHYSIOLOGY

The principle objective of the anatomy and physiology required in this syllabus is that which is necessary for the understanding of how the eye functions as a unit and how it is affected by abnormal functioning of a part or parts.

1. ANATOMY OF THE GLOBE AND ADNEXIA

(a) Globe:

cornea and sclera

uveal tract: iris ciliary body and choroid retina and optic nerve, vitreous and aqueous humour, lens.

(b) Adnexia

Eye lid: cilia, glands, tarsal plate and muscles eye brows, conjunctiva

lacrimal apparatus: lacrimal gland, puncta, canaliculi and nasolacrimal duct.

(c) Orbit

Orbital bones and its relationship to adjacent structures (sinuses, etc.)

2. PHYSIOLOGY

a) General optical principles: refraction, prism, lenses, diopter

b) Optical consideration of the eye: emmetropia, Ametropia, hyperopia, myopia, astigmatism, accommodation presbyopia

c) Aqueous humour: production and function in relation to intra-ocular pressure

d) Pupillary reaction, fixation, motility and tearfilm

3. OCULAR EXAMINATION

- history
- general appearance
- pupillary reflexes
- visual acuity for distance and near
- eye movements
- ophthalmoscopy
- refraction
- tonometry

II DISEASES AND DISORDERS OF THE EYE

The theory outlined below should be combined with the practical clinical diagnosis throughout the training.

General objectives:

At the completion of training an ophthalmic auxiliary, with the facilities normally available to him in a district hospital or rural health centre, should be able to:

- a) diagnose and manage most of the common conditions encountered in Kenya/Africa
- b) recognize and refer the less common condition and those outside his ability to manage
- c) give follow-up care to patients with chronic diseases
- d) give first line management to emergencies

1. DISEASES OF LIDS AND LACRIMAL APPARATUS

LIDS

- a) Congenital anomalies of lids:
 - coloboma
 - epicanthus
 - ptosis
- b) Infections and inflammations of lids:
 - blepharitis
 - stye
 - chalazion
 - Herpes Zoster ophthalmicus
 - molluscum contagiosum
- c) Complications of the lid:
 - trichiasis
 - entropion
 - ectropion

LACRIMAL APPARATUS

- a) Infections of the lacrimal gland and passages:
 - dacryoadenitis
 - dacrocystitis in the newborn and adult

2. DISEASES OF THE CONJUNCTIVA

A) Inflammation and infections of the conjunctiva

Conjunctivitis:

- bacterial
- viral
- atopic
- ophthalmia neonatorum
- trachoma

b) Degenerations of conjunctiva:

- pterygium
- pinguecula
- bitot spots
- xerosis

3. DISEASES OF THE CORNEA AND SCLERA

CORNEA

a) Congenital anomalies

- microcornea
- megalocornea
- keratoconus
- buphthalmos

b) Infections and inflammations of the cornea:

Ulcer of the cornea (keratitis):

- bacterial
- viral
- fungal
- keratomalacia

SCLERA

scleritis and episcleritis

4. DISEASES OF THE UVEA

a) Inflammation of uveal tract:

Uveitis:

- iritis
- iridocyclitis
- choroiditis
- ophthalmitis

5. DISEASES OF THE RETINA

- a) detection of colour blindness
- b) inflammations - retinitis:
- c) circulatory disturbance: hemorrhages
- d) degeneration: retinitis pigmentosa
senile macular
degeneration
chloroquine retinopathy
- e) detachment

6. DISEASES OF THE OPTIC NERVE

- a) infections and inflammation of the optic nerve
 - papilitis and retrobulbar neuritis
 - papilloedema
 - optic atrophy

7. DISORDERS OF THE LENS

- a) Cataract:
 - developmental
 - senile
 - secondary
- b) dislocation and subluxations

8. GLAUCOMA

Classification: primary, secondary and congenital
Diagnostic methods: tonometry, visual fields, ophthalmoscopy

9. DISEASES OF THE ORBIT

Displacement of the eye: exophthalmos
enophthalmos
Inflammations and infections: orbital cellulitis, abscess

10. TRAUMA

- a) INJURIES OF THE LIDS
 - ecchymosis
 - insect bites
 - wounds: incised, lacerated
 - thermal and chemical burns
- b) INJURIES OF THE CONJUNCTIVA
 - foreign bodies (subtarsal)
 - wounds
 - burns
 - hemorrhages
- c) INJURIES OF THE CORNEA
 - foreign bodies: penetrating and perforating
 - erosion
 - burns
- d) INJURIES OF THE SCLERA
 - rupture
 - perforating wound
- e) INJURIES OF THE IRIS
 - traumatic mydriasis
 - iridodialysis
 - hyphema
- f) INJURIES OF THE LENS
 - subluxation
 - dislocation
 - cataract
 - vitreous hemorrhages

11. DISORDERS OF THE MOTILITY OF THE EYE

- a) Ocular deviations: paralytic and non-paralytic diplopia
- b) Varieties of ocular paralysis:
 - esotropia
 - exotropia
- c) Amblyopia:
 - strabismic
 - anisometropic

12. TUMOURS OF THE GLOBE AND ADNEXIA

- a) Extraocular:
 - Lids: benign - papilloma, dermoid
 - malignant - squamous cell
 - Conjunctiva: benign: pterygium
 - epithelial cyst
 - malignant: squamous cell
- b) Intra ocular:
 - Retina: retinoblastoma
- c) Others: Retrobulbar
- mucoceles

13. NUTRITIONAL DEFICIENCY DISEASES

-measles/PEM/Vitamin A deficiency

14. THE EYE IN SYSTEMIC DISEASES

-diabetic retinopathy
-hypertensive retinopathy
-leprosy
-onchocerciasis

III. THERAPEUTICS AND TOXICOLOGY

The course would provide the trainee with knowledge of general pharmaceutical principles, such as drug action, incompatibilities, contra-indication, side effects and dosage.

- a) ocular pharmacology
- b) classification of ocular drugs
- c) important facts to be known about a drug:
 - name
 - indications/contraindications
 - precautions
 - route of administration
 - dose, frequency of administration, duration of treatment
 - toxic effects
 - cost
- d) Drug absorption and route of administration
 - topical
 - oral
 - parenteral/subconjunctival
- e) Drug interaction
 - synergism/antagonism
- f) Therapeutic risk
 - drug accidents: pollution, over dosage
 - hypersensitivity misuse of drugs

IV PREVENTION OF BLINDNESS AND RURAL OPHTHALMOLOGY

The trainees will be expected to understand the importance of community-based activities in the programmes for the elimination of avoidable blindness and visual impairment. This will include the following components:

- a) identification of communities with high prevalence of avoidable blindness and determine the causes
- b) high priority to worst affected communities with preventive/curative means. if necessary surgical mobile teams for cataract surgery.
- c) mobilization of communities and promotion of knowledge of eye care through training and supervision of primary health workers.
- d) strengthening of referral system from the periphery to the district hospitals and when necessary to central hospital
- e) recording of activities including monthly statistical reports and registration of the blind (uncurable) for rehabilitation and future planning.

1. Primary Health Care

The trainees will be trained as trainers of primary health workers. This therefore will necessitate that the trainees be knowledgeable in simple educational methodologies and techniques utilized to instruct health care and methods in community mobilisation to participate in the blindness prevention programme activities.

- a) Primary health care
 - components
 - primary eye care as an integral component of PHC
- b) Eye disease treatment and prevention for PHW
 - recognition and treatment
 - referral
 - drugs and material
 - support/supervision
 - communication

2. Mobile Eye Unit

The trainees would have the opportunity to observe and participate in the Mobile eye activities in the field.

- management
- supplies/equipment
- costing

V. OPERATING THEATRE TECHNIQUES

a) General Nursing procedures

- pre-operative management
- eye pads and drops
- post-operative management
- eye dressing
- subconjunctival injection

b) Extraocular Surgery

- position
- lighting
- face preparation
- drapes
- surgical techniques: holding of instruments, aseptic, incision technique and suturing
- operations:
 - lid lacerations
 - removal of conjunctival tumor
 - tarsorrhaphy
 - entropion
 - ectropion
 - enucleation
 - evisceration
 - chalazion
 - protection of the cornea

c) Anaesthesia

- topical
- local: facial block, eye lid infiltration and retrobulbar

VI. REHABILITATION OF THE BLIND

General objective:

The trainees will be acquainted with the rehabilitation of blindness activities: registration, vocational, and resource schools.

VII. EPIDEMIOLOGY AND STATISTICS

The trainees will be expected to acquire adequate knowledge in the management of an eye unit:

- a) eye disease reporting and data collection of diseases and blindness.
- b) management of an eye unit
 - personnel
 - material and supplies
 - communication
 - training

Appendix F

**INTERNATIONAL EYE FOUNDATION
MANAGEMENT EVALUATION REPORT**

I. BACKGROUND

1. THE INTERNATIONAL EYE FOUNDATION PROVIDES EYE CARE IN UNDERDEVELOPED COUNTRIES

The International Eye Foundation (IEF) was formed in 1960 by Dr. John Harry King, Jr., internationally known corneal surgeon, and is dedicated to the promotion of peace through the prevention and cure of blindness worldwide. Although originally established to provide eye tissue donated by Americans to curably blind people throughout the underdeveloped world, the mission and role of IEF has evolved and expanded in the past 25 years. Today IEF is dedicated not only to the elimination of preventable blindness but also to the proposition that the best way to help others is to teach them to help themselves.

Individual projects in the various countries are tailored to meet the needs of the individual country and its existing health delivery system, and reflect a balanced program of training, studies, and actual eye care. At the current time IEF has 34 employees implementing its ten major programs in the following countries:

Barbados
Dominican Republic
Egypt
Grenada
Guinea

Honduras
Kenya
Malawi
Puerto Rico
St. Lucia

The scope of these projects range from the training for and the provision of ophthalmic services in entire countries (Grenada, Kenya, Malawi) to training of medical personnel in ophthalmic services (Barbados, Egypt, Puerto Rico). In its short 25 year history, the IEF has provided services to over 65 countries.

2. THE FIELD PROJECTS OF THE INTERNATIONAL EYE FOUNDATION ARE SUPPORTED BY A HEADQUARTERS STAFF

The headquarters staff of IEF supports the field projects through three general activities:

- project design and monitoring
- development/fund raising
- international agency cooperation

Project design and monitoring involves many elements including proposal preparation (individual country proposals, regional proposals, multi-country funding proposals, and general fund raising proposals), project negotiations, professional review and cross-fertilization, financial planning and control and project staffing and support. These elements are carried out in headquarters and in the field through many on-site visits. An important component of this function is the annual meeting of all project personnel held in conjunction with the annual meeting of the Academy of Ophthalmology.

Development/fund raising, the second major activity of the headquarters staff, is often an integral part of project design and is equally important. Without funding none of the accomplishments of the IEF are possible.

In the current fiscal year, IEF has budgeted expenditures of \$1.6 million derived from the following development/fund raising results:

- \$397,000 Private Fund Raising
- \$300,000 USAID Matching Grant
- \$862,000 USAID Operating Grants

In addition, over \$135,000 in services, equipment and supplies were donated to IEF by U.S. corporations and individuals for use in individual projects.

The third task carried out by headquarters staff of IEF is coordination and cooperation with other international agencies, including the World Health Organization (WHO), Pan American Health Organization (PAHO), the Royal Commonwealth Society for the Blind (RCSB), Helen Keller International (HKI), Project HOPE, International Service Agencies, and Interaction. The impact of these activities is illustrated by the fact that the IEF was admitted into official relations with WHO. This designation was the result of a three year investigation by WHO of the activities and projects of IEF.

3. RECENT TURNOVER HAS RAISED QUESTIONS REGARDING THE STAFFING AND ORGANIZATION OF THE HEADQUARTERS STAFF

Over the past several years, there has been a continuing redefinition of roles and responsibilities in IEF headquarters revolving around the roles of

medical and administrative personnel. The resignation of a key staff member in 1984 further heightened the questions and discussion.

During this same period several evaluation studies of IEF projects by the Agency for International Development (AID) raised issues regarding the support provided to field projects by the headquarters staff. Included in these issues were program/project management; planning for institutionalization; utilization of field medical personnel to perform administrative tasks; and monitoring of the allocation of the field personnel's time.

4. THIS STUDY WAS DESIGNED TO ANSWER SEVERAL KEY MANAGEMENT ISSUES THAT HAVE BEEN RAISED INTERNALLY AS WELL AS BY EXTERNAL AGENCIES

Because of the continuing nature of these questions, IEF requested a study of the organization/management concept being used in managing the field projects. The management study was designed to:

- Identify the functions and activities required to support IEF operations in the field and at headquarters.
- Recommend an organizational approach that would efficiently carry out these functions and activities.
- Define the duties and responsibilities for each element in the organization.

In carrying out the study extensive discussions were held with all members of IEF headquarters staff, AID officials, the AID sponsored evaluation contractor and HKI. These discussions focused on headquarters operations as

well as individual project activities and operations. In addition project proposals and evaluation reports were reviewed as well as communications from IEF field project managers.

To meet the needs of IEF, a two phase approach was developed. The first phase, which is completed with submission of this report, involved the basic study and the development of appropriate recommendations. The second phase involves monthly monitoring of implementation for a period of four months. This monitoring will focus primarily on field personnel since one of the primary objectives is to improve operations in the field.

II. MANAGEMENT SYSTEMS

1. CURRENT MANAGEMENT SYSTEMS ARE A MAJOR SOURCE OF IEF PROBLEMS

(1) The Current Management Systems and Procedures Do Not Meet The Needs of IEF

IEF currently uses a very informal system to plan, schedule and monitor its projects. The only documented version of the plans and work programs for the individual projects are contained in the proposals and grant agreements. All other plans and work programs are verbally discussed and agreed to between on-site project personnel and headquarters staff.

The absence of documented plans and work programs causes several problems:

- The lack of a formalized system reduces the discipline required for effective planning and work program development.
- On-site project personnel can overlook things that must be done.
- Communications and directions between the headquarters and the field becomes more difficult.
- There is no documentation of agreed upon actions and priorities.
- Preparation of quarterly progress reports and annual reports is a major task.

(2) The Lack of a Formalized Planning and Work Programming System Is at the Core of the Problem Cited in Several of the Evaluation Reports.

Some of the shortcomings of IEF programs found in recent evaluation reports can be traced to the absence of a formalized planning and work programming system. A key problem is the absence of clearly documented plans to turn over the blindness prevention activities to local personnel (one version of institutionalization).

It is the policy of AID in development projects that they must have a clearly defined set of activities which have a real potential for sustainability (another version of institutionalization) after the end of PVO and AID financial support. This does not imply that the projects must be "sustainable" without PVO and AID support at the end of the current phase. Rather the overall plan should clearly indicate actions directed toward this objective at some point in the future. Furthermore institutionalization of various capabilities can be phased in over time. Not all elements of a complete blindness prevention program would be turned over in total. One element such as the training of the primary health care workers, might be institutionalized in one phase and another element, such as the provision of secondary care, may be turned over in another phase.

2. IEF NEEDS A FORMALIZED MANAGEMENT SYSTEM FOR ITS FIELD PROJECTS

The environment within which IEF operates has changed drastically over the past 25 years. In the 1960s and early 1970s PVOs were respected and admired

for their efforts. Any accomplishments were by definition worthwhile and valuable, particularly in the general health field.

However, the situation has changed for several reasons. First, there are a much larger number of PVOs operating in the developing countries. This growth is in part due to increased public awareness of the problems faced in the developing portions of the world and increases in discretionary income in the developed portions of the world.

A second reason for the changing environment in which the PVOs operate is the increased competition for development/fund raising caused by both the increased number of PVOs and more sophistication on the part of the funding sources. Both private and public sources of funds, faced with increased requests, are demanding assurances and commitments on the part of PVOs regarding the management and utilization of the money.

Given this changing environment then, as well as the problems cited previously, IEF needs a more formalized management system for its field projects. The system must highlight the problems being addressed, the approach to the solution of the problems, and the specific activities being undertaken. In addition, the system must display a positive management approach to allocating the funds available.

3. THE RECOMMENDED IEF SYSTEM FOR PLANNING AND WORK PROGRAMS SHOULD CONTAIN TWO MAJOR ELEMENTS

To meet the needs of the IEF and to overcome many of its current problems, a new system for management of field projects must be developed and

implemented. Based on the analysis performed in this study it is possible to briefly describe a concept for such a system. This concept employs two essential elements:

- an overall strategic plan for blindness prevention in a country
- a three year work program designed to achieve specific objectives called for in the strategic plan

(1) The Strategic Plan Should Describe the Approach to Blindness Prevention in the Country

Before the inception of blindness prevention activities in any country, a strategic plan should be developed for the country. This plan should address the overall blindness situation, the current health delivery system, the health care resources and the political and economic conditions. With this material as background, the strategic plan should then address the approach to blindness prevention including, as appropriate:

- the research and survey components necessary to fully define the blindness problem
- the introduction of the three levels of care
- the training of ophthalmic specialists
- the training of health care workers and the trainers of health care workers
- the specific approach to institutionalization

- the specific objectives for the first three year segment of the plan

The plan would cover a total program to give the host country an implementable blindness prevention program, which is designed to continue to operate after the end of IEF and AID assistance. The preparation of the initial plan for a given country may be difficult because the available information may be inadequate and the host country priorities may not be articulated.

Nevertheless, the first plan should be prepared and be as complete as possible. It should include as objectives for the first three year segment the activities and agreements necessary to generate the information required to improve the plan. During the last year of the first three year work program and tri-annually thereafter, the plan should be reviewed, revised, expanded, and updated as appropriate.

(2) The Work Program Should Be a Plan for All Activities to be Conducted in the First Three Year Segment

The strategic plan would identify specific objectives for the initial three year segment. This should then be translated into a three year work program which schedules activities and subactivities that are necessary to meet established objectives.[5]

5. The three year time frame applies to most IEF projects. However, in some cases, such as the current project in Guinea, a different time period would be covered.

The level of detail required in the work program will have to be determined on a country-by-country basis depending on the nature and stability of various projects and project personnel. For example, in a country where the first training program is to be conducted for ophthalmic assistants, the work program should identify the necessary curriculum preparation, review and approval steps as well as activities necessary to complete the logistic support preparation. For a subsequent session of the same course, less detail could be included.

Also, the scheduling precision will vary. In some cases activities may be scheduled on a weekly or bi-weekly basis. In other cases, particularly in the second and third years of the work program, monthly or quarterly scheduling may be adequate. Again the complexity of the project, the diversity of the activities and the experience of project personnel will dictate the degree of precision required.

In developing the work programs more detail should be provided for the first year of the program than for the last two years. At the end of the first year more detail should then be provided for the second year of the program as it becomes the current year. When the second year of the work program is completed two parallel planning efforts are initiated:

- the completion of the detail for the third year of the work program

- the initiation of the review, revision, expansion and update of the strategic plan. When this process is completed a new work program for the subsequent three years would be prepared.

Also all during this process, it is assumed that project personnel, as well as headquarters personnel, will continually review the work program, making any necessary changes and revisions.

4. INITIAL IMPLEMENTATION OF THE MANAGEMENT SYSTEM MAY BE DIFFICULT

Should IEF adopt the recommendations contained in the report, completion of the initial plans and work programs is going to be a difficult and time consuming process, particularly since the type of planning envisioned here does not currently exist within IEF. Also the fact that the current projects are in various stages of development and implementation will not help.

It is recommended that initially IEF concentrate on two projects -- Malawi and Grenada. Grenada is a likely candidate because it is a relatively new project and the proposal is relatively current. Malawi is suggested because it is a large project containing many diverse activities, and it may be expanded in new directions if the current proposal to AID is funded. Subsequent to the planning of these two projects, second priority should probably be given to Kenya, Barbados, Egypt, and St. Lucia.

* * * * *

This chapter has outlined the concept for a management system for IEF to plan and manage its various projects. The concept has not been presented in terms of detailed procedures and forms. This will permit IEF to place the initial emphasis on the proper aspect of the plans -- their substance. After IEF becomes comfortable and familiar with the substance of its plans, it can then develop the procedures and forms that will meet its needs.

III. ORGANIZATIONAL CONCEPT

1. THE CURRENT ORGANIZATIONAL CONCEPT USED BY IEF IS CAUSING SOME OF THE PROBLEMS

The existing structure within IEF headquarters is basically a straight line relationship between the President/Executive Director, the Medical Director, and the Administrative Director. This structure is causing or contributing to many of the problems within the organization. Of course, the management system problems outlined in the previous chapter are another source of the problems. Based on the review and analysis conducted during this study several major problems are apparent.

(1) No Clear Definition of Responsibilities Exists

As currently structured, the responsibilities of various elements of the organization are very unclear. It is not apparent who is responsible for any facet of IEF operations. Furthermore field personnel are somewhat confused as to their reporting relationships, and how to deal with conflicting directions from headquarters.

Without a clear definition of responsibilities, it is impossible to properly divide and handle the workload. Each element in the organization is in fact a bottleneck. And with everyone involved in everything, responsiveness suffers. Furthermore, as demands on the organization increase, the continual bottleneck becomes more constraining and less gets

accomplished. As a result the organization becomes bogged down in current problems and cannot shape its future.

(2) No Solution to the Medical/Administrative Conflict is Apparent

Unfortunately, IEF has been preoccupied by a continuing conflict between medical and administrative/planning professions. This conflict, although apparently resolved at times, has continually reappeared. It is very disruptive to effective operations and must be a source of major frustration to field personnel. The current organizational concept does nothing to resolve it.

(3) The Inherent Strengths of Members of the Headquarters Staff Are Not Being Used Effectively

Each individual has their own set of strengths and weaknesses. For an organization to be effective it must play to individual strengths so that they are fully utilized. The current organization does not accomplish this goal.

(4) There Is a Potential to Stifle Initiative

Although not specifically observed in the case of IEF, a straight line can stifle initiative. This generally results from the lack of definition of responsibilities, and not focusing on the strengths of the individuals involved. People tend to be bogged down in the organization and lose the opportunity for growth and creativity.

2. THE RECOMMENDED ORGANIZATIONAL CONCEPT SUPPORTS THE RECOMMENDED MANAGEMENT SYSTEM

The management system recommended for IEF focused on two elements; an overall strategic plan for each country and a three year work program for those activities currently being carried out. In order to strengthen and implement this concept the organization of IEF headquarter should be designed to enhance its likelihood of success. In addition, the organizational concept must overcome, to the extent possible, the weaknesses in the current organization.

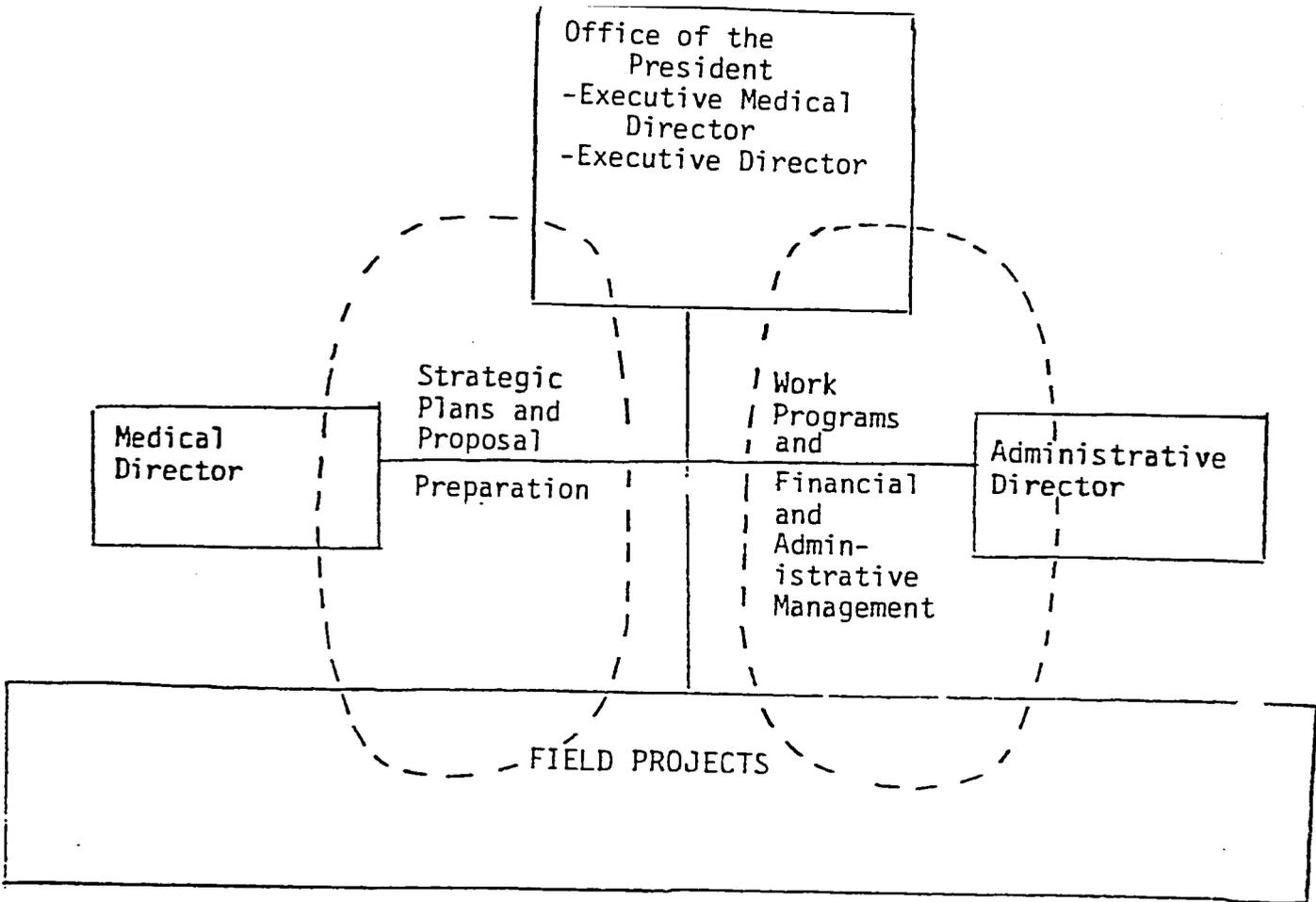
(1) The Recommended Organizational Concept Clarifies the Division of Responsibilities in Headquarters and Between Headquarters and Field Projects

The basis for the organizational recommendation as it deals with the operation of the field projects is shown in the diagram on the next page.

As shown in the diagram the organizational recommendation stresses three relationships:

- The President/Executive Director is chief executive of the organization and has direct line authority over field projects.
- The Medical Director, a staff position, has primary responsibility for developing the strategic planning component of the recommended management system in conjunction with field project personnel, and for the preparation of major project proposals.

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The Administrative Director, a staff position, has primary responsibility for developing the work program component of the recommended management system in conjunction with field project personnel and for overall financial and administrative management for the organization.

The primary responsibilities assigned to the Medical and Administrative Directors should not be considered as their SOLE responsibilities with respect to operation of field projects. If a survey is included in the work program for a particular country, the Medical Director would have a major input. Also the Administrative Director should have an input to the training and institutionalization components of any strategic plan, well as a role in the development of the work program and budget in each proposal.

Primary responsibility then indicates the unit which has the lead in developing the management component, recognizing that the person in charge will draw on other elements of the organization. It is not intended to draw air-tight boundaries around the elements of the headquarters organization. Such an approach is totally counterproductive in an organization as small as IEF.

An organizational structure of this nature should benefit IEF in the following ways:

- Field personnel would clearly understand the roles played by headquarters personnel.
- The areas of primary responsibility would be clearly delineated.

- Headquarters personnel would be assigned responsibility according to their strengths.
- Additional support can be provided to alleviate bottlenecks that might develop.

(2) All Elements of the Organization Should Be Involved in Development/Fund Raising Activities

Development/Fund Raising is an essential element in the life of any Private Voluntary Organization and as such is a major responsibility of all elements of the organization. In the case of IEF, which derives over 70% of its cash funds from AID, the development responsibilities are extensive. Headquarters personnel should maintain continual contact with the Washington headquarters of AID, both with respect to the Matching Grant, but also with respect to the country specific desks as well as the health and other related organizational units.

Field personnel should be maintaining contact with AID missions in their countries/areas, whether they are funded under the matching grant or individual operating grants.

Other development/fund raising activities should be directed and carried out by the headquarters staff with the President/Executive Director providing primary direction. All elements of headquarters staff as well as field personnel should participate in these activities.

(3) External Relations Should Be Assigned Based on Individual Areas of Expertise

IEF must maintain relations with many external organizations ranging from WHO to PVO Associations. Nurturing and maintaining these relationships is an essential headquarters activity. Individuals within the staff should be assigned primary responsibility for maintaining these relationships based on past history and individual areas of expertise.

3. TWO NEW POSITIONS ARE RECOMMENDED FOR THE HEADQUARTERS ORGANIZATION

The Exhibit at the end of this chapter presents the recommended organization and staffing for the headquarters of IEF. The basic relationships described earlier in the chapter are maintained. Two new positions are shown in the organization: Administrative Manager/Africa and Administrative Manager/Caribbean.

During the course of the study several attempts were made to come up with workload estimates to objectively establish staffing levels. None of these were successful because of the ad hoc nature of current operations. This is directly related to the lack of a formalized system for managing the projects.

It is expected however that there will be a major workload over the next two years to develop and refine work programs for each of the field projects. Also AID evaluation reports have suggested that medical personnel in the field are not being used to their potential because of the administrative tasks that they must perform.

Accordingly it is recommended that these two positions be created and filled. The position dealing with the Africa projects should probably be based in Malawi. The position dealing with the Caribbean should probably be based at headquarters. By being back here, this person can lend further support to headquarters activities.

These positions are crucial to the effective functioning of the proposed management system. It is expected that they would take the lead in developing the initial work plans in conjunction with the respective project directors. They would then periodically visit each of the projects to review status and monitor progress. In carrying out these responsibilities they would clearly report to and be directed by the Administrative Director.

In addition, however, these administrative managers would also function, at times, as members of the various project teams, doing project administrative type tasks. This would relieve project medical personnel so they could concentrate their efforts in the areas of their expertise. Specific tasks to be assigned would be jointly agreed to by the project directors and the administrative managers.

4. SUMMARY OF DUTIES AND RESPONSIBILITIES

The following listing outlines the major responsibilities of the positions within the organization recommended for IEF.

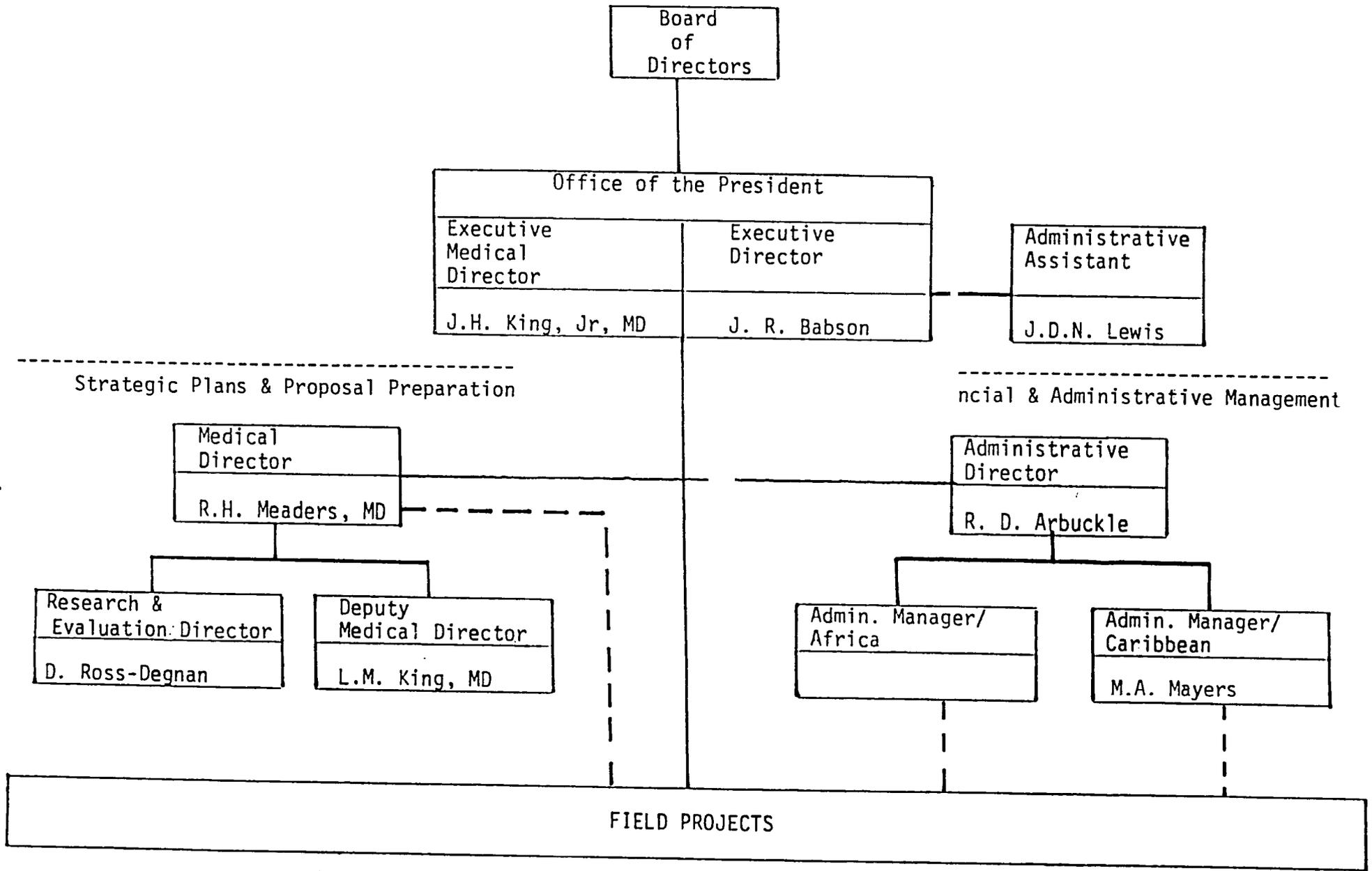
<u>POSITION</u>	<u>MAJOR RESPONSIBILITIES</u>
Board of Directors	<ul style="list-style-type: none">-Establishment of Policy-Appointment of Executive Staff-Approval of Annual Budget-Assist in Organizational Development/Fund Raising
President/Executive Director	<ul style="list-style-type: none">-Operational & Program Direction-Policy Implementation at the Board's Direction-Development & Public Relations-Liaison with other agencies-Staff Recruitment
Executive Medical Director	<ul style="list-style-type: none">-Develop policy regarding medical directions of IEF programs-Advise the President and Board of Directors on organizational development/fund raising activities
Medical Director	<ul style="list-style-type: none">-Supervision of Strategic Plan Development-Support of Work Program Preparation-Development of Project Proposals-Development of IEF Research Programs-Assist Executive Medical Director in the development of IEF medical directions-Advise the President on recruitment of medical staff-Assist the President in development/fund raising activities-Preparation of scientific papers relating to IEF activities

Administrative Director	<ul style="list-style-type: none"> -Supervision of Work Program Preparation -Supervision of Project Reporting -Support of Strategic Plan Development -Financial management & Preparation of documents for proposed projects -Advise the President on recruitment of non-medical staff -Assist the President in development/fund raising activities -Administration of employee salary & benefits program -Preparation of project reports
Deputy Medical Director	<ul style="list-style-type: none"> -Assist the Medical Director as needed
Research & Evaluation Director	<ul style="list-style-type: none"> -Assist Medical Director in the preparation of research proposals & reports -Perform analysis of research data -Supervise program evaluation
Administrative Manager/ Africa & Caribbean	<ul style="list-style-type: none"> -Prepare work programs in conjunction with project directors -Prepare periodic project reports -Perform administrative tasks for individual projects -Assist in development/fund raising activities
Project Field Staff	<ul style="list-style-type: none"> -Development of strategic plans and work programs in conjunction with headquarters staff -Field project operations & administration -Provision of activity and professional reports for the Office of the President -Assist in development/fund-raising activities

Administrative Assistant/
Office Manager

- General oversight of HQ office operations
- Secretary to the Board
- Management of the SES
- Preparation of Newsletter
- Supervision of Secretarial/
Clerical Staff
- Special Projects Manager

RECOMMENDED IEF PRIMARY RESPONSIBILITY BREAKDOWN



Appendix G

**JOINT USAID/MSH/IEF EVALUATION
IEF HONDURAS ACTIVITIES**

G.1 EXECUTIVE SUMMARY

From late 1979 through June 1983, the International Eye Foundation -- based in Bethesda, Maryland -- spent \$212,580 on a blindness prevention and primary eye care program in Honduras. The first two years were funded by a USAID/Honduras operational program grant (OPG); a three-year centrally-funded matching grant (MG) has been in effect since July 1981. Formal agreements were entered into with the Ministry of Health and Social Assistance which committed its personnel and facilities to the program. The major activities undertaken included: the training of auxiliary nurses, professional nurse supervisors, and nurse instructors in basic ophthalmology and primary eye care; specialized training for ophthalmologists; curriculum development for the schools of professional and auxiliary nursing; provision and distribution of materials, equipment, and medications; and the promotion of visual acuity screening in public schools. The IEF placed one instructor -- a Registered Nurse/Certified Ophthalmological Technologist -- in Honduras for a period of 33 months to carry out most of these activities. Three one-week visits by tertiary care specialists and the provision of five short-term fellowships comprised the training of ophthalmologists.

The number of professional and auxiliary nurses trained by the IEF instructor substantially exceeded planned objectives. The core curriculum, teaching methods, reference materials and audio/visual aids provided to the

training centers and the reference materials provided for use by primary health care workers were found to be very appropriate and effective. However, the lack of follow-up reinforcement and replacement training at all levels threatens to dissipate these achievements in the near future. A formal, organized program for the purpose of promoting, coordinating, and executing activities for the prevention of blindness has not been established; nor have such activities been systematically incorporated into any functional division of the Ministry of Health. Qualitative improvements are apparent at the tertiary care level.

Impact of the program on the prevalence or incidence of blindness or reductions in ophthalmic morbidity cannot be determined due to the lack of baseline and subsequent epidemiologic data. Indications are that the program has had some positive effect on the utilization rates at tertiary outpatient facilities -- probably as a result of increased referrals and public awareness -- but the extent of these effects cannot be isolated from the influence of extraneous factors.

The major findings and recommendations of the evaluation are summarized as follows: (Numbers at left refer to detailed recommendations found in Chapter VII of the evaluation report).

Numbers	Findings	Recommendations
1-2 15-17	The purpose of the IEF program in Honduras, the indicators to measure progress, and a system to collect baseline or follow-up data have not	Program purposes and indicators should be clearly stated and consistent, monitoring and evaluation systems should be established, including a

	been adequately or consistently defined or designated.	nationwide blindness survey and a national blindness registry to strengthen program planning and administration.
3-6	Eye Care training, both for nurses and for tertiary care professionals, was very effective and exceeded targets. Training and methods and materials, and equipment for treatment, have been appropriate and very useful.	IEF should encourage ties between eye care specialists in Honduras and other Central and Latin American countries. More and improved materials and equipment should be developed and distributed.
7-10 18-19	An integrated blindness prevention program in Honduras has not been adequately promoted, coordinated or institutionalized. Home office support of the program was inadequate.	A formal, organized blindness prevention program, coordinated by a division of the MOH but relying heavily on the private sector (including the Honduran Society of Ophthalmology) should be established and supported with continuing IEF assistance.
11-12	Turnover of trained eye care workers and lack of follow-up, reinforcement, supervision, and supply after training threatens to negate initial accomplishments.	Continuing in-service refresher courses, problem-oriented supervision, and a dependable supply system should be incorporated into the PEC program.
13-14	Training of rural auxiliary nurses and rural physicians (the secondary care level) is inadequate.	Appropriate curricula for rural nurse and medical students should be expanded, upgraded, and supported.

G.2 COMMENTS

The general conclusions of the Honduras evaluation states that: The IEF/Honduras MG program has clearly achieved some of its objectives in designing and implementing effective eye care training programs for nurses and ophthalmologists. Unfortunately IEF/Honduras has not been as successful in

demonstrating its conviction that to be effective, eye care workers, in addition to having high quality training, "must have appropriate support, supervision, and referral capabilities after training." Despite the pressures of excessive turnover of personnel and inadequate trainee reinforcement and support, IEF has laid the groundwork for a potential national blindness prevention and primary eye care program which should be expanded and strengthened -- not weakened by any cutback in IEF activities.

Appendix H

JOINT USAID/MSH/IEF EVALUATION

IEF MALAWI ACTIVITIES

EXECUTIVE SUMMARY

From mid-1981 to mid-1984 the International Eye Foundation (IEF) received a Matching Grant from AID to assist in the prevention and cure of blindness by implementing primary eye care delivery and training programs in seven of the poorest countries in the Third World. Two of these programs have been evaluated by teams from Management Sciences for Health as part of a series of evaluations for AID of PVOs in the health sector. The evaluation reported here of the IEF program in Malawi is based on a two-week visit to central and Southern Malawi in February 1984.

Eye disease is a well-recognized health problem in rural Malawi. For a decade the Government of Malawi (GOM), with expatriate assistance, has supported an eye care program utilizing non-physician Ophthalmic Medical Assistants (OMAs) throughout the country. Before the IEF program began, the country had only one missionary ophthalmologist and two Malawian ophthalmologists for a population of over six million. Few OMAs were being trained, and GOM support for new or existing OMAs was weak. In addition, GOM funding for health was not increasing with the growing demand for services. Primary health care was beginning to be tested in only three districts. The prevalence of curable blindness in the elderly due to cataract and preventable blindness among children from trachoma and Vitamin A deficiency was apparently increasing.

IEF provided the MOH with two experienced ophthalmologists who worked on

secondary and tertiary care in the central and district hospitals. This was necessary to provide credibility for the overall program of referral and clinical care and to train more OMAs for extended secondary care. IEF also organized an ocular survey of the Lower Shire Valley in Southern Malawi.

The IEF program raises questions about which strategies are most effective in institutionalizing a primary eye care program. IEF argues convincingly that secondary and tertiary eye care programs must function effectively before primary eye care can be introduced. Moreover, with practically no primary health care program in Malawi into which primary eye care can be integrated, a primary eye care program is premature. With their heavy surgical workload, the two ophthalmologists had limited time to test community level eye care innovation using village health workers. And without administrative or support staff, they had no one to whom they could delegate such nonmedical tasks as the collection and analysis of data or preparation of an OMA training manual. Throughout the program, the two field staff have been largely on their own, with little technical support from the home office.

The IEF/Malawi program has laid the groundwork for a national eye care program, but it is only a beginning. Unfortunately, Malawi is still largely dependent on expatriates for much eye surgery and eye surgical training. The first three year program should be seen as a start-up phase, laying the basis for future development of an effective nationwide blindness prevention program which could serve as a model for replication in many countries. This development could take a decade or more.

Several key steps must be taken by the MOH and IEF before this national

program will be effective. First and most important, a detailed, realistic, comprehensive blindness prevention plan must be approved. In the evaluators' view, IEF plans do not adequately address the need to lessen Malawi's dependence on IEF for tertiary eye care. Second, more OMAs must be trained to do basic eye surgery including removing cataracts; after three years of IEF presence, the MOH still depends largely on expatriate ophthalmologists. Third, the MOH and IEF should begin testing approaches to integrating primary eye care into the emerging primary health care system while that system is still in a pilot stage. Fourth, the MOH should increase the involvement of the non-government sector (including private doctors, Missions, pharmacists, traditional healers and midwives) in its national eye care plan. Fifth, improved data collection and analysis are vital to program planning and monitoring.

The IEF/Malawi program illustrates the need for IEF staff to play a role in PVO country program planning and monitoring. Matching grant proposals to AID should contain country-specific objectives, outputs, strategies and schedules. If they cannot be prepared before the MG program begins, they should be produced during the early months of the grant period. AID program officers in Washington or in Missions should monitor programs as appropriate. Guidelines could be prepared to help them do so efficiently.

The Malawi program also shows that three years is too short a period in which to develop and institutionalize a health program that can sustain itself after the program ends. Development of a viable, effective blindness prevention program in Malawi has barely begun in the first phase of IEF work to date. At least three more years are required to institutionalize the

program; after that, more time should be available to replicate the IEF's model throughout Malawi and in other countries.

Appendix I

SURVEYS

I.1 BACKGROUND

A major area of expertise of the International Eye Foundation is the design and conduct of ocular status surveys. Over the past several years, the IEF has carried out over 12 major surveys, funded under a variety of sources. During the period covered by this grant, the IEF was responsible for the organization and conduct of a kingdom-wide survey of blindness and eye disease in Saudi Arabia, a localized survey which covered the IEF project area in Cairo, Egypt, and an ocular and nutritional status survey in the Lower Shire Valley of Malawi. This latter exercise will be described in some detail in the next section.

I.2 DESCRIPTION: LOWER SHIRE VALLEY SURVEY

During the period September, October, November 1983, the I.E.F. served as the implementing agency for an Ocular and Nutritional Status Survey, conducted in the Lower Shire Valley of Malawi. This was a collaborative effort between the Government of Malawi, the World Health Organization, the USAID, the International Eye Foundation, Helen Keller International, Royal Commonwealth Society for the Blind and the Johns Hopkins University International Center for Epidemiologic and Preventive Ophthalmology.

The International Eye Foundation provided its Administrative Director for the full duration of the survey, to serve as the Director of Field Operations. In addition, the two staff ophthalmologists provided by the IEF to the Government of Malawi participated full time in the survey. Furthermore, the IEF provided the services of a volunteer ophthalmologist to cover the clinical service at the Queen Elizabeth Hospital in Blantyre, during the period of the survey. This was done to ensure adequate and appropriate coverage of the clinical facilities during the absence of the regular ophthalmologist, and to avoid a backlog of surgical cases which would otherwise have occurred.

The general design of the study was a cross-sectional prevalence survey of approximately 5,000 children under six years of age and 2000 persons six years of age and older. A total of 67 villages were randomly selected for study with approximately every 7th. village to include examinations of both children and adults. Only children under six were examined in the remaining villages.

The survey was conducted during a high-risk season for xerophthalmia (October-November) prior to the start of the rainy season. The data which was collected included:

- Ophthalmic: An ocular examination of all children stressed the presence of various signs of xerophthalmia and trachoma. Adults had an external examination; those found to have visual loss had a dilated examination of the lens and posterior pole to determine the cause of decreased acuity.
- Nutritional Status: This included anthropometric data (height/length and weight); the presence or absence of pedal edema; and the presence or absence of goiter. In adults, the assessment was limited to the presence

or absence of goiter.

- Dietary Data: Dietary data primarily concerned the availability of vitamin A and beta carotene containing foods in the area; their seasonality and use by families and children, with and without xerophthalmia. In addition, the availability of potentially fortifiable foods was investigated.
- Socio-economic Factors: Indices of socio-economic status were identified and data collected as a means of planning future intervention programs. In particular, data concerning levels of crowding, availability of water and its uses, particularly for washing, shared sleeping facilities, housing of animals, waste disposal, and others were collected.
- Additional Data: A variety of additional data was collected to help elucidate the mechanisms contributing to, or precipitating, xerophthalmia. In particular, historical and examination data was used to identify the role of diarrhea, respiratory infection, and particularly measles and its relationship to corneal destruction and keratomalacia.

Copies of the various forms used to collect this data are included as appendix I.3.

The data from this survey is currently being analyzed by Johns Hopkins University, and should be available in draft form by early summer, 1984.

In contrast to the detailed forms and the inherent errors in completing multitudinous pieces of paper (it is estimated that over 1,000,000 entries were made during the course of the Malawi survey), the IEF is pioneering the

use of hand-held micro computers for the direct entry of survey data in the field. This activity is currently underway in Saudi Arabia, where a Kingdom-wide ocular status survey is being conducted by the IEF. To date, over 10,000 survey members have been examined, out of a total survey population of approximately 18,000. The major advantages of using the computer for direct data entry are as follows:

- Data actually accepted by the computer is "clean" and free of coding errors;
- All information entered is double checked by the computer, and must be verified by the team leader prior to its being committed to the memory of the computer.
- Survey results can be checked for inter- and intra-observer accuracy on a daily basis through the use of a "utility" program, which will print out the results of each day's work in a fashion which gives basic data analysis.
- The time lag, not to mention expense, of key-punching of data is totally eliminated. This is in contrast to the normal 4 to 6 month time lag.
- Data is being transferred to a larger computer on a weekly basis, so that data analysis of the entire survey can begin within a week of the completion of the actual examinations of survey members.
- Final reports can be written within a few months of the completion of any survey, with basic analysis of the major causes of blindness in any situation available in a matter of weeks. This greatly enhances the

development and implementation of intervention programs, especially in the sense that the very act of carrying out a survey raises the level of consciousness of the population in areas concerning blindness and its consequences.

Thus, the time-lag usually considered to be a part of the natural course of events is eliminated, and the cooperation of the public is maintained through the brief interlude of the completion of the survey, and the beginning of an intervention program.

The International Eye Foundation considers this pioneering effort to be an invaluable tool in the planning and development of blindness prevention programs around the world. Using the simple computer program, and inexpensive micro-computers, surveys can be carried out in remote areas, with adequate data analysis done on a daily basis to begin intervention programs at an appropriate level, without undue delays, and at low-cost.

I.3 DATA COLLECTION FORMS, LOWER SHIRE VALLEY SURVEY

LOWER SHIRE BLINDNESS SURVEY

F	
H	
P	
V	

Shire form 1

VILLAGE FORM

Village Code: ____ - ____ - ____ - ____

1. District name:
- Chikwawa(1)
- Nsanje(2)

2. Traditional area:
- a. Name: _____
- b. Code:

3. Village/Place:
- a. Name: _____
- b. Code:

4. Is this village a trading center or ADMARC market?
-(1) (2)
- Yes No

5. Is there a flour mill in the village?
-(1) (2)
- Yes No

6. Is there a borehole in the village?
-(1) (2)
- Yes No

7. Distance to the nearest health care center:
- < 1 km (1)
- 1-4 km (2)
- > 4 km (3)

If NO

4. A. Is there a (grocery store) in the village?

..... (1) (2)

Yes No

↓

If NO

4. B. Distance to nearest trading center or market:

< 1 km (1)

1-4 km (2)

> 4 km (3)

If YES

6. A. Does the borehole work?

..... (1) (2)

Yes No

6. B. Is there a clothes washing site near the borehole?

..... (1) (2)

Yes No

8. What traditional medicines are used for sore eyes?
- a. _____
- b. _____
- c. _____
- d. None/don't know ()

8. A. For what condition is this medicine used?

a. _____

b. _____

c. _____

9. Distance to Shire River - - km
10. Elevation of village - - - m
11. Person completing this form:
- a. Code:
- b. Team:

12. Date form completed: - - - -
- Day Month

LOWER SHIRE BLINDNESS SURVEY

Shire Form

F
H
P
V

HOUSEHOLD DATA FORM

Village Code: _____
 Household Code: _____
 Continuation: _____ ()

PART I. Household Census

- Head of household:
 - Principal occupation:
 - Farmer _____ (1)
 - Fisherman _____ (2)
 - Merchant/craftsman _____ (3)
 - Other (specify) _____ (4)
 - Sex _____ (1) (2)
 M F

IF MALE

1. A. Number of living wives _____

- Main source of household income:
 - Crops _____ (1)
 - Fish _____ (2)
 - Cattle/pigs/goats _____ (3)
 - Paid employment _____ (4)

IF NO

3. A. Where does he/she live?
 Another house in village _____ (1)
 Another village _____ (2)
 Outside of Malawi _____ (3)

- Is the head of household presently living in this house/compound?
 _____ (1) (2)
 Yes No

- During the past two years, has any member of the household lived outside of Malawi?
 _____ (1) (2)
 Yes No

- What is your major source(s) of water during the dry season?

	Yes	No
a. Borehole/piped water	(1)	(2)
b. Unprotected well/spring	(1)	(2)
c. River/stream	(1)	(2)
d. Other (specify)	(1)	(2)

5-6. A. For all indicated water sources what is the walking time to water source?

	< 5 min.	5-30 min.	30 min.-hour	> 60 min.
a. Borehole/PW	(1)	(2)	(3)	(4)
b. Well/Spr	(1)	(2)	(3)	(4)
c. River/Str	(1)	(2)	(3)	(4)
d. Other	(1)	(2)	(3)	(4)

- What is your major source(s) of water during the rainy season?

	Yes	No
a. Borehole/piped water	(1)	(2)
b. Unprotected well/spring	(1)	(2)
c. River/stream	(1)	(2)
d. Other (specify)	(1)	(2)

- How often do you wash the children's faces with water?
 - Daily _____ (1)
 - Occasionally _____ (2)
 - Never _____ (3)
 - Don't know _____ (4)

- Total number of living huts on the household compound _____

- Is there a latrine on the compound?
 _____ (1) (2)
 Yes No

- Are flies present on the faces of any household member during the interview?
 _____ (1) (2)
 Yes No

- Types of animals owned by household:

	Yes	No
a. Cows	(1)	(2)
b. Goats	(1)	(2)
c. Pigs	(1)	(2)
d. Chickens	(1)	(2)

- Does the household dry any vegetables or fruits for consumption later during the year?
 _____ (1) (2)
 Yes No

- Has any member of the household been treated for eye disease at a health facility since Christmas?
 _____ (1) (2)
 Yes No

IF YES

12. A. How are foods dried?
 Direct sunlight _____ (1)
 Indirect sunlight _____ (2)

12. B. What kinds of foods are dried?
 12. C. Are any on hand today?

	Yes	No	Yes	No
a. Fruits	(1)	(2)	(1)	(2)
b. DGLV	(1)	(2)	(1)	(2)
c. Other	(1)	(2)	(1)	(2)

- List the names of all members of the household and their sex, age, and education status (start with head of household, then mother/mother substitute).

ID No.	Name	Sex Male/Female	Age Yes/No	Ever in school Yes/No
01	_____	(1) (2)	____	(1) (2)
02	_____	(1) (2)	____	(1) (2)
03	_____	(1) (2)	____	(1) (2)
04	_____	(1) (2)	____	(1) (2)
05	_____	(1) (2)	____	(1) (2)
06	_____	(1) (2)	____	(1) (2)
07	_____	(1) (2)	____	(1) (2)
08	_____	(1) (2)	____	(1) (2)
09	_____	(1) (2)	____	(1) (2)
10	_____	(1) (2)	____	(1) (2)
11	_____	(1) (2)	____	(1) (2)
12	_____	(1) (2)	____	(1) (2)
13	_____	(1) (2)	____	(1) (2)
14	_____	(1) (2)	____	(1) (2)
15	_____	(1) (2)	____	(1) (2)

- Person completing this form:
 - Code: _____
 - Team: _____

- Date form completed: _____
 Day Month

LOWER SHIRE BLINDNESS SURVEY

Shire Form 3

F
H
P
V

CHILD HISTORY FORM (under 6 year olds only)

Village Code: _____
 Household Code: _____
 Child Code: _____

1. Child's name: _____

2. Name of head of household: _____

3. Child's Mother/Mother Substitute:
 - a. Name: _____
 - b. Code:
4. Child's date of birth: _____
DD MM YY

5. Age verified by (check highest ranked source):
 - Birth/Baptismal certificate(1)
 - Under 5 card.....(2)
 - Events calendar.....(3)
 - Other (specify).....(4)
 - Not verified.....(5)

6. Person providing child's history:
 - Parent/step parent.....(1)
 - Grandparent.....(2)
 - Some other adult.....(3)

7. During the past 7 days, has this child had:

	Yes	No
a. Diarrhea.....(1)	(2)	()
b. Fever.....(1)	(2)	()
c. Cough.....(1)	(2)	()

If YES

7. A. How long did it last?

	<7 days	≥7 days
a. Diarrhea.....(1)	(2)	()
b. Fever.....(1)	(2)	()
c. Cough.....(1)	(2)	()

8. Has this child ever had measles?
(1) (2)
Yes NO

If YES

8. A. How long ago did the child have the rash?
 - < 1 week..... (1)
 - 1-3 weeks..... (2)
 - 1-12 months..... (3)
 - > 12 months..... (4)

9. Is this child two or more years of age?
(1) (2)
Yes No

If YES

9. A. Does this child have any difficulty moving around the house at night compared to other children of the same age?
(1) (2)
Yes No

10. How many other children sleep with this child?

11. How is this child's nose cleaned?

	Yes	No
a. Clothes of mother.....(1)	(2)	()
b. Clothes of child.....(1)	(2)	()
c. Other rag/handkerchief.....(1)	(2)	()
d. Into air/hand.....(1)	(2)	()

12. Person completing this form:
 - a. Code:
 - b. Team:

13. Date form completed: _____
Day Month

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PART II. To be completed by ophthalmologist

Conjunctiva

	RE		LE	
	Yes	No	Yes	No
9. Generalized inflammation(1) (2)	(1)	(2)	(1)	(2)
10. Purulent discharge(1) (2)	(1)	(2)	(1)	(2)
11. Vernal catarrh(1) (2)	(1)	(2)	(1)	(2)
12. Xerosis (X1A)(1) (2)	(1)	(2)	(1)	(2)
13. Bitot's spots (X1B)				
a. Temporal(1) (2)	(1)	(2)	(1)	(2)
b. Nasal(1) (2)	(1)	(2)	(1)	(2)

Cornea: Active (draw all lesions)

	RE		LE	
	Yes	No	Yes	No
14. Pterygium(1) (2)	(1)	(2)	(1)	(2)
15. Climatic Droplet keratopathy(1) (2)	(1)	(2)	(1)	(2)
16. Keratitis (including dendritic)(1) (2)	(1)	(2)	(1)	(2)
17. Xerosis (X2)(1) (2)	(1)	(2)	(1)	(2)
18. Ulcers, necrosis, fresh descemetocle or perforations(1) (2)	(1)	(2)	(1)	(2)

Cornea: Scars (draw all scars: Grade most severe).

	RE		LE	
	Yes	No	Yes	No
No scars (1)	(1)		(1)	
Maculae/nebulae (2)	(2)		(2)	
Leukoma (3)	(3)		(3)	
Adherent leukoma (4)	(4)		(4)	
Staphyloma (5)	(5)		(5)	
Phthisis hulbi (6)	(6)		(6)	
Absent globe (7)	(7)		(7)	
Other abnormalities (specify) (8)	(8)		(8)	

20. Trachoma inflammation:

	RE		LE	
	Yes	No	Yes	No
No papillae/no follicles (1)	(1)		(1)	
0-2 papillae/follicles 1-2 (2)	(2)		(2)	
0-2 papillae/follicles 3 (3)	(3)		(3)	
3 papillae/follicles 1-3 (4)	(4)		(4)	

21. Trachoma, sequelae:

	RE		LE	
	Yes	No	Yes	No
No scars/no trichiasis (1)	(1)		(1)	
Scar 1/no trichiasis (2)	(2)		(2)	
Scars 2-3/no trichiasis (3)	(3)		(3)	
Trichiasis (4)	(4)		(4)	

22. Uveitis

	RE		LE	
	Yes	No	Yes	No
a. Active (1) (2)	(1)	(2)	(1)	(2)
b. Synechiae (1) (2)	(1)	(2)	(1)	(2)

23. Lens exam findings

	RE		LE	
	Yes	No	Yes	No
.....(1) (2)	(1)	(2)	(1)	(2)
Normal any Abnormality				

IF YES

18. A. Number of lesions:

	RE	LE
.....		

18. B. Area involved:

≤ 1/3 cornea (1)	(1)
> 1/3 cornea (2)	(2)

19. A. Age warring or loss of eye occurrence:

	RE	LE
< 1 month (1)	(1)	(1)
1-11.9 months (2)	(2)	(2)
1-2.9 years (3)	(3)	(3)
3-4.9 years (4)	(4)	(4)
≥ 5 years (5)	(5)	(5)
unknown (6)	(6)	(6)

19. B. Events 4 weeks prior to eye changes:

	RE			LE		
	Yes	No	Unk	Yes	No	Unk
a. Trauma (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)
b. Measles (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)
c. Infection (eye) (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)
d. Severe PEM (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)
e. Diarrhea (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)
f. Fever (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)
g. Worms (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)
h. Night blind (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)
i. Treated with local eye medicines (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)
j. Treated at Health Center (1) (2) (3)	(1)	(2)	(3)	(1)	(2)	(3)

IF ABNORMAL

	RE		LE	
	Yes	No	Yes	No
23. A. Pseudo-Exfoliation (1) (2)	(1)	(2)	(1)	(2)
23. B. Lens findings				
Normal (1)	(1)		(1)	
Cataract, immature (2)	(2)		(2)	
Cataract, mature (3)	(3)		(3)	
Aphakia (4)	(4)		(4)	
After-cataract (5)	(5)		(5)	
Other (specify) _____				
Unknown (7)	(7)		(7)	

IF CATARACT

23. C. What type?

	RE	LE
Nuclear (1)	(1)	(1)
Cortical (2)	(2)	(2)
PSC (3)	(3)	(3)
Other (specify) _____		
..... (4)	(4)	(4)

Village Code: _____

Household Code: _____

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24. Is there any visual loss?

..... (1) (2)
 Yes No

25. Macula Retina exam performed?

..... (1) (2)
 Yes No

IF YES

24. A. Complete Items 25 through 28.

IF NO

24. B. Go to Item 29.

IF YES

25. A. Findings

	RE	LE
Normal	(1)	(1)
Macular degeneration	(2)	(2)
Other (specify)	(3)	(3)
Unknown	(4)	(4)

26. Optic Nerve exam performed?

..... (1) (2)
 Yes No

IF YES

26. A. Findings

	RE	LE
Normal	(1)	(1)
Glaucomatous cupping	(2)	(2)
Non-glaucomatous atrophy	(3)	(3)
Unknown	(4)	(4)

27. Tonometry performed?

..... (1) (2)
 Yes No

IF YES

27. A. Findings

	RE	LE
mm Hg.	_____	_____

28. Principal cause of visual loss:

	RE	LE
corneal leukoma	(1)	(1)
lens related	(2)	(2)
glaucoma	(3)	(3)
macular degeneration	(4)	(4)
other retinal	(5)	(5)
aphakic ref. error	(6)	(6)
amblyopia	(7)	(7)
absent globe	(8)	(8)
other optic nerve	(9)	(9)
other (specify)	(10)	(10)

IF YES

29. A. List corresponding control if a case, or corresponding case if a control (xerophthalmia):

a. Name: _____

b. Village Code: _____

c. Household Code: _____

d. Child Code: _____

29. Is survey subject case or control?

..... (1) (2)
 Yes No

30. Person completing form:

a. Code: _____

b. Team: _____

31. Date form completed: _____
 day month

Village Code: _____

Household Code: _____

Person Code: _____

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LOWER SHIRE BLINDNESS SURVEY

Shire Form 3

F
H
P
V

SUBSAMPLE DATA FORM

Village Code: _____
Household Code: _____
Child Code: _____

PART I. Child Anthropometry

1. Child's name: _____
2. Length: _____
 - a. _____ cm
 - b. _____ cm
 - c. _____ cm
3. Weight: _____ kg

PART II. Child Dietary

4. If this child currently breastfeeding each day?

_____ (1) (2)
 Yes No

If YES

4. A. How many times each day?

<4x/day _____ (1)
 ≥4x/day _____ (2)

If NO

4. B. At what age did breastfeeding stop?

_____ months

5. Has weaning begun for this child?

_____ (1) (2)
 Yes No

If YES

5. A. At what age did weaning begin?

_____ months

If NO

5. B. Go to item 7.

6. How frequently does this child usually eat the following foods?

Food	Daily	1-4x/Week	1-3x/Month	1x/Month	Never
a. Ground nuts	(1)	(2)	(3)	(4)	(5)
b. Fresh DGLV	(1)	(2)	(3)	(4)	(5)
c. Dried DGLV	(1)	(2)	(3)	(4)	(5)
d. Fish, small-fresh	(1)	(2)	(3)	(4)	(5)
e. Fish, small-dried	(1)	(2)	(3)	(4)	(5)
f. Egg	(1)	(2)	(3)	(4)	(5)
g. Mango/pawpaw	(1)	(2)	(3)	(4)	(5)
h. Banana	(1)	(2)	(3)	(4)	(5)

IF NEVER EATEN

6. A. Then why?

Not available	Child dislikes	Child too young
a. (1)	(2)	(3)
b. (1)	(2)	(3)
c. (1)	(2)	(3)
d. (1)	(2)	(3)
e. (1)	(2)	(3)
f. (1)	(2)	(3)
g. (1)	(2)	(3)
h. (1)	(2)	(3)

7. Where does this child usually spend the day when the mother/mother substitute is away from the house?

- With mother/mother substitute _____ (1)
- At house compound _____ (2)
- Neighbor's house _____ (3)
- Other _____ (4)

PART III. Household question

8. How often does the household usually buy:

Item	> 1x/week	1-3x/month	< 1x/month	Never
a. Sugar	(1)	(2)	(3)	(4)
b. White salt	(1)	(2)	(3)	(4)
c. Veg. Oil	(1)	(2)	(3)	(4)
d. Maize flour	(1)	(2)	(3)	(4)
e. Biscuits	(1)	(2)	(3)	(4)

9. Does the household have access to a garden?

_____ (1) (2)
 Yes No

IF YES

9. A. What foods have been cultivated by the household since last Christmas?

9. B. Is there any left from what was grown?

	Yes	No	Yes	No
a. Maize	(1)	(2)	(1)	(2)
b. Sorghum/millet	(1)	(2)	(1)	(2)
c. 'DGLV' Foods	(1)	(2)	(1)	(2)
d. Other (specify)	(1)	(2)	(1)	(2)

9. C. Distance to garden from the household compound:

< 1 km _____ (1)
 1-4 km _____ (2)
 > 4 km _____ (3)

10. Have any children died in the household since last Christmas?

_____ (1) (2)
 Yes No

IF YES

10. A. Record number of children who died in each age group.

< 1 year _____
 1-5 years _____
 > 5 years _____

11. Who is providing this information?

- a. Name: _____
- b. Code: _____
- c. Relationship to this child:
 - Mother/father _____ (1)
 - Grandparent _____ (2)
 - Other adult _____ (3)

12. Person completing this form:

- a. Code: _____
- b. Team: _____

13. Date form completed: _____
 Day Month

bhl

I.4 LOWER SHIRE VALLEY SURVEY RESULTS

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LOWER SHIRE VALLEY
OCULAR DISEASE SURVEY

Report on Nutritional Status
and
General Morbidity

April 1985
Ministry of Health
Government of Malawi

Preface

The Lower Shire Valley Ocular Disease survey was conducted as the first phase of an integrated program for the prevention of blindness in this area of Malawi. Its primary objective was to provide baseline data on the magnitude of the problem, the principle causes of blindness and their geographic distribution within the valley. These data now serve as a reference for the design and ultimate evaluation of a series of both short-term and long-term interventions designed to reduce the toll of the three major blinding conditions: cataract, xerophthalmia, and trachoma.

This present report provides further description of the household and child characteristics of the survey population. This report is intended to provide background, cross-sectional data on demographic, socio-economic, nutritional and morbidity characteristics which can be utilized in the planning of health and nutrition programs for communities in the Lower Shire Valley.

Acknowledgments

The baseline survey was organized by the Ministry of Health of the Government of Malawi in collaboration with the International Eye Foundation, the International Center for Epidemiologic and Preventive Ophthalmology of The Johns Hopkins University, Helen Keller International, and the Royal Commonwealth Society for the Blind. Funding was provided in part by the collaborating organizations, the World Health Organization, International Business Machines, Inc., and the United States Agency for International Development.

This report was prepared under Cooperative Agreement No. 0267 between the International Center for Epidemiologic and Preventive Ophthalmology of the Johns Hopkins University and the Office of Nutrition, United States Agency for International Development.

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INTRODUCTION

The Lower Shire Valley Ocular Disease Survey was carried out from September through November, 1983. The Survey's specific objectives, design, methods, and resources utilized have been fully described in the Manual of Operations (1). Initial ocular disease prevalence rates by age, sex, and other demographic characteristics as well as dietary findings associated with xerophthalmia have been reported in the Lower Shire Valley Ocular Disease Survey Final Report (2) and Executive Summary (3).

This present report on nutritional status and general morbidity of children less than 6 years of age combines data derived from both the entire surveyed child population (N=5436) and a randomly selected 10% sub-sample of children (n=552) which received more intensive assessment for nutritional status (e.g., anthropometry). Whenever possible, throughout the report, data is provided for both the survey population and the random sub-sample in order to establish the representativeness of the latter group. The degree to which the sub-sample approximates the larger survey population on a wide variety of characteristics may be taken to reflect the degree to which the nutritional status of the sub-sample represents that of the larger sample. While some differences do exist between these groups largely due to sampling variation, the distributions of characteristics are sufficiently similar so that the nutritional status profiles presented here may be taken to represent the survey population.

PART 1

**Selected demographic and socio-economic
characteristics of the entire survey
population and the random sub-sample of
households and children.**

SUMMARY OF DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

Table 1-1 describes the age distributions of the survey and random sub-sample children. There was a slight under representation of infants less than one year of age in the sub-sample. Five-year-old children are uniformly underrepresented in both groups. This is likely to be due, in large part, to the difficulties of precise age determination among children five years of age and older. As seen in Table 1-2, a larger proportion of females than males were examined in both groups indicating a female preponderance among young children in the Lower Shire Valley.

Table 1-3 shows the distribution of households in which young children live, by the numbers of members within the household, for both groups. There was a slight tendency for sub-sample households to be larger than those of the general survey, the median household size being approximately six and five in members, respectively. Households with only one member are excluded from this table by definition. Table 1-4 indicates how the numbers of young children in a household vary by household size. The median number of children less than six years of age is two among households with four through ten members, although there is a clear shift toward more children in a household of increasing size. Eighty percent of all households have either one or two young children, while more than 75% of all children in this age group live in households in which three to seven members live.

Tables 1-5 and 1-6 describe age, education, and occupation characteristics of the heads of households. The head of household was defined as the adult member whom the respondent indicated as the primary economic supporter of the household, whether present or not during the

survey. Approximately 75% of all heads of households are over 30 years of age with slightly more than half ever having attended school. Despite the close proximity of the majority of communities in the valley to the Shire river, the vast majority of heads of households considered farming as their principle occupation, defined as the household-supporting task on which the head of the household worked most of the time. Table 1-7 shows that approximately 75% of all households own chickens. Less than half that proportion own any other type of animal with approximately 1/3 of the households owning goats, and some 10-20% owning cows or pigs. The distributions between the survey and random sub-sample on these various household characteristics are very similar.

TABLE 1-1

Age distributions of the survey population and the random sub-sample of children, less than six years of age, sexes combined, Lower Shire Valley, Malawi, 1983.

Age (years)	Survey		Random sub-sample	
	No.	%	No.	%
<1	1066	19.6	88	15.9
1	959	17.6	99	17.9
2	942	17.3	92	16.7
3	987	18.2	120	21.7
4	909	16.7	95	17.2
5	573	10.5	58	10.5
Total	5436	100.0	552	100.0

TABLE 1-2

Sex distribution of the survey population and the random sub-sample of children, less than six years of age, Lower Shire Valley, Malawi, 1983.

Number of children

Sex	Survey		Random sub-sample	
	No.	%	No.	%
Male	2597	48.0	255	46.4
Female	2818	52.0	295	53.6
Total	5415 ¹	100.0	550 ²	100.0

¹Excludes 21 missing values

²Excludes 2 missing values

TABLE 1-3

Distributions of households with children less than six years of age by household size, survey population and the random sub-sample, Lower Shire Valley, Malawi, 1983.

Household size (No. of members)	Survey		Random sub-sample	
	No.	%	No.	%
2	34	1.2	1	0.2
3	365	13.0	37	6.0
4	533	18.9	94	17.7
5	475	16.9	79	14.8
6	439	15.6	85	16.0
7	345	12.3	74	13.9
8	223	7.9	45	8.5
9	126	4.5	38	7.1
10	86	3.0	20	3.8
≥11	189	6.7	64	12.0
Total	2815 ¹	100.0	532 ²	100.0

¹Excludes 90 missing values

²Excludes 20 missing values

TABLE 1-4

Distribution of households with children less than six years of age¹ by household size and number of children, survey population, Lower Shire Valley, Malawi, 1983.

Household size (No. of members)	Numbers of children in a household						Total	%
	1	2	3	4	5	≥6		
2	32	1	0	0	0	0	33	1.2
3	335	28	0	2	0	0	365	13.0
4	243	281	7	1	0	0	532	18.9
5	178	246	51	0	1	0	476	16.9
6	137	232	67	4	0	0	440	15.6
7	86	170	74	16	0	0	346	12.3
8	43	98	66	14	1	0	222	7.9
9	19	53	32	20	2	0	126	4.5
10	13	32	26	10	5	0	86	3.0
11	11	21	18	14	3	0	67	2.4
12	4	6	14	12	5	3	44	1.5
≥13	7	10	12	24	10	15	78	2.8
Total	1108	1178	367	117	27	18	2815 ²	100.0
%	39.4	41.8	13.0	4.2	1.0	0.6	100.0	

¹Does not include households of 1 member

²Excludes 90 missing values

TABLE 1-5

Distributions of heads of households by age and proportion, whoever attended school, survey population and the random sub-sample of households, Lower Shire Valley, Malawi, 1983.

Number of heads of households

Characteristic of head of household	Survey		Random sub-sample	
	No.	%	No.	%
Age of head of household (years)				
≤ 30	799	25.6	131	23.7
> 30	2322	74.4	421	76.3
Total	3121	100.0	552	100.0
Schooling of head of household				
Ever	1736	55.8	319	57.9
Never	1374	44.2	232	42.1
Total	3110 ¹	100.0	551 ²	100.0

¹Excludes 11 missing values

²Excludes 1 missing value

TABLE 1-6

Distributions of major occupations of heads of households of the survey population and the random sub-sample of households, Lower Shire Valley, Malawi, 1983.

Occupation of head of household	Number of households		Random sub-sample	
	No.		No.	
Farmer	2553	82.0	435	78.9
Fisherman	172	5.5	34	6.2
Merchant	50	1.6	13	2.4
Other	340	10.9	69	12.5
Total	3115 ¹	100.0	551 ²	100.0

¹Excludes 6 missing values

²Excludes 1 missing value

TABLE 1-7

Distributions of households by types of animals owned, survey population and the random sub-sample, Lower Shire Valley, Malawi, 1983.

Number of households¹

Type of animal owned	Survey		Random sub-sample	
	No.	%	No.	%
Chickens	2300	73.8	417	75.8
Goats	979	31.4	204	37.0
Cows	510	16.4	115	20.9
Pigs	409	13.1	80	14.5

¹Each row number for both the entire survey and the random sample excludes between 1 to 4 missing values.

PART 2

Tables of nutritional status of
random sub-sample of children
less than six years of age,
Lower Shire Valley, Malawi, 1983

SUMMARY OF NUTRITIONAL STATUS

Anthropometric nutritional status was assessed among random sub-sample children less than six years of age by measuring weight on all children, recumbent length on children less than 24 months of age, and standing height on children 24 months of age or older. Complete weight and height or length data by age and sex are available for 537 of the 552 (97.3%) random sub-sample children. A missing value exists for 15 children on at least one of the preceding variables.

Anthropometric measurements were made by a trained public health nurse on each of the three field survey teams. Weight was measured on Salter spring scales which were suspended from a strong support (trees, wooden beams, etc.). All or most clothing and other artifacts were removed from the children who were then placed in a vinyl basket which was hung onto the scale. Weight was read to the nearest 0.1 kg. after the reading was stabilized. Length was measured with the child lying down on the horizontal board. The child's head was gently held in place by an assistant with the crown of the child's head touching the end of the board. Knees were kept straight and the sliding foot block was moved into place by the anthropometrist who read length to the nearest 0.1 cm. Height was measured in a standing position with the child's heels, buttocks, shoulder blades, and back of head touching the back of the board. The sliding block was then lowered to touch the child's head and height was read to the nearest 0.1cm. All length and height readings were taken three times with the average value recorded as the true value.

Child weight and length or height values were compared against the

reference growth curves for American children as published by the National Center for Health Statistics (4). This reference population has been used to provide a basis for international comparison and interpretation. Mean weight and length or height measurements by age and sex are also provided in this report to permit comparison with other reference populations. Derived indicators of nutritional status are: (a) percent of median weight for height to reflect current, acute wasting malnutrition; (b) percent of median height for age, to reflect chronic stunting malnutrition; and, (c) percent median weight for age, which is a composite indicator of protein energy status, reflecting both elements of wasting and stunting nutritional status.

Results

Tables 2-1 and 2-2 provide a summary of combined wasting and stunting malnutrition for both sexes combined and separately. The prevalence of moderate to severe wasting (less than 80% weight for height) was 2.8%. The prevalence of moderate to severe stunting (less than 90% height for age) was 22.3% with 1.3% of the children exhibiting combined moderate to severe wasting and stunting. Unexpectedly, there is a tendency for boys to be both more wasted and stunted than girls (5.4% vs. 2.1% and 26.1% vs. 19.1%, respectively).

Nutritional status is broken down by age in Tables 2-3 through 2-7, by age and male status in Tables 2-8 through 2-12 and by age and female status in Tables 2-13 through 2-17. Each subset of tables presents the specified data in the same format; that is the first two tables describe mean weight and length or height distributions by age, and the following three tables present the distributions of mean percent weight for

height, height for age, and weight for age. Standard errors of the mean (x) and standard deviations are given for each age group on each table.

Tables 2-5, 2-10, and 2-15 indicate that the average weight for height status of children is quite acceptable and does not vary by age. The slight tendency for females to be better nourished than males is reflected by five of the six mean weight for height values being greater among girls.

Tables 2-6, 2-11, and 2-16 show a tendency for children to become relatively more stunted with age, the most noticeable departure from the median occurring during the second year of life. Boys are consistently more stunted, on average, than girls at each age group.

The effects of primarily mild to moderate stunting on weight for age can be observed in Tables 2-7, 2-12, and 2-17. Percent of a median weight for age is the nutritional status indicator used to assess children in most under five clinics since the "Under Five Card" is essentially a record of weight for age. These tables indicate a progressive decline in percent weight for age as children get older. The decline is more evident in boys, and most dramatic among boys one year of age (Table 2-12).

Table 2-18 examines the relationship between wasting malnutrition and distance of the village from the local river, either the Shire river or one of its tributaries. This aspect was explored because of the tendency for trachoma and Bitot's spots to increase with distance from the river. No consistent association is observed. The most well-nourished segment of the population appears to reside between 2 to 4 kilometers

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from the river which generally corresponds to the communities closest to the major trunk road throughout much of the valley.

TABLE 2-1

Waterlow classification of nutritional status by percent of NCHS median weight for height and height for age, sexes combined, for children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent weight for height	Percent height for age			Total
	≥ 95%	94-90%	< 90%	
≥ 100%	95 (17.7)	74 (13.8)	44 (8.2)	213 (39.7)
99 - 90%	91 (17.0)	89 (16.6)	45 (8.4)	225 (41.9)
89 - 80%	29 (5.4)	31 (5.8)	24 (4.5)	64 (11.9)
< 80%	3 (0.6)	5 (0.9)	7 (1.3)	15 (2.8)
Total	218 (40.6)	199 (37.1)	120 (22.3)	537 (100.0) ¹

¹Excludes 15 missing values

TABLE 2-2

Waterlow classification of nutritional status by percent of NCHS median weight for height and height for age, by sex, for children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

MALE

Percent median height for age

Percent median weight for height	≥ 95%	94-90%	<90%	Total
≥ 100%	33 (13.3)	36 (14.5)	22 (8.8)	91 (38.8)
99 - 90%	39 (15.7)	39 (15.7)	26 (10.4)	104 (39.8)
89 - 80%	14 (5.6)	17 (6.8)	14 (5.6)	45 (16.0)
< 80%	2 (0.8)	4 (1.6)	3 (1.2)	9 (5.4)
Total	88 (35.3)	96 (38.6)	52 (26.1)	249 (100.0)

FEMALE

Percent median height for age

Percent median weight for height	≥ 95%	94-90%	< 90%	Total
≥ 100%	62 (21.5)	38 (13.2)	22 (7.6)	122 (42.4)
99 - 90%	52 (18.1)	50 (17.4)	19 (6.6)	121 (42.0)
89 - 80%	15 (5.2)	14 (4.9)	10 (3.5)	39 (13.5)
< 80%	1 (0.4)	1 (0.4)	4 (1.4)	6 (2.1)
Total	130 (45.1)	103 (35.8)	55 (19.1)	288 (100.0)

TABLE 2-3

Weight status by age, sexes combined, for children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Age (years)	Weight (kg)			
	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	88	6.39	0.20	1.91
1	96	8.94	0.15	1.44
2	91	11.57	0.19	1.79
3	118	13.13	0.18	2.00
4	94	15.28	0.26	2.49
5	58	16.33	0.26	2.00

TABLE 2-4

Length or height status by age, sexes combined, for children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Length or height (cm)				
Age (years)	Number	Mean (\bar{X})	Standard error of \bar{X}	Standard deviation
<1	87	62.36 ¹	0.82	7.63
1	98	74.84 ¹	0.52	5.13
2	92	83.46	1.01	9.71
3	120	90.40	0.54	5.92
4	95	98.70	0.79	7.74
5	58	103.59	0.67	5.10

¹Length was measured on children less than 2 years of age.

TABLE 2-5

Percent NCHS median weight for height status by age, sexes combined, for children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent median weight for height

Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	83	101.83	1.20	10.92
1	94	93.15	0.95	9.24
2	90	97.52	1.07	10.11
3	118	99.39	0.92	10.02
4	94	99.44	1.00	9.60
5	58	98.32	0.97	7.35

TABLE 2-6

Percent NCHS median height for age status by age, sexes combined, for children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent median height for age

Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	86	96.49	0.65	6.02
1	97	93.11	0.47	4.67
2	92	93.48	1.09	10.50
3	120	92.65	0.52	5.73
4	95	93.51	0.70	6.81
5	58	92.91	0.58	4.38

TABLE 2-7

Percent NCHS median weight for age status by age, sexes combined, for children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent median weight for age

Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	87	93.07	1.71	15.96
1	95	82.20	1.14	11.11
2	91	88.23	1.29	12.29
3	118	86.82	1.14	12.39
4	94	88.74	1.41	13.67
5	58	86.66	1.41	10.77

TABLE 2-8

Weight status by age, for male children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Age (years)	Weight (kg)			
	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	42	6.31	0.29	1.90
1	42	9.00	0.24	1.57
2	42	11.51	0.29	1.88
3	45	13.33	0.35	2.33
4	52	15.43	0.35	2.54
5	29	16.21	0.36	1.95

TABLE 2-9

Length or height status by age, for male children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Length or height (cm)				
Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	41	62.41 ¹	1.20	7.69
1	43	74.72 ¹	0.68	4.40
2	43	82.29	2.00	13.15
3	47	90.36	0.88	6.01
4	52	98.42	1.14	8.24
5	29	103.64	0.94	5.05

¹Length was measured on children less than 2 years of age.

TABLE 2-10

Percent NCHS median weight for height status by age, for male children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent median weight for height

Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	40	99.2	1.8	11.5
1	42	92.5	1.6	10.2
2	41	96.1	1.7	10.6
3	45	99.3	1.5	10.2
4	52	100.1	1.5	10.7
5	29	96.3	1.2	6.4

TABLE 2-11

Percent NCHS median height for age status by age, among male children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent height for age

Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	41	96.4	0.9	5.6
1	43	92.1	0.6	4.2
2	43	91.6	2.1	14.0
3	47	91.9	0.8	5.8
4	52	92.6	1.0	7.2
5	29	92.4	0.8	4.4

TABLE 2-12

Percent NCHS median weight for age status by age, for male children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent weight for age

Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	42	91.1	2.5	16.0
1	42	80.1	1.8	11.4
2	42	85.8	1.8	11.8
3	45	85.8	2.1	14.1
4	52	87.7	1.9	13.4
5	29	83.8	1.9	10.0

TABLE 2-13

Weight status by age, for female children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Age (years)	Number	Weight (kg)		
		Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	45	6.46	0.29	1.96
1	53	8.87	0.19	1.35
2	49	11.62	0.25	1.73
3	73	13.00	0.20	1.74
4	47	15.08	0.37	2.43
5	29	16.45	0.39	2.08

TABLE 2-14

Length or height status by age, for female children less
less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Length or height (cm)				
Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	45	62.28 ¹	1.15	7.75
1	54	74.82 ¹	0.77	5.65
2	49	84.50	0.72	5.01
3	73	90.43	0.69	5.91
4	43	99.05	1.10	7.18
5	29	103.54	0.97	5.23

¹Length was measured on children less than 2 years of age.

TABLE 2-15

Percent NCHS median weight for height status by age for female children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent median weight for height

Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	43	104.3	1.5	9.8
1	52	93.7	1.2	8.5
2	49	98.7	1.4	9.6
3	73	99.4	1.2	10.0
4	42	98.7	1.2	8.0
5	29	100.3	1.5	7.8

TABLE 2-16

Percent NCHS median height for age status by age, for female children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent median height for age

Age (years)	Number	Mean (\bar{X})	Standard error of \bar{X}	Standard deviation
<1	45	96.5	1.0	6.5
1	54	93.9	0.7	4.9
2	49	95.1	0.8	5.5
3	73	93.1	0.7	5.7
4	43	94.6	0.9	6.2
5	29	93.4	0.8	4.4

TABLE 2-17

Percent NCHS median weight for age status by age, for female children less than 6 years of age, Lower Shire Valley, Malawi, 1983.

Percent weight for age

Age (years)	Number	Mean (\bar{x})	Standard error of \bar{x}	Standard deviation
<1	45	94.9	2.4	15.9
1	53	83.8	1.5	10.7
2	49	90.3	1.8	12.4
3	73	87.4	1.3	11.3
4	42	90.1	2.2	14.0
5	29	89.6	2.0	11.0

TABLE 2-18

Percent of NCHS median weight for height status by distance from the nearest river, children less than six years of age, random subsample, Lower Shire Valley, Malawi, 1983.

Distance from river (km)	No.	Percent median weight for height							
		≥ 100%		99-90%		89-80%		< 80%	
		n	%	n	%	n	%	n	%
≤1	157	58	36.9	71	45.2	21	13.4	7	4.5
2-4	109	55	50.5	37	33.9	15	13.8	2	1.8
≥5	271	100	36.9	117	43.2	48	17.7	6	2.2
Total	537 ¹	213	39.7	225	41.9	84	15.6	15	2.8

¹Excludes 15 missing values

PART 3

General morbidity patterns among
children less than 6 years of age
in the entire survey population and
the random sub-sample.

SUMMARY OF GENERAL MORBIDITY PATTERNS

Childhood morbidity was assessed by inquiring about the presence or absence of diarrhea, fever, or cough during the previous seven days. A history for diarrhea was considered positive if the child reportedly had four or more loose stools during at least one day during this period. In addition, children attending the central sight were examined for the presence of a measles rash, and parents of children were asked if a child had ever had measles.

The one week period prevalence of diarrhea fever, and cough by age among both survey and sub-sample groups are given in Tables 3-1, 3-2, and 3-3. The prevalence of diarrhea is highest among infants and children one year of age, which then steadily declines after the second year of life. Similarly, the prevalence fever is highest during the first two years of life, with approximately half of all surveyed children under two years of age reporting to have had fever during the previous week. Thereafter, a decline in the prevalence of fever is observed but is less dramatic than that seen with diarrhea. Approximately 30-40% of children less than six years of age report coughing symptoms irrespective of age. Taken together, these data indicate a substantial burden of morbidity among young children in the Lower Shire Valley.

The prevalence of measles was extremely low during the survey, with less than 0.1% of the children presenting with a rash (Table 3-4). The proportions of children reported to have ever had measles by age are given in Table 3-5. Very few infants have had measles but the proportion increases markedly during the second year of life. By age five years, between 35 and 40% of the children have reported to have had

measles. This is most certainly an underestimate since only children who survive measles were included in the survey.

TABLE 3-1

Age-specific one week period prevalence of diarrhea, children less than 6 years of age, survey population and random sub-sample, Lower Shire Valley, Malawi, 1983.

Age (years)	Survey			Random sub-sample		
	No.	n	%	No.	n	%
<1	1067	268	25.1	88	18	31.8
1	957	237	24.8	98	22	22.5
2	943	152	16.1	92	13	14.1
3	987	111	11.1	120	13	10.8
4	908	57	6.3	95	5	5.3
5	570	49	8.6	58	2	3.5
Total	5432	874	16.1	551	83	15.1

TABLE 3-2

Age-specific one week period prevalence of fever, among children less than 6 years of age, survey population and the random sub-sample, Lower Shire Valley, Malawi, 1983.

Age (years)	Fever			Fever		
	Survey			Random sub-sample		
	No.	n	%	No.	n	%
<1	1067	526	49.3	88	41	46.6
1	937	489	51.1	98	56	57.1
2	941	388	41.2	92	36	39.1
3	987	379	38.4	120	54	45.0
4	908	321	35.4	95	34	35.8
5	569	199	35.0	58	16	27.6
Total	5429	2302	42.4	551	137	43.0

TABLE 3-3

Age-specific one week period prevalence of cough, children less than 6 years of age, survey population and random sub-sample, Lower Shire Valley, Malawi, 1983.

Age (years)	Cough			Cough		
	Survey			Random sub-sample		
	No.	n	%	No.	n	%
<1	1065	428	40.2	551	201	36.5
1	957	366	38.2	98	38	38.8
2	942	312	33.1	92	35	38.0
3	987	317	32.1	120	41	34.2
4	908	292	32.2	95	36	37.9
5	568	162	28.5	58	15	25.9
Total	5427	1877	34.6	551	201	36.5

TABLE 3-4

Age-specific prevalence of measles rash at time of examination, survey children less than 6 years of age, by sex, Lower Shire Valley, Malawi, 1983.

Age (years)	<u>Measles</u>								
	Male			Female			Total		
	No.	n	%	No.	n	%	No.	n	%
<1	507	0	0.0	546	0	0.0	1061	0	0.0
1	455	1	0.22	492	0	0.0	952	1	0.11
2	478	1	0.23	508	2	0.39	939	3	0.32
3	484	0	0.0	493	0	0.0	980	0	0.0
4	429	0	0.0	478	0	0.0	907	0	0.0
5	282	1	0.35	289	0	0.0	573	1	0.17
Total	2585 ¹	3	0.12	2806 ¹	2	0.07	5412 ²	5	0.09

¹Excludes 21 missing values for sex which are included in the "Total"

²Excludes 24 missing values for measles diagnosis

TABLE 3-5

Age-specific distribution of children less than 6 years of age who have ever had measles, survey population and the random sub-sample, Lower Shire Valley, Malawi, 1983.

Age (years)	<u>Ever had measles</u>			Random sub-sample		
	Survey No.	n	%	No.	n	%
<1	1065	13	1.2	88	1	1.1
1	958	128	13.4	97	15	15.5
2	943	155	16.4	92	18	19.6
3	986	226	22.9	120	30	25.0
4	907	227	25.0	95	30	31.6
5	570	198	34.7	58	24	41.4
Total	5432	947	17.4	550	118	21.5

REFERENCES

1. Lower Shire Valley Eye Disease Survey, Manual of Operations, Ministry of Health, Government of Malawi, 1983.
2. Lower Shire Valley Ocular Disease Survey, Final Report, Ministry of Health, Government of Malawi, 1984.
3. Lower Shire Valley Ocular Disease Survey, Executive Summary, Ministry of Health, Government of Malawi, 1984.
4. Hamill PVV. Drizid TA, Johnson CL, Reed RB. Roche AF. NCHS Growth Curves for Children Birth -18 Years, DHEW Publication No. (PHS) 78-1650, U.S. Department of Health, Education and Welfare, Public Health Service, National Center for Health Statistics, November, 1977.

Appendix J

SUMMARY FINANCIAL STATEMENT

INTERNATIONAL EYE FOUNDATION

MATCHING GRANT NUMBER PDC-0174-G-SS-1102-00

1981 - 1985

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DETAILS OF MATCHING GRANT EXPENDITURES

U.S.A.I.D. / I.E.F.

1981 - 1985

COUNTRY	MATCHING GRANT (U.S.A.I.D.)					MATCHING GRANT (I.E.F.)				
	81-82	82-83	83-84	84-85	TOTAL	81-82	82-83	83-84	84-85	TOTAL
Egypt	7,119.56	15,372.25	4,801.38	0	27,293.19	1,465.39	6,218.11	9.12	0	7,692.62
Guinea	18,944.17	62,772.68	38,665.21	4,587.00	124,969.06	24,671.46	42,045.37	7,418.07	1,131.34	75,266.24
Haiti	6,871.16	0	0	0	6,871.16	1,730.45	0	0	0	1,730.45
Honduras	10,007.17	20,654.62	3,214.00	39,320.92	73,196.71	14,875.23	11,774.16	10,796.36	22,055.40	59,501.15
Malawi	21,656.36	94,989.68	114,322.89	161,453.20	392,422.13	25,460.62	17,467.66	52,754.18	5,118.82	100,801.28
Puerto Rico	6,924.13	0	0	0	6,924.13	14,563.17	27,084.13	41,854.07	30,701.19	114,202.56
Kenya	0	0	38,322.77	56,950.04	95,272.81	0	0	27,191.05	65,914.74	93,105.79
St. Lucia	0	0	29,548.12	47,671.03	77,219.15	0	0	52,881.89	20,983.20	73,865.09
Bethesda *	14,523.93	37,322.48	43,985.25	0	95,831.66	42,293.46	72,742.53	114,686.70	157,876.06	387,598.75
TOTAL	86,046.48	231,111.71	272,859.62	309,982.19	900,000.00	125,059.78	177,331.96	307,591.44	303,780.75	913,763.93

* During the first three years of this grant, all G.& A. expenditures were charged to Bethesda. Starting in 1984-85, when computerized accounting procedures were instituted, allocations of G.& A. expenditures were made on a country-by-country basis.

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Appendix K

AUDITED STATEMENT OF ACCOUNTS

INTERNATIONAL EYE FOUNDATION

FISCAL YEAR 1984 - 1985

INTERNATIONAL EYE FOUNDATION

FINANCIAL STATEMENTS AND INDEPENDENT AUDITORS' REPORT

JUNE 30, 1985

INTERNATIONAL EYE FOUNDATION

FINANCIAL STATEMENTS

JUNE 30, 1985

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THOMAS HAVEY & CO.

CERTIFIED PUBLIC ACCOUNTANTS

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INDEPENDENT AUDITORS' REPORT

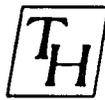
To the Board of Directors of
International Eye Foundation
Bethesda, Maryland

We have examined the balance sheet of International Eye Foundation as of June 30, 1985 and the related statements of revenue, expenses and changes in fund balances and of functional expenses for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements referred to above present fairly the financial position of International Eye Foundation as of June 30, 1985, and the results of its operations and changes in fund balances for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Thomas Havey & Co.

August 14, 1985



THOMAS HAVEY & CO.

CERTIFIED PUBLIC ACCOUNTANTS

4301 Connecticut Avenue N.W., Washington, D.C. 20008 • 202/966-6602

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INDEPENDENT AUDITORS' REPORT

To the Board of Directors of
International Eye Foundation
Bethesda, Maryland

We have examined the balance sheet of International Eye Foundation as of June 30, 1985 and the related statements of revenue, expenses and changes in fund balances and of functional expenses for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements referred to above present fairly the financial position of International Eye Foundation as of June 30, 1985, and the results of its operations and changes in fund balances for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

August 14, 1985

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INTERNATIONAL EYE FOUNDATIONBALANCE SHEETJUNE 30, 1985

	<u>Unrestricted Fund</u>	<u>Restricted Funds</u>	<u>Total</u>
<u>ASSETS</u>			
Current assets:			
Cash in checking accounts	\$ 101,537	\$ 74,597	\$ 176,134
Cash in interest-bearing accounts	329,989	270,769	600,758
Marketable securities (market value - \$61,914) (Note 1c)	55,146	-	55,146
Interfund receivables (payables)	18,718	(18,718)	-
Accrued interest receivable	-	12,756	12,756
Miscellaneous receivables	24,186	-	24,186
Prepaid expenses	11,223	-	11,223
Total current assets	<u>540,799</u>	<u>339,404</u>	<u>880,203</u>
Fixed assets:			
Vehicles	19,000	-	19,000
Office furniture and equipment	39,328	-	39,328
	<u>58,328</u>	<u>-</u>	<u>58,328</u>
Less: Accumulated depreciation	(31,270)	-	(31,270)
Net fixed assets (Note 1d)	<u>27,058</u>	<u>-</u>	<u>27,058</u>
Other assets:			
Inventory of donated medical supplies (Note 6)	310,935	-	310,935
Rental real estate (Note 3)	120,000	-	120,000
Mortgage notes receivable	-	181,533	181,533
Deposits	1,782	-	1,782
Total other assets	<u>432,717</u>	<u>181,533</u>	<u>614,250</u>
Total assets	<u>\$ 1,000,574</u>	<u>\$ 520,937</u>	<u>\$ 1,521,511</u>
<u>LIABILITIES AND FUND BALANCES</u>			
Current liabilities:			
Accounts payable	\$ 66,429	\$ -	\$ 66,429
Deferred income	3,150	-	3,150
Due to Agency for International Development - net (Notes 1b and 2)	-	77,023	77,023
Unexpended endowment fund income	-	57,315	57,315
Total current liabilities	<u>69,579</u>	<u>134,338</u>	<u>203,917</u>
Fund balances:			
Unrestricted fund balance	930,995	-	930,995
The William M. and Ramona N. Carrigan Endowment Fund for Restoring Sight in Latin America	-	386,599	386,599
Total fund balances - Exhibit "B"	<u>930,995</u>	<u>386,599</u>	<u>1,317,594</u>
Total liabilities and fund balances	<u>\$ 1,000,574</u>	<u>\$ 520,937</u>	<u>\$ 1,521,511</u>

See accompanying notes to financial statements.

INTERNATIONAL EYE FOUNDATIONSTATEMENT OF REVENUE, EXPENSES AND CHANGES IN FUND BALANCESYEAR ENDED JUNE 30, 1985

	<u>Unrestricted Fund</u>	<u>Restricted Funds</u>	<u>Total</u>
Public support and revenue:			
Public support:			
Received directly:			
Contributions and grants	\$ 340,755	\$ 80,079	\$ 420,834
Donated medical supplies (Note 6)	2,981,273	-	2,981,273
Fund raising events - net of direct expenses of \$43,215	30,336	-	30,336
Total received directly	<u>3,352,364</u>	<u>80,079</u>	<u>3,432,443</u>
Received indirectly:			
Allocated by the International Service Agencies	103,226	-	103,226
Total public support	<u>3,455,590</u>	<u>80,079</u>	<u>3,535,669</u>
Grants from governmental agencies	-	1,000,655	1,000,655
Other revenue:			
Dues	9,322	-	9,322
Rental income (Note 3)	7,492	-	7,492
Interest and dividends	30,822	-	30,822
Endowment income expended (Note 1b)	-	41,402	41,402
Miscellaneous	5,993	-	5,993
Total other revenue	<u>53,629</u>	<u>41,402</u>	<u>95,031</u>
Total public support and revenue	<u>3,509,219</u>	<u>1,122,136</u>	<u>4,631,355</u>
Expenses - Exhibit "C":			
Program services:			
Operational programs	3,126,164	1,042,057	4,168,221
Supporting services:			
General and administrative	79,613	-	79,613
Fund raising	95,111	-	95,111
Total supporting services	<u>174,724</u>	<u>-</u>	<u>174,724</u>
Total expenses	<u>3,300,888</u>	<u>1,042,057</u>	<u>4,342,945</u>
Excess of public support and revenue over expenses	208,331	80,079	288,410
Fund balance at beginning of year	722,664	306,520	1,029,184
Fund balance at end of year	<u>\$ 930,995</u>	<u>\$ 386,599</u>	<u>\$ 1,317,594</u>

See accompanying notes to financial statements.

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INTERNATIONAL EYE FOUNDATION
STATEMENT OF FUNCTIONAL EXPENSES
YEAR ENDED JUNE 30, 1985

	<u>Program Services</u>		<u>Supporting Services</u>		<u>Total Expenses</u>
	<u>Operational Programs</u>	<u>General and Administrative</u>	<u>Fund Raising</u>		
Salaries	\$ 386,711	\$ 121,928	\$ 37,994	\$ 546,633	
Payroll taxes	15,072	8,551	2,282	25,905	
Retirement plan contributions (Note 5)	31,381	9,938	2,716	44,035	
Other employee fringe benefits	27,388	10,368	2,106	39,862	
Temporary help	5,815	809	183	6,807	
Consultants	45,262	570	5,118	50,950	
Professional fees	1,947	9,031	10,137	21,115	
Stipends and fellowships	98,650	-	-	98,650	
Medical supplies and equipment (Note 6)	3,050,786	-	-	3,050,786	
Equipment rent and maintenance	19,619	3,440	-	23,059	
Office supplies and expense	11,574	5,922	8,333	25,829	
Telephone	3,898	6,936	89	10,923	
Postage, shipping and storage	38,667	4,878	-	43,545	
Teaching materials and training	114,383	-	-	114,383	
Rents	13,681	28,980	-	42,661	
Insurance	6,780	6,273	64	13,117	
Books, publications, dues and registration fees	2,476	5,772	11	8,259	
Travel, project per diems and medical meetings	107,972	8,451	7,716	124,139	
Membership dues - International Service Agencies	-	-	10,000	10,000	
Depreciation (Note 1d)	-	3,468	-	3,468	
Surveys and evaluations	5,276	-	-	5,276	
Vehicle purchases and expenses	28,499	-	-	28,499	
Miscellaneous	265	1,584	3,195	5,044	
Allocation of general and administrative costs	152,119	(157,286)	5,167	-	
Totals	<u>\$ 4,168,221</u>	<u>\$ 79,613</u>	<u>\$ 95,111</u>	<u>\$ 4,342,945</u>	

See accompanying notes to financial statements.

INTERNATIONAL EYE FOUNDATION

NOTES TO FINANCIAL STATEMENTS

JUNE 30, 1985

Note 1. Summary of Significant Accounting Policies

- a. Method of Accounting - The financial statements have been prepared using the accrual basis of accounting.
- b. Restricted Funds - Restricted grant and contract funds are reported as revenue and expenses when expended. Funds received prior to being expended are reported as a liability on the balance sheet until expended (see Note 2). Endowment fund income restricted for specific programs is also reported as revenue and expenses when expended.
- c. Marketable Securities - Marketable securities are recorded at cost or, in case of securities received as gifts, at the fair market value at the date of donation.
- d. Fixed Assets - Fixed assets are recorded at cost in the Unrestricted Fund and depreciation is computed on the straight-line method at rates calculated to prorate the cost over the estimated useful lives, which are three years for vehicles and ten years for office furniture and equipment. Fixed assets purchased with restricted grant funds are charged as an expense of the grant when purchased. If the fixed assets are to become the property of the Foundation upon the completion of the grant, the asset is also capitalized in the Unrestricted Fund and depreciated as stated above.

Note 2. A.I.D. Grants

The Agency for International Development (A.I.D.) has made several grants to the International Eye Foundation so that the Foundation can continue to provide American ophthalmological technology and surgical, medical and educational expertise to selected countries that have a high prevalence of eye disease and a shortage of trained medical personnel necessary to provide prevention, treatment and training.

A summary of the activity in the A.I.D. grants during the year ended June 30, 1985 follows:

	Due to (From) A.I.D. at 6/30/84	Grant Receipts	Grant Expenditures	Due to (From) A.I.D. at 6/30/85
Core Grant II	\$ 7,729	\$ -	\$ -	\$ 7,729
Matching Grant	1,829	300,000	301,829	-
Dominican Republic Operational Pro- gram Grant	18,009	176,060	193,131	938
Egypt Program	32,627	115,598	136,417	11,808
Caribbean Eye Care Program	826	105,000	78,465	27,361
Guinea Integrated Eye Health Project	-	150,000	143,146	6,854
Grenada Blindness Prevention and Treatment Project	-	170,000	147,667	22,333
Total	<u>\$ 61,020</u>	<u>\$ 1,016,658</u>	<u>\$ 1,000,655</u>	<u>\$ 77,023</u>

Core Grant II - The period of performance for this grant expired August 28, 1981. The amount of \$7,729 remains due to A.I.D.

Matching Grant - Under the grant, the Foundation was to survey the extent and causes of blindness, plan and design effective systems for delivery of eye care, and provide training for the treatment of eye diseases in Honduras, Haiti, Guinea, Malawi, Egypt, Puerto Rico, and the Ivory Coast. A.I.D. has agreed to match amounts spent by the Foundation for these services. The total grant of \$900,000 was to cover a four-year period which began July 1, 1981. As of June 30, 1985, an aggregate of \$1,804,611 had been expended on this project, of which \$900,000 was provided by this grant.

Dominican Republic Operational Program Grant - Under this grant, the Foundation is to provide training to improve the capacity of the Government of Dominican Republic health personnel to provide health care services. The grant covers a period from August 19, 1982 through September 30, 1985. The total grant is \$415,000 of which \$397,385 has been received and \$396,447 has been expended as of June 30, 1985.

Egypt Program - Under this grant, the Foundation is to assist the Egyptian Ministry of Health in upgrading the eye health care capability of physicians, paramedical health care workers and other identifiable sources. The Program will design and promote preventive and therapeutic eye health care programs. The grant covers a period from June 15, 1983 through September 30, 1985. The total grant is \$309,405 (an additional amount is provided in local currency to the Foundation's field office and total funding is subject to the availability of funds at A.I.D.). As of June 30, 1985, \$403,947 has been received (including \$94,542 received by the field office) and the program has incurred expenses of \$392,139.

Caribbean Eye Care Program - Under this grant, the Foundation is to provide an adequate level of eye care services to selected Caribbean countries and training to various health personnel of these countries as intermediate eye care specialists and assistants. The grant covers a period from July 1, 1983 through June 30, 1986. The total grant is \$250,000 of which \$130,000 has been received and \$102,639 has been expended as of June 30, 1985.

Guinea Integrated Eye Health Project - Under this \$150,000 grant, the Foundation is to assist the Government of Guinea to complete an eye clinic which will serve as the tertiary care facility and training center for health workers in prevention of blindness activities. The grant expires September 30, 1985. Through June 30, 1985, \$143,146 had been expended.

Grenada Blindness Prevention and Treatment Project - The purpose of this grant is to assist the Government of Grenada in the provision of preventive and curative eye health services throughout Grenada. The grant is for \$400,000 and covers the period from June 30, 1984 to December 31, 1987. As of June 30, 1985, \$147,667 had been expended.

Note 3. Rental Real Estate

In January, 1970 the Foundation received a donation of land located on River Road in Montgomery County, Maryland. The land was recorded at its fair market value at that time based on a lease agreement under which the lessee had an option to buy the property in 1972 for \$120,000.

Note 4. Income Taxes

The Foundation is exempt from Federal income taxes under Section 501(c)(3) of the Internal Revenue Code.

Note 5. Pension Plan

The Foundation has a pension plan to provide retirement benefits for employees who have met the length of service and age requirements. The plan is a defined contribution trustee plan. The contribution to the plan is based upon specific percentages of salaries.

Note 6. Donated Medical Supplies

The Foundation has received contributions in the form of medical supplies to be used in various eye care programs. The donated supplies are recorded at the fair market value established by the donors at the time of the gift. A total of \$117,332 of medical supplies were on hand at June 30, 1984. In addition, medical supplies in the amount of \$2,981,273 were received during the year ended June 30, 1985. Of these supplies, \$310,935 were on hand at June 30, 1985 and \$2,787,670 is included as expenses (medical supplies and equipment) on Exhibit "C". The inventory at June 30, 1985 consists of contact lenses, eye sutures, cataract glasses and other miscellaneous medical supplies which have been restricted for use only for charitable purposes in the Foundation's various eye programs, and cannot be sold or exchanged for property or services.

Note 7. Lease Commitment

The Foundation has entered into a lease for office space which requires monthly lease payments of \$2,415 until the lease expires on October 31, 1986.

Appendix L

ANNUAL REPORT, 1984-1985

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If you restore the sight of one man,
you benefit one man.
If you teach one man how to restore sight,
you benefit many men.
And if you teach many men,
you benefit mankind.

Annual Report 1984-1985

Next year the International Eye Foundation will celebrate the twenty-fifth anniversary of its founding: 25 years devoted to the fight against preventable and curable blindness and eye disease. This may not seem like much when placed on a scale of time; in fact, 25 years is little more than a "drop in the bucket" in these terms. Yet, when we stop to think of the accomplishments of the past 24 years since the IEF was founded, they take on added significance.

When the IEF was started in 1961, many people probably thought our goals were quixotic, if not impossible. "The promotion of peace through the prevention and cure of blindness world-wide" is, on reflection, an ambitious goal. Superficially, at least, it may seem that progress has been limited; the world is certainly not a very peaceful place. One need only take a quick look at the newspapers every day to have that confirmed. On the other hand, the world is a smaller place today than it was 24 years ago. Hong Kong, the recipient of the IEF's first teaching program in 1961 is now only as far away as the telephone on my desk; Kenya, the site of the IEF's first major program in the prevention of blindness, is less than 24 hours away by air. Twenty four years ago most people never went beyond their figurative "back yards." Today, most people are from somewhere else and our view of the world is increasingly global in scope. This increased exposure to new and different places and people can't help but improve our understanding of the world and foster the "promotion of peace." It is a slow process, to be sure, but progress is being made.

What, you might ask, does this all have to do with the International Eye Foundation? Over the past twenty four years, the IEF has provided assistance to nearly 60 countries. This has involved direct "people to people" contact between our outstanding field personnel and the people of the countries assisted. One of our staff members once remarked that he sometimes wondered whether he might not be benefitting more from his work than those receiving his assistance. He went on to say that through his work his perceptions of the world had changed and expanded dramatically, giving him a new appreciation for foreign peoples and places. Surely, I think, this must also be true for the cataract patient in Africa whose first view after surgery is of the IEF surgeon who has given the precious gift of sight, and for the health worker who helps his or her people prevent the scourge of blindness after training by one of the IEF's dedicated professionals.

Over the years, millions have benefitted from the IEF's programs. Undoubtedly in the years to come, with the on-going support of the IEF's friends, millions more will benefit. Thus, progress toward our goal of "the promotion of peace through the prevention and cure of blindness world-wide" will continue. That progress would not be possible without your support, for which we, and those who benefit from the IEF's programs, are deeply grateful.



John Harry King, Jr.
Founder and Executive Medical Director

Message From the Executive Medical Director



Report from the President and Executive Director



*John R. Babson
President & Executive Director*

The past year has been a busy one: a period of growth and development for the Foundation and our many programs. Specific details of our programs and activities will be presented elsewhere in this report; for now, I would like to present some of the highlights of the past year.

A good portion of the year was devoted to developing a major new initiative in Malawi. This program, which focuses on a variety of interventions designed to reduce blindness and at the same time, reduce childhood mortality in the country's Lower Shire Valley, will be launched this fall. To my mind, this project represents all the best aspects of the IEF's programs of assistance. It is a collaborative effort, based on the IEF's traditional program philosophy of "helping others to help themselves." Our primary partner in this initiative will be the Government of Malawi, which has committed both personnel and material resources; funding has been obtained from a combination of public and private sources; an excellent professional staff has been recruited; and our efforts will be enhanced by collaboration with a number of other private, voluntary agencies, including Helen Keller International, Johns Hopkins University, the Royal Commonwealth Society for the Blind, and the Rotary Club of Blantyre. Working together, I am confident that our goals can be reached in Malawi.

In another area, the IEF also started to examine the problem of onchocerciasis, or "river blindness," a major cause of blindness among people living along the Volta River Basin in West Africa. Discussions of the problem and possible IEF contributions to its solution have been initiated with the World Health Organization Onchocerciasis Control Program, Ministries of Health in several West African Nations, and a major pharmaceutical corporation which has developed a promising new drug for the control of this previously untreatable disease. It is hoped that these discussions will lead to the development of several new programs over the coming year.

In September, work was completed on a short documentary film about the IEF and its programs. In this effort, we were quite fortunate to have the assistance and narrative skills of Mr. John Charles Daly, the well-known television personality. Subsequently, Mr. Daly has been a welcome addition to our Board of Directors. The film is intended for use in our fund raising and public information efforts and has been highly praised by those who have had the opportunity to view it. This is the IEF's first use of film for this purpose.

Early in the year we began the process of applying for a renewal of our matching grant with the Agency for International Development. Under this grant, we have been able to match, dollar for dollar, donations for our programs in St. Lucia, Honduras, Puerto Rico, Kenya, Malawi, and Guinea. The new matching grant, only recently approved, presents a continuing challenge to our friends and supporters who, we hope, will help us "make" the match.

The capabilities of our headquarters staff to deal effectively with ongoing programs and the development of new ones has been greatly enhanced by the addition of Dr. Marilyn Mayers to our staff. Dr. Mayers, who joined the Foundation in April, now has primary responsibility for management of our programs in the Caribbean and Latin America.

Early in 1985, the IEF was admitted to formal relations with the World Health Organization. This is further recognition of the high quality of our programs, and will enable the Foundation to collaborate directly with the WHO in program development and implementation. This formal relationship lasts for a period of three years, after which it will be subject to renewal.



IEF programs overseas focus on training and cooperation with indigenous organizations to develop eye care services. Here, (top, left) graduates of the IEF-assisted training program for ophthalmic medical assistants in Malawi; (top right) an African boy leads his blind father; and (lower right) Mr. Max Bruessow, former Chairman of the Rotary Club of Blantyre, Malawi, accepted the IEF's International Fight for Sight Award, presented to the club in recognition of their support for IEF programs in that south-central African nation.



If I had to think of three words to describe our work this year, they would be cooperation, collaboration, and innovation; these seem to be the most appropriate adjectives to describe our current and planned programs. The year ahead shows promise of continuing in the same vein, moving us closer to our objective of the elimination of preventable and curable blindness among the poorest of the poor.

John R. Babson

John R. Babson
President and Executive Director

W

Major Programs Africa



Malawi

The IEF's existing program in Malawi continued under the direction of Dr. Larry Schwab. This program has focused on the provision of training for ophthalmic paramedicals and development of clinical and surgical services in the southern region of the country.

The IEF's involvement in the Southern Africa Sub-Regional Ophthalmic Training Program continued, though the emphasis of this involvement shifted from the provision of didactic training to a stronger role in the provision of practical clinical training. This year, participants were drawn from Malawi, Swaziland, Botswana, Lesotho, Zambia, Uganda, Sierra Leone, and Gambia. All of the participants rotated through the IEF-sponsored clinic at the Queen Elizabeth Central Hospital in Blantyre, and had the opportunity to work with Dr. Schwab in rural outreach programs. This experience represented the participants' first exposure to the realities of rural eye care and provided them with a sound basis for their future work in their home countries.

Early in the year, the preliminary results of the IEF-organized ocular and nutritional status survey in the Lower Shire Valley were presented by the International Center for Epidemiology and Preventive Ophthalmology of Johns Hopkins University. These results will serve as the basis for the IEF's major new program in the Lower Shire Valley which will be launched early in the fall of 1985. The survey was an outstanding example of inter-agency cooperation, with substantial inputs from Johns Hopkins University, Helen Keller International, and the Government of Malawi.

In May, 1985, Dr. Schwab presented the IEF's "International Fight For Sight" Award to the Rotary Club of Blantyre in honor of their unprecedented support of the IEF's training program in Malawi. The club has made grants in excess of \$38,000 to the Malawi project, and their support has done much to ensure the success of our efforts.

Kenya

Under the IEF's program in Kenya, Dr. Teferra Tizazu, the project director, continued his efforts to reorganize and further develop the Ministry of Health's training program for Ophthalmic Clinical Officers. As part of his activities, Dr. Tizazu re-designed the curriculum for this training program, and assumed responsibility for the didactic portions of the training.

In addition, Dr. Tizazu continued the IEF's responsibility for the supervision of the Primary Eye Care and Blindness Prevention Education Unit of the Ministry of Health. Over the past year, this unit has provided training to over 2,000 health workers and primary school teachers.

The IEF's activities in Kenya have continued to benefit from the cooperation of the Kenya Society for the Blind, the Royal Commonwealth Society for the Blind, and Operation Eyesight Universal. In addition, Pfizer International and Pfizer (Kenya) Limited have done much to ensure our continued success in Kenya through substantial donations of much needed medicines.

Guinea

During the past year, substantial progress was made toward the completion of the National Ophthalmic Referral Center in Conakry. Under this cooperative project with the Guinean Ministry of Health, the IEF is providing the necessary refurbishing and equipment for a building pro-



IEF programs in Africa generally begin with a survey of the main causes of blindness and eye disease. The results of these surveys assist the IEF in developing appropriate programs of assistance.

vided by the Government of Guinea which will enable it to serve as the principal ophthalmic referral center in this impoverished nation. When completed later this year, the Center will have 25-30 inpatient beds, two surgical suites, and a large outpatient clinic.

Much of the credit for the successful completion of this clinic must go to Mr. Anton Vukoty, who has served as the IEF's consultant in the final phases of construction and outfitting of the building. Mr. Vukoty, who has several years' experience working in Guinea, substantially reduced his normal fees when it became clear that his services would be required for a much longer period than was initially anticipated.

In addition, the IEF program in Guinea continued to benefit from the assistance of the Halco (Mining) Company, Boke Trading Company, and the Compagnie des Bauxites de Guinée, a consortium of bauxite producers of which Halco is a member. Transportation of supplies and equipment, local housing and transportation, and technical support have been provided free of charge again this year by this group.

Egypt

During the year under review, the Khalifa District Survey of the distribution and causes of eye disease was successfully completed. The preliminary report on this survey, which was prepared by Mr. Dennis Ross-Degnan, the IEF's Research Director, revealed that, as expected, cataract was the main cause of blindness in the district. Of particular interest, however, was the finding that trachoma was much more widespread than had been earlier anticipated. The results of the survey have been turned over to the Egyptian Ministry of Health for use in the planning of eye health care services in urban areas.

Again this year, the IEF project provided in excess of one million dollars worth of supplies and equipment to the Ministry of Health for use in its ophthalmic programs. These supplies and equipment have done much to improve the quality and availability of eye care services in Khalifa District.

The education component of the project has been successfully completed, with over 600 health workers at various levels receiving training

Latin America and the Caribbean



in primary eye care and blindness prevention. This training consisted of instruction in the recognition and management of common eye problems, provision of information for participants on referral sources, and work in preventive ophthalmology as related to individual and community hygiene and public health practices.

Toward the end of the year, two additional surveys were also undertaken in cooperation with the Egyptian Nutrition Institute. These surveys, when completed, will provide additional information on the distribution and causes of blindness and on the nutritional status of urban Egyptians.

The IEF project in the Khalifa District, under the direction of Dr. Mamdouh Fakhri, the Director of the Khalifa General Hospital, has been widely praised by the Ministry of Health and U.S.A.I.D., and the Ministry plans to develop further programs using it as a model. As the current program moves toward its completion early this fall, the Ministry has requested further assistance from the IEF in development of these programs. In the year ahead, the IEF hopes to be able to respond positively to this request.

Honduras

During the past year, the IEF has continued to provide training support for the Ministry of Health's ophthalmic program. Much of this training was provided by Dr. Lawrence M. King, Jr., the IEF's Deputy Medical Director. Dr. King provided a series of lectures to ophthalmologists at San Felipe Hospital in Tegucigalpa, and, in cooperation with World Relief, provided training for a group of physicians working in the La Mosquitia region. In addition, further training under IEF auspices was provided by Dr. George Beauchamp, of Cleveland, Ohio, and Ms. Tamara Oberbeck, the former IEF Project Director in Honduras.

Late in the year, the Public Welfare Foundation announced the award of a grant to the International Eye Foundation to enable the IEF to provide a laser to the San Felipe Hospital. The provision of this laser promises to significantly advance the quality of eye care available in Honduras.

At present, a proposal to develop eye care services outside the major cities in Honduras is under consideration. The project's intent will be to develop an eye clinic in a government facility to serve both as a regional training center for nurses and physicians in primary eye care, and as a model to be replicated in other areas of Honduras and in other countries of Latin America.

Initially, a full-time IEF-sponsored ophthalmologist will be assigned to provide eye care. The IEF will also provide the medical and surgical equipment and supplies necessary to provide primary and secondary care at this clinic. To facilitate the development of a regional eye care system, district nurses and physicians will be trained in primary eye care and blindness prevention, along with appropriate management of common eye problems. Through this project, two Honduran physicians will be able to join an ophthalmic residency training program at the University of Puerto Rico. Upon their return to Honduras, these physicians will then continue their ophthalmic training at San Felipe Hospital in Tegucigalpa, and subsequently serve for two years at the IEF-sponsored Ministry of Health facility.

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As in the past, the IEF activities in Honduras have benefitted substantially from support from the Public Welfare Foundation and the Charles T. Campbell Foundation.

Eastern Caribbean Ophthalmic Training Program

This program, based in Barbados, provides an eighteen month course for general physicians designed to lead to certification at the diploma level in ophthalmology. In addition, as part of the program, auxiliary health workers, primarily nurses, receive basic training in primary eye care and blindness prevention.

The first year of the physician training portion of the program is carried out at the Queen Elizabeth Hospital in Bridgetown, Barbados, under the direction of Miss A.M.S. Connell, FRCS, Senior Consultant Ophthalmologist to the Government of Barbados, and Associate Lecturer in Ophthalmology at the University of the West Indies. The primary emphasis during this first year is on didactic training and the development of basic clinical and surgical skills necessary for the practice of ophthalmology. After completion of this initial training, participants return to their home islands for an additional period of practical work under the supervision of an experienced ophthalmologist. Upon completion of their training, participants will be able to perform essential ophthalmic surgery such as removal of cataracts, correction of strabismus, and some glaucoma surgery, as well as recognize and treat a variety of common eye problems. More difficult cases are referred to the tertiary facility in Barbados.

To date, three physicians, from Saint Lucia, Grenada, and St. Vincent, have completed the initial year's training and returned home to continue their clinical and surgical training. It is expected that these physicians will sit for the University of London Diploma Exam in January, 1986. Subsequent trainees will be certified by the University of the West Indies, which has recently granted formal approval and recognition to the IEF-sponsored training course. Trainees from Dominica and Beize are scheduled to begin the course in July, 1985.

The training of auxiliary health workers under this project has been conducted by Ms. Tamara Oberbeck. Thus far, nurses from Grenada, St. Lucia, Dominica, St. Vincent, St. Kitts/Nevis, and Montserrat have received this valuable training.

Substantial support for this major training project has been received from the Royal Commonwealth Society for the Blind, Operation Eyesight Universal, the Caribbean Council for the Blind, the International Agency for the Prevention of Blindness, and the Pan-American Health Organization.

Grenada

The IEF's project for the development and expansion of eye health services on Grenada became fully operational in January, 1985, when Dr. May Khadem assumed her responsibilities as Project Director, based at the Eye Clinic of St. Georges Hospital. This program, developed in cooperation with the Ministry of Health of Grenada, combines training of local health workers with the provision of clinical services by Dr. Khadem.

One of the central aspects of this project has been the provision of training in ophthalmology to a Grenadian physician. Dr. Elliott McGuire completed his initial training in Barbados in June, 1985. Over the next year, he will work in the eye clinic with Dr. Khadem, gaining essential

clinical and surgical experience. In the future, he will assume complete responsibility for the operations of the eye clinic.

Much of Dr. Khadem's effort since her arrival on the island has been directed toward upgrading the skills of nurses working both in the hospital and in outlying health centers. She has also given a special course of instruction in primary eye care and blindness prevention for students at Grenada's School of Nursing. In addition, Dr. Khadem is providing training at an appropriate level for District Medical Officers in primary eye care and blindness prevention and has developed a screening program for school children on the island.

One major factor in the success of this project to date has been the support of the Royal Commonwealth Society for the Blind and the Grenada Society of Friends of the Blind. In addition, Mrs. Stella Neckles, who until June headed Grenada's Workshop for the Blind, has provided invaluable administrative assistance to Dr. Khadem.

Puerto Rico

The primary emphasis of the IEF's program in Puerto Rico, as in the past, is the provision of training for health care professionals, both doctors and nurses, in order to provide suitably trained personnel for the Spanish-speaking countries of Latin America and the Caribbean. The IEF-supported training program under the auspices of the University of Puerto Rico and coordinated by Dr. William Townsend and Dr. Manuel Miranda, is unique in providing a complete course in basic ophthalmic science, blindness prevention, and national eye care/blindness prevention program development in Spanish.

Since IEF support of this program began in 1968, over 500 Latin American physicians have been trained and are now providing a variety of services in their home countries. Currently the IEF is supporting participants from Brazil, Bolivia, Colombia, Ecuador, El Salvador, Guatemala, Paraguay, the Dominican Republic, and Uruguay.

The support of this program by the IEF is made possible through grants from the William M. and Ramona N. Carrigan Family Endowment for Blindness Prevention in the Americas and Chibret International, a division of Merck and Co.

Dominican Republic

The IEF has now completed a major training project which began in 1982. Under this program, physicians, nurses, auxiliary nurses, and health promoters have received training in primary eye care and blindness prevention appropriate to their level of professional training. This year, two Dominican physicians received IEF Fellowships under this grant to study Glaucoma and Pediatric Ophthalmology, respectively. In addition, two physicians participated in the Basic Science in Ophthalmology course at the University of Puerto Rico.

It had been hoped that a follow-on phase to the IEF's initial project could be organized to provide further assistance in the development of the Ministry of Health's ophthalmic program. This plan has not yet been brought to fruition due to a variety of factors affecting the Ministry of Health. Presently, the IEF is seeking an implementing partner for its proposal among indigenous private agencies. Once such an agency has been identified, the IEF will move forward in its attempts to seek sources of funding support.

Under the direction of Sra. Milagros Colon de Lopez, the first phase



Sra. Milagros Colon de Lopez, IEF Project Director in the Dominican Republic (left) discusses the anatomy of the eye with two rural health workers. In her two and a half years in the Dominican Republic, Sra. Colon provided similar instruction to nearly 4,000 health workers at various levels.

of the IEF's program in the Dominican Republic has provided training to nearly 3,000 health workers at various levels, and has provided much needed supplies and equipment to assist the Ministry of Health's efforts to upgrade existing facilities. Sra. Colon, who is now serving with the IEF as a consultant for the Dominican Republic, succeeded in identifying two Ministry of Health nurses who are now continuing the training which she initiated in the rural areas of the country. Thanks largely to Sra. Colon's dedicated work, the training activities initiated under the project will be continued, ensuring a lasting positive impact on the development of eye care services in the country.

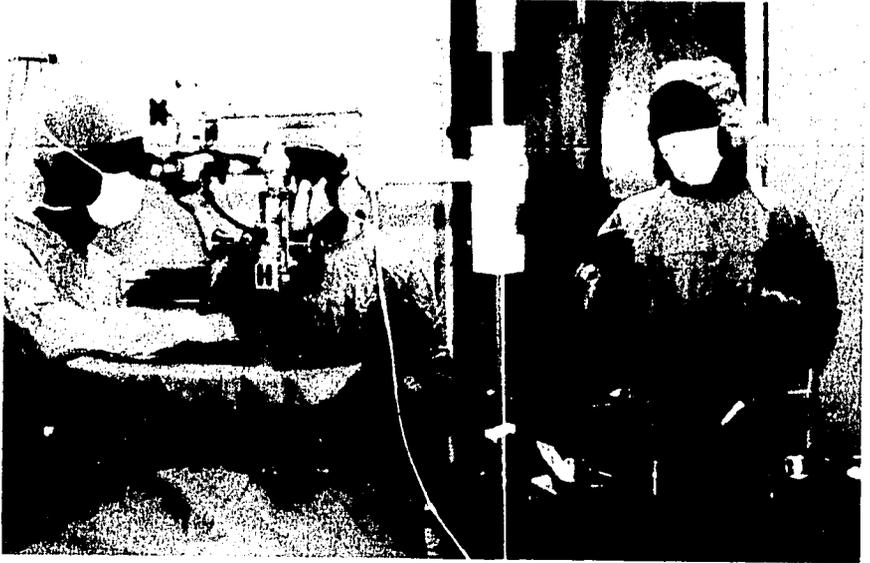
Saint Lucia

The IEF's program in Saint Lucia has continued as a collaborative effort between the IEF and the Massachusetts Eye and Ear Infirmary (MEEI). In mid-1984, Dr. Harry Pappas assumed responsibility for the direction of this project from Dr. Ben Baker, who returned to the U.S. During the year under review, several residents from MEEI spent six-week rotations at Victoria Hospital in Castries under Dr. Pappas' supervision.

The Saint Lucian physician who had been trained in ophthalmology in the IEF's program in Barbados, Dr. Emsco Remy, was selected early this year by his government to receive further ophthalmic training in Israel. This will do much to improve the quality and availability of eye care services on the island once Dr. Remy returns to Saint Lucia early next year.

During Dr. Pappas' tenure as Project Director, the scope of activities at the Victoria Hospital Eye Clinic was greatly expanded. Ms. Jackie Pappas, a Certified Orthoptist, organized several muscle clinics, which she ran on a volunteer basis. This marked the first time a clinic of this nature had been available on the island.

In June, Dr. Pappas was replaced as Project Director by Dr. Roy Wilson. Dr. Wilson, like Dr. Pappas, is a glaucoma specialist, and will be involved in clinical and epidemiological research as part of a planned project which will be undertaken over the course of the next year by the IEF in collaboration with the Department of Ophthalmology of Howard University. This project will provide valuable information on the prevalence and etiology of glaucoma on the island and it is hoped that it will serve as a model for similar research on other islands in the Caribbean.



Dr. Harry Pappas, IEF Project Director in Saint Lucia (left) provided surgical instruction to a Saint Lucian Ophthalmologist-in-Training and to Residents from Massachusetts Eye and Ear Infirmary during his one-year tenure in that Caribbean nation.

Saint Kitts/Nevis

Early in 1985 a request was received by the IEF to assume responsibility for the provision of ophthalmic services and training in St. Kitts/Nevis. Existing services, already fairly well developed, had been initiated by Drs. Alan Aker and Leo Kellerman, both of Long Island, New York, who made the request to the IEF on behalf of the Ministry of Health. These two ophthalmologists had established two fully equipped out-patient clinics, one at Basseterre, St. Kitts, and the other on the neighboring island of Nevis, and in addition had also donated equipment necessary for the establishment of a full ophthalmic in-patient capability at the main hospital in Basseterre. The clinics established in St. Kitts/Nevis currently provide treatment to between 500 and 600 patients per month.

In June, the IEF made a commitment to the Ministry of Health of St. Kitts/Nevis to provide extensive assistance in the further development of the eye health care system for the two islands. As the year under review drew to a close, efforts were being focused on recruiting a full-time ophthalmologist to serve for a period of approximately two years. It is hoped that in that time a local physician can be identified to undergo training in ophthalmology in Barbados.

While the past year has been a busy one for the IEF, the year to come promises to be even busier, with many new programs presently in the planning stages. Among the areas in which the IEF plans an involvement in the year to come are:

Onchocerciasis

This blinding condition is caused by parasites which invade the vital organs, including the eyes, leading to blindness and eventual death. It is spread by the simulium fly and is found in populations living along rivers (thus, its common name, "river blindness"). In Africa, the main focus of the disease is along the Volta River in the western part of the continent. Preliminary work with the World Health Organization (WHO) and other agencies interested in this devastating disease has been undertaken to initiate a program to prevent the blindness it causes.

In the past, onchocerciasis has been untreatable; medications which stop the internal spread of the parasites have also been highly toxic to those taking them. Recently, however, there have been exciting advances in the development of a medication which can eliminate the parasite's larva without harming the infected individual.

The IEF plans to work with WHO and other agencies in the development of programs which would combine general blindness prevention activities with distribution of this new medication. Meetings with the Ministries of Health of Burkina Faso and Niger are planned in the new fiscal year to develop programs in these two countries.

Nutritional Blindness

This condition, caused by vitamin A deficiency, is a major problem in many parts of the world, particularly in the famine-struck countries of Africa. The IEF project in the Lower Shire Valley of Malawi, described elsewhere in this report, will address this problem, and the Foundation hopes to develop similar programs in other affected countries over the next year. Targetted countries include Mali, Burkina Faso, Niger, and other countries of the so-called "Sahel-belt."

Water Development

The availability of clean water is a significant factor in eye health. In most, if not all, of the countries where the IEF operates programs, unavailability of water is a major problem. With appropriate assistance, this problem can, in many cases, be solved. During the coming year, the IEF plans to provide assistance toward the alleviation of this problem in the Lower Shire Valley of Malawi, in conjunction with the Foundation's other programs there. The IEF water program will center on the development of boreholes in the Valley using a newly introduced, simply operated drilling rig. As the year begins, negotiations are under way with a major corporate sponsor and UNICEF for support of this proposed program.

Research

During the year to come, the IEF plans a major increase in its research activities. In the Caribbean, glaucoma will be the object of a collaborative effort undertaken with Howard University. This program will begin in St. Lucia and will eventually cover several islands in the eastern Caribbean. In Malawi, further studies on nutritional blindness are planned.

Society of Eye Surgeons



Development of Ophthalmic Services

Under a new initiative partially supported by the Carrigan Endowment, the IEF will begin new programs in Honduras and Ecuador with the objective of expanding the availability of eye health care services in previously unserved rural areas. This program, using local personnel, will also have a major training component, maintaining the IEF's basic philosophy of "helping others to help themselves."

The Society of Eye Surgeons is a professional society made up of ophthalmologists who support the aims and objectives of the International Eye Foundation. Presently, there are over 1,000 members from 62 different countries. The Society has as its purpose the promotion of the science of ophthalmic surgery among all peoples and nations through fellowships, sponsorship of teaching teams and visiting professors, and support of the IEF's programs. Members frequently volunteer their time to work for short periods in IEF projects.

This year, the Society underwent a major re-organization in response to suggestions from members that there should be different categories of membership which would reflect the individual members' degree of involvement and incorporate for the first time, a category for residents in ophthalmology. The new categories of membership are: 1) Supporting Fellow; 2) Surgical/Teaching Fellow; 3) International Fellow; and 4) Resident Fellow.

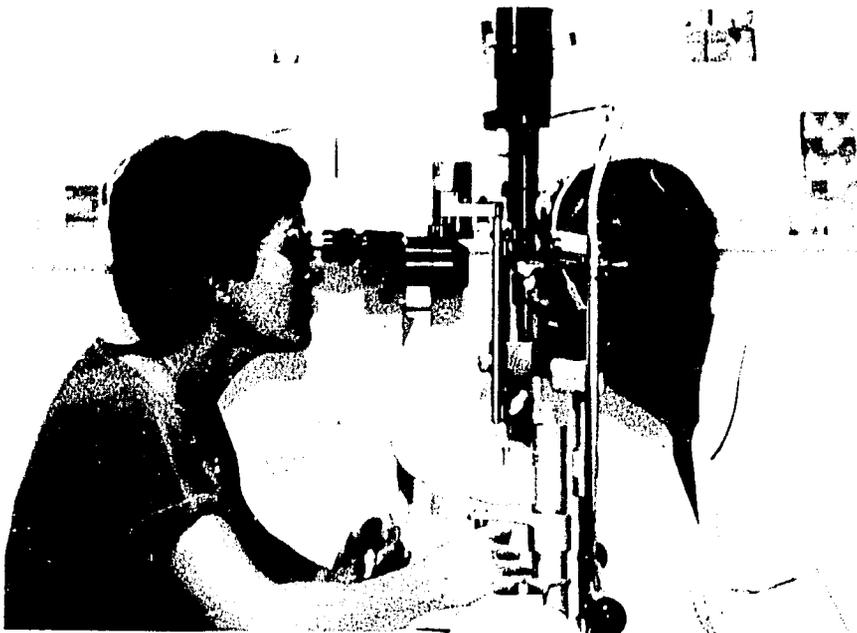
In November, the Society held its Annual Luncheon Meeting at the Omni International Hotel, Atlanta, in conjunction with the annual meeting of the American Academy of Ophthalmology. Members were briefed on the status of IEF programs around the world and heard presentations on several specific programs.

Next May, the Society of Eye Surgeons will convene its Sixth International Congress in Rome. This important meeting will be held following the XXV International Congress of Ophthalmology. The meeting will be geared to general ophthalmology, with particular emphasis on the prevention and treatment of blindness in the developing world. One highlight of the two-day meeting will be the presentation of the Vail Medal, which is presented by the Society to an ophthalmologist who has made original and continued contributions advancing the science of eye surgery worldwide.

L. P. Agarwal, India
 M. Aouchiche, Algeria
 Juan Arentsen-Sauer, Chile
 Joaquin Barraquer, Spain
 Rubens Belfort-Mattos, Brazil
 Torstein Bertelsen, Norway
 Jørn Boberg-Ans, Denmark
 Benjamin F. Boyd, Republic of
 Panama
 Francisco Contreras C., Peru
 Rafael Cordero-Moreno,
 Venezuela
 Taôfik Daghfous, Tunisia
 Chandler R. Dawson, U.S.A.
 G. De Ocampos, Philippines
 A. G. Devoe, U.S.A.
 Werther Duque-Estrada, Brazil
 Humberto Escapini, El Salvador
 Hans Goldmann, Switzerland
 Karl Hruby, Austria
 James R. Hudson, England
 John Harry King, Jr., U.S.A.
 Tadeusz Krwawicz, Poland
 R. C. K. Loh, Singapore
 Keith Lyle, England
 Hennie Meyer, Republic of South
 Africa
 Enrique Malbran, Argentina

Michel Mathieu, Canada
 A. Edward Maumenee, U.S.A.
 John Clement McCulloch, Canada
 G. Meyer-Schwickerath, Germany
 John Clark Mustardé, Scotland
 Akira Nakajima, Japan
 Joseph F. Novak, U.S.A.
 Cahit Orgen, Turkey
 Paul Payrau, France
 Kobchai Prommindaraj, Thailand
 N. A. Puchkovskaya, U.S.S.R.
 C. O. Quarcoopome, Ghana
 Magda Radnot, Hungary
 Mohammad H. Rizvi, Pakistan
 Alvaro Rodriguez, Colombia
 Raul Rodriguez Barrios, Uruguay
 Samir S. Saleeby, Lebanon
 Isak Salim, Indonesia
 Luis Sanchez-Bulnes, Mexico
 Harold G. Scheie, U.S.A.
 A. M. Soliman, Egypt
 Gunter von Noorden, U.S.A.
 E. V. Waddy Pockley, Australia
 J. A. C. Wadsworth, U.S.A.
 L. E. Werner, Ireland
 Randolph Whitfield, Jr., Kenya
 R. Witmer, Switzerland

Members of the Consultant Board of the Society of Eye Surgeons



Members of the Society of Eye Surgeons frequently work in IEF programs overseas. Here, Dr. May Khadem (left), IEF Project Director and SES member, examines a patient at St. Georges Hospital, St. Georges, Grenada.

Financial Summary

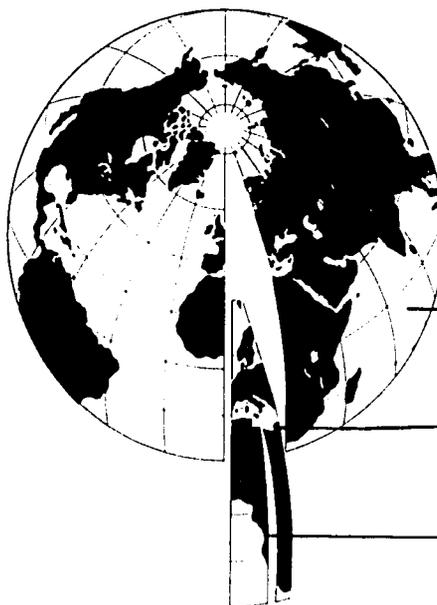
Detailed financial information abstracted from the report of the IEF auditors can be found on the following page. Once again this year we can take pride in the fact that our direct expenditures on program services constitute in excess of 96 percent of total Foundation expenses. To place this in perspective, the IEF has consistently made less than five percent of total expenditures on fund raising and support services; the National Charities Information Bureau considers up to 25 percent a reasonable figure for these expenditures. The IEF's record in this regard is matched by few, if any, private charitable agencies.

During the year under review, total revenues increased by 7.1 percent, continuing the steady growth that has marked recent years. Grants from the U.S. Agency for International Development for specific projects increased by 12.2 percent, again reflecting steady growth. The Foundation's Endowment Fund grew by a record 93.4 percent, thanks in large part to the continuing generosity of Mr. and Mrs. William M. Carrigan. However, it should be kept in mind that requests for assistance received by the Foundation also increase dramatically each year: at any one time the IEF may have a dozen or more such requests to which it cannot respond positively due to financial constraints. The need is immense, and the IEF's ability to respond is dependent on the generosity of our friends and supporters.

Donations to the IEF, which are income-tax deductible, can be made in a variety of ways, including unrestricted contributions, donations to support specific projects or activities, or bequests in wills. In many cases, donations to the IEF can be matched by employer matching gifts programs, thus doubling, or in some cases, tripling, their impact.

International Eye Foundation, Inc.

Direct Expenditures on Program Services for the Prevention and Cure of Blindness Constitute Over 96 Percent of Total IEF Expenditures



PROGRAM SERVICES*	
1983-84	96.21%
1984-85	96.00%
SUPPORTING SERVICES	
1983-84	1.55%
1984-85	1.80%
FUND RAISING	
1983-84	2.24%
1984-85	2.20%

Includes donations of medical and surgical supplies and equipment.

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Summary Statement of Revenue and Expenses—1984–1985

	Year Ended 30 June	
	1984	1985
Public Support¹		
Contributions	459,336	462,236
Fund Raising Events	²	30,336
Combined Federal Campaign	158,175	103,226 ³
TOTAL PUBLIC SUPPORT	617,511	595,798
Other Revenue		
Government Grants	891,772	1,000,655
Dues	10,445	9,322
Rental Income	6,868	7,492
Interest and Dividends	12,902	30,822
Miscellaneous	1,524	5,993
TOTAL OTHER REVENUE	923,511	1,054,284
TOTAL REVENUE	1,541,022	1,650,082
Expenditures		
Program Services	1,287,783	1,380,551
Support Services	42,373	79,613
Fund Raising	61,346	95,111
TOTAL EXPENDITURES	1,391,502	1,555,275
RETAINED REVENUE	149,520	94,807

Financial Position—1984–1985

	Year Ended 30 June	
	1984	1985
Fixed Assets		
Furniture and Equipment	21,708	27,058
Real Estate	120,000	120,000
Mortgage Notes Receivable	200,398	181,533
Total Fixed Assets	342,106	328,591
Current Assets		
Cash and Investments	630,038	833,820
Receivables and Prepaids	78,769	48,165
Total Current Assets	708,807	881,985
Current Liabilities		
Accounts Payable & Accrued		
Expenditures	139,061	203,917
Total Current Liabilities	139,061	203,917
Current Fund Balance		
Unrestricted	463,624	473,022
Restricted	106,122	205,066
NET CURRENT FUND BALANCE⁴	569,746	678,068

¹Gifts-in-kind, consisting entirely of drugs & medical supplies are not included here.

²The "Eye Ball," the IEF's annual fund raising event was postponed, and was, therefore, not held during this fiscal year.

³The allocation for the final quarter of FY 85 for the CFC was not received during FY '85. This allocation amounted to \$51,135, which would have brought revenues from the CFC for FY '85 to \$154,361 & total public support to \$646,933.

⁴Total Current Assets less Total Current Liabilities.

International Eye Foundation, Inc.

Board of Directors

- Mr. George M. Bunker, Chairman
Former Chief Executive Officer,
Martin Marietta Corporation and
Chairman, Bunker Ramo, Inc.,
Washington, D.C.
- Mr. William M. Carrigan, Treasurer*
Real Estate Development,
Kensington, Maryland
- Mr. David P. Close, Secretary*
Attorney, Dahlgren and Close,
Washington, D.C.
- Mr. John R. Babson*
Former Corporate Vice President,
Ingersoll Rand, Bethesda,
Maryland
- Mr. Kenneth R. Giddens
Chairman of the Board, WKRQ-TV,
Mobile, Alabama
- Mrs. Kenneth R. Giddens
Mobile, Alabama
- Mr. John C. Griffin
Vice President, Sheller-Globe
Corporation, Grosse Point Farms,
Michigan
- Mrs. John C. Griffin
Grosse Point Farms, Michigan
- Mr. William Amory Jewett*
Executive Director, Council for the
United Nations University,
McLean, Virginia
- Mrs. Florence S. Mahoney
Philanthropist, Washington, D.C.
- Mrs. Peggy Siegener
Vice President, The Scripps
Foundation, La Jolla, California
- Mrs. William T. Spence
Philanthropist, Board Member,
CARE/MEDICO, Annapolis,
Maryland
- Dr. William B. Glew
Chairman, Department of
Ophthalmology, Washington
Hospital Center, Washington, D.C.
- Mr. John Charles Daly
Former Television Commentator
and Master of Ceremonies, Chevy
Chase, Maryland

Advisory Council

- Mr. Herbert Blunck
Washington, D.C.
- Mrs. Samuel E. Bogley
Middleburg, VA
- Mr. Charles Camalier, Jr.
Potomac Falls, MD
- Mrs. Charles T. Campbell
Pittsburgh, PA
- Mr. C. Thomas Clagett, Jr.
Washington, D.C.
- The Hon. True Davis
Washington, D.C.

- Mr. George W. DeFranceaux
Washington, D.C.
- Mr. J. Hunter Drum
Washington, D.C.
- Mr. Henry A. Dudley
Washington, D.C.
- Mrs. Palen Flager
Oyster Bay, NY
- Mr. John Paul Floyd
Washington, D.C.
- Mr. Webb Hayes, III
Washington, D.C.
- Mr. Edwin K. Hoffman
Washington, D.C.
- Mr. Bob Hope
North Hollywood, CA
- Mr. John W. Kornmeier
Washington, D.C.
- Daniel B. Langley, M.D.
Naples, FL
- The Hon. Hector Luisi
Bethesda, MD
- Mr. A. Lothrop Luttrell
Palm Beach, FL
- Mr. Martin F. Malarkey, Jr.
Washington, D.C.
- Mrs. Elizabeth Mize
Washington, D.C.
- Mr. Kenneth Montgomery
Chicago, IL
- General William W. Quinn
Washington, D.C.
- Mr. J. Donald Rauth
Bethesda, MD
- Mr. Samuel Scrivener, Jr.
Washington, D.C.
- Mr. J. Robert Sherwood
Bethesda, MD
- The Hon. Marion H. Smoak
Washington, D.C.
- The Hon. Felthan Watson
Bethesda, MD
- Sir John Wilson, O.B.E.
Haywards Heath, Sussex, U.K.

Headquarters Staff

- President and Executive Director*
John R. Babson
- Executive Medical Director*
John Harry King, Jr., M.D.
- Deputy Medical Director*
Lawrence M. King, Jr., M.D.
- Administrative Director*
R. Douglass Arbuckle
- Administrative Manager, Caribbean*
Marilyn A. Mayers, Ph.D.
- Executive Assistant*
Jane D. N. Lewis
- Accountant*
V. Veerappan
- Administrative Assistant*
Patricia Chiancone

*Members of the Executive Committee

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International Eye Foundation Worldwide Offices

HEADQUARTERS

7801 Norfolk Avenue, Bethesda, Maryland 20814 • Tel: (301) 986-1830

BARBADOS

Department of Ophthalmology, Queen Elizabeth Hospital, Bridgetown, BARBADOS
Miss A. M. S. Connell, FRCS, *Project Director*

DOMINICAN REPUBLIC

% Mr. Rudy Fascell, USAID/Dom. Rep., APO, Miami 34031
Milagros Colon de Lopez, *Project Director*

EGYPT

% Khalifa General Hospital, Khalifa District, Cairo, EGYPT
Mamdouh Fakhri, M.D., *Project Director*

GRENADA

Eye Department, St. Georges Hospital, St. Georges, GRENADA
May Khadem, M.D., *Project Director*

KENYA

% Kenya Society for the Blind, P.O. Box 46656, Nairobi, KENYA

MALAWI

P.O. Box 2273, Blantyre, MALAWI
Paul G. Steinkuller, M.D. and Baxter F. McLendon, *Project Directors*

PUERTO RICO

% Department of Ophthalmology, University of Puerto Rico, GPO Box 5067, San Juan, PUERTO RICO 00936
William M. Townsend, M.D., *Project Director*

SAINT KITTS/NEVIS

% Eye Department, General Hospital, Basseterre, ST. KITTS

SAINT LUCIA

Victoria Hospital Eye Clinic, Castries, SAINT LUCIA
Roy Wilson, M.D., *Project Director*

Collaborating Institutions and Agencies

World Health Organization • Massachusetts Eye and Ear Infirmary/Harvard University
Royal Commonwealth Society for the Blind • Operation Eyesight Universal • Helen Keller International
Kenya Society for the Blind • Christoffel Blindenmission
International Agency for the Prevention of Blindness • U.S. Agency for International Development
Johns Hopkins University/Wilmer Institute, International Center for Epidemiology and Preventive Ophthalmology
Howard University • University of Puerto Rico • University of the West Indies
University of London/Institute of Ophthalmology • Caribbean Council for the Blind

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Appendix M
BY-LAWS
OF
THE INTERNATIONAL EYE FOUNDATION

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BY-LAWS
OF
THE INTERNATIONAL EYE FOUNDATION

ARTICLE I
OFFICES

(a) Registered Office and Registered Agent: Pursuant to the District of Columbia Nonprofit Corporation Act, the International Eye Foundation, hereafter referred to as the Foundation, shall have and continuously maintain in the District of Columbia, a registered office and a resident agent for service of process, notice or demand required or permitted by law to be served upon this Foundation.

(b) Principal and Other Offices: The Foundation may maintain such principal and other business offices within and/or outside of the District of Columbia as shall from time to time be determined by the Board of Directors.

ARTICLE II

BOARD OF DIRECTORS

(a) Number of Directors: The number of Directors comprising the Board of Directors shall be no less than five (5) nor more than twenty nine (29). The Directors shall be elected at the annual meeting of the Foundation, and each Director elected shall hold office until his successor is elected and qualified. The Directors shall have the power to change the number of Directors on the Board.

(b) Annual Meeting: The Board of Directors shall hold an annual meeting thereof to appoint officers, to fill vacancies in the Board of Directors, and to conduct such other business as may come before the Board.

(c) Notice of Annual Meeting: Written or printed notice of the annual meeting of the Board of Directors shall be delivered to each Director personally or by telegram or mail not less than ten (10) nor more than thirty (30) days prior to the date set for such meeting. The notice shall set forth the date, time, and place of the meeting as determined from time to time by the Board, and if mailed shall be deemed to be delivered on the date deposited, postage prepaid, in the United States mail, addressed to such Director(s) according to the records of the Foundation.

(d) Special Meeting: Special meetings of the Board of Directors may be called at any time by the Chairman or the President of the Foundation and shall be called by order thereof upon the written request of not less than one-third of the Board of Directors, which request shall set forth the business to be conducted at such meeting. Special meetings shall be held at such places as may be specified in the calls thereof.

(e) Quorum and Voting: (i) At any and all meetings of the Board of Directors, duly called, a majority of the Board of Directors present shall be necessary and sufficient to constitute a quorum for the transaction of business and for transaction of such other and further business as may properly come before the meeting. (ii) At any meeting of Directors at which a quorum is present, the affirmative vote of a majority of the Directors present thereat, shall be necessary and sufficient to adopt any measure as the act of the Board of Directors, except as the approval of a greater proportion of the Board of Directors is required by the District of Columbia Nonprofit Corporation Act or by these by-laws for the taking of specific measures.

(f) Waiver of Notice: Whenever any notice is required to be given to any Director of the Foundation by statute or under the provisions of the articles of incorporation or these by-laws, a waiver thereof in writing signed by the person or persons entitled to such notice, whether before or after the time stated therein, shall be equivalent to the giving of such notice. Presence without objection also waives notice.

(g) Action Without Meeting: Any action required by law to be taken at a meeting of the Directors may be taken without meeting if a consent thereto in writing, setting forth the action so taken, shall be signed by all of the Directors. Such consents in writing may be submitted to the Foundation by mail or otherwise, shall be filed with the minutes of the Board meetings and shall have the same force and effect as a unanimous vote.

(h) Committees: The Board of Directors, by resolution adopted by a majority of the full Board, may designate and appoint one or more committees, each of which shall consist of three or more Directors, which committees, to the extent provided in said resolution shall have and may exercise the authority of the Board of Directors in the management of the Foundation. Other committees, not having and not exercising the authority of the Board of Directors in the management of the Foundation, may be designated and appointed by resolution adopted by the majority of the Directors present at a meeting at which a quorum is present.

ARTICLE III

OFFICERS: POWERS AND DUTIES

(a) Permanent Officers: The permanent officers of the Foundation shall consist of the Chairman of the Board, the President/Executive Director, the Treasurer, and the Secretary. No two offices shall be held by the same person except the offices of Secretary and Treasurer.

All officers shall serve one year terms or until a successor is elected, and the election of officers by the Board shall take place at the regular annual meeting of the Corporation. A successor to fill an unexpired term may be elected at any meeting of the Corporation.

The Board may appoint such other officers, including a Senior Medical Director, a Medical Director, an Administrative Director, and one or more Vice-Presidents and Assistant Officers as it may from time to time deem advisable. These officers shall exercise such powers and for such time as the Directors shall determine. All officers appointed by the Board of Directors shall be subject to removal by the Board.

(1) Chairman: It shall be the duty of the Chairman to preside at the Annual Meeting of the Foundation and at the regular and special meetings of the Board of Directors. The Chairman will assist with the activities of the Foundation in the manner prescribed by the Board.

(2)President: The President shall be the Executive Director, and it shall be his duty to administer all activities of the Foundation as prescribed by the Board of Directors.

(3)Secretary: It shall be the duty of the Secretary to keep the minutes of all meetings of the Foundation and of its Directors, to issue proper notices of all meetings and to perform such other duties as shall from time to time be assigned by the Board.

(4)Treasurer: It shall be the duty of the Treasurer to collect all moneys whatsoever due the Foundation and to have custody of the funds of the Foundation, and to place the same in such depositories as may be approved by the Board, the same to be disbursed upon warrants approved by the Board. He shall record and submit before the annual meeting each year, to the Board, a report of the receipts and disbursements, which the said Board may cause to be audited by a firm of charter or certified accountants of its own selection. The Treasurer shall perform such other duties as may be assigned by the Board.

(5)Senior Medical Director: The Senior Medical Director shall be responsible for oversight on all medical matters pertaining to the International Eye Foundation.

(6)Medical Director: It shall be the duty of the Medical Director to administer, instigate projects, teach, recruit professional personnel, inaugurate foreign units, speak on the Foundation's purposes, and to maintain liaison with ophthalmological associations. The Medical Director shall be directly responsible for activities in the field, as well as such other duties as may be assigned from time to time by the Board of Directors and the President.

(7)Administrative Director: The Administrative Director shall be responsible for support of field projects, financial control, compliance, and the International Eye Foundation headquarters administration, as well as such other duties as may be assigned from time to time by the Board of Directors and the President.

ARTICLE IV

MEDICAL ADVISORY BOARD

(a) Members: The membership of the Medical Advisory Board shall be licensed medical doctors who are appointed by the permanent officers of the Foundation and may be removed or replaced at the discretion of the permanent officers.

(b) Executive Committee and Consultants: The Executive Committee and consultants to the Medical Advisory Board shall be licensed Medical doctors appointed by the Medical Director as special advisors to the Officers of the Foundation and may be removed or replaced at the discretion of the Medical Director.

(c) Resignations: Any member of the Medical Advisory Board may resign at any time by giving written notice thereof to the Medical Director.

ARTICLE V
MISCELLANEOUS

(a) Fiscal Year: The Fiscal Year of the Foundation shall begin on the first day of July each year.

(b) Signature of Negotiable Instruments: All bills, notes, checks or other instruments for the payment of money will be signed by any two of the Officers of the Foundation. In addition, the Board of Directors may designate other signatories from amongst the Foundation's employees to act as signatories.

ARTICLE VI
AMENDMENTS

(a) The by-laws of the Foundation may be altered or repealed by the affirmative vote of the majority of the members of the Board of Directors present at any meeting thereof.

ARTICLE VII

DISSOLUTION

(a) On dissolution, all property of the Foundation, from whatever source arising, shall be distributed in such manner as the Directors of the Foundation may determine, provided, however, that such disposition shall be calculated exclusively to carry out the objectives and purposes of the Foundation.

ARTICLE VIII

INDEMNIFICATION OF DIRECTORS AND OFFICERS

(a) Each Director and Officer of the Foundation and each former Director and Officer thereof shall be indemnified by the Foundation against expenses actually and necessarily incurred by him in connection with the defense of any action, suit or proceeding in which he is made a party by reason of being or having been a Director or Officer of the Foundation, except in relation to matters as to which he shall be adjudged, in such action, suit or proceeding, to be liable for negligence or misconduct in the performance of his duties; indemnified against any expenses in relation to any matter as to which there has been no adjudication with respect to his performance of duty unless the Foundation shall receive an opinion from independent counsel that he has been negligent or guilty of misconduct in the performance thereof. The indemnification herein provided for shall not be exclusive of any other rights

to which the persons indemnified may be entitled under any agreement, vote of members, or otherwise.