

the
International
Eye Foundation

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Informal Review
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PD-AAA-817-B1

KENYA

PROGRAM PROPOSAL
JANUARY, 1976

I. PROJECT PURPOSE AND DESCRIPTION

GOAL: To improve the quality of life and increase the productivity of the peoples of six selected, highly populated areas of rural Kenya by reducing the incidence of eye disease and associated ocular disability.

PURPOSE: Initiate a program of blindness prevention and health education enhancing the Kenya Society for the Blind (KSB) and the Kenya Ministry of Health (MOH) capabilities to deliver comprehensive eye health care to the rural poor of six selected target areas.

GENERAL DESCRIPTION: This purpose can be accomplished by initiating a program geared to extend the capabilities of the current Mobile Eye Unit (MEU) program through the additional dimension of health education and general preventive services (HEP). Supplemental skilled medical personnel and more effective training programs coupled with additional manpower and mobility will enable the current curative program to extend its reach and effectiveness.

Working largely within the current structure set up by the KSB and MOH, the program proposed by the IEF will extend the capabilities of the six current mobile units by developing capacities to deliver health education and disease prevention services.

Since 1963, the MEUs have done much to provide badly needed eye care to a rural population in the millions who would otherwise do without.

However, since its inception, the rural Mobile Eye Unit program has largely been curative in nature, with only minor attention given to attacking the causes of disease which are largely preventable through public health measures. The emphasis on curative care has been necessitated by the overwhelming magnitude of the problem (estimated 10% of the total population, or 1.2 million, suffer from eye disease) and the overwhelming need to deliver an immediate response.

The development of additional mobile units geared to disease prevention and health education and coordinated with other on-going health programs can effect a measurable impact on the well-being of the rural poor in the six selected target areas. An expanded program of additional personnel and resources will allow more people to be treated. A larger number of medical assistants and health assistants will be trained in disease prevention. These trained assistants will be deployed in general health care, pre-school and school screening, education programs and other means at the regional and local level. Such an enlarged program will result in an expanded scope in the delivery of rural eye health care services, a higher degree of personnel competence and a lower incidence of eye disease.

The proposed program will be closely integrated with other programs currently being conducted by the MOH and the Ministry of Education, not only to emphasize eye care, but also to introduce new general health care concepts. Specific emphasis will be given to determining the content of educational programming for mothers,

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children, and other reachable segments of the population. In addition, a teaching strategy will be developed utilizing lectures, film strips, posters, tape recordings, etc.

Of primary importance will be activity at the field level by those providing services directly to the people. The project will be integrated into whatever appropriate delivery system already exists and will establish one where it does not. Thus, health care training programs geared to health education, early diagnosis and minor treatment, personal and small group demonstrations and educational materials will be delivered to and through the following:

1. medical and health assistants of the existing health care delivery system;
2. provincial administration;
3. provincial committees, clubs, etc.;
4. local school masters;
5. local religious groups; and
6. traditional healers.

In addition, an important integral part of the program will be the collection of relevant data concerning the distribution, incidence and socio-economic effects of eye disease in Kenya.

The intended program is valuable because it is essentially a practical one. When combined with current work being conducted in the MEU program, it delivers health education and badly needed eye care to the people who would otherwise do without and does so with minimal cost per patient seen and major emphasis on health

education and disease prevention. The educational approach, training aids, equipment and medicine employed will be kept as simple as possible; and central to the whole program is the training and supervision of teams of Africans to work among their own people.

This project can bring about significant change in the quality of life, particularly for the majority of the rural poor who live largely beyond the realm of social services and are dependent upon an agrarian economy. These rural poor comprise the exact target group of this program.

Furthermore, the delivery and acceptance of the proposed prevention and health education program is particularly timely because of the acceptance and success of the curative MEU program evidenced among all segments of this target population over the past ten years.

This project is of great value and significance because it will set up a structure and a system through which many other health services can eventually be provided to the poorest majority of Kenya. While the MEU and HEP system will be geared to eye health care and general health education and disease prevention, there is immense potential for the structure to be adjusted by the MOH to deliver such key health services as malaria and communicable disease control, nutrition and MCH care services, dental and rehabilitation programs.

Finally, there is ample evidence at present to indicate that sufficient institutionalization of this effort will take place

to guarantee its continuation and vitality. On the one hand, the MOH has assigned three Kenyan medical graduates to specialize in rural eye health care, showing a clear intention of a capable MOH and KSB takeover of this program. On the other hand, the growing confidence and acceptance by Kenyans at all levels in themselves and in these services indicate success for the program where it counts--among the populations of Kenya in need of and desirous of these critical health services.

CONDITIONS EXPECTED AT END OF PROJECT:

1. Three indigenous ophthalmologists trained in rural eye health care and assuming responsibility for the program.
2. Six fully operational, integrated health education and disease prevention units (HEP).
3. Health education and disease prevention capabilities added to six existing MEUs.
4. Measurable impact in modifying personal hygiene in the six selected target areas.
5. Regular pre-natal and under-five screening clinics.
6. School screening and health education programs.
7. General screening and referral programs integrated with existing local and regional clinics.
8. Collection of baseline data on the incidence, cause and socio-economic impact of eye disease and blindness.
9. Primary health workers, teachers, opinion leaders and

local authorities trained in diagnosis, referral,
minor treatment and prevention of simple eye disease.

10. Confidence of target peoples in themselves and
services delivered.

11. Takeover of program by MOH and KSB.

II. PROJECT BACKGROUND

PROPOSAL DEVELOPMENT AND HOST COUNTRY ACTIVITY:

The major existing system for the delivery of eye care to rural Kenyans is the Mobile Eye Unit program begun 12 years ago by the Kenya Society for the Blind and the Kenyan Ministry of Health. The idea of taking a Mobile Eye Unit to the people came about because of the particular conditions existing in Kenya. With a land area of approximately a quarter of a million square miles, Kenya has a population of almost 12.5 million and a birth rate of over 3.3 per cent, one of the highest in the world. The population of Kenya has almost doubled in that same period of 12 years. Over 98 per cent of the population is African and is composed of 30 major and 40 minor tribes, each having its own history, language, traditions and ways of living. The urban population is a bit over one million, leaving a rural population of well over 11 million, almost all of whom live essentially outside the money economy by subsistence farming, fishing and herding livestock. The vast bulk of the rural population live in three areas: around Lake Victoria, in the narrow strip along the coast and in the highlands. All three areas have a good rainfall and a high agricultural potential. These areas comprise only 15 per cent of the total land area of Kenya. About one million people live in the remaining 85 per cent which is semi-desert and arid bush country.

There are fewer than 12 ophthalmologists working in Kenya, and only two of them are working outside the cities of Nairobi,

Mombasa and Kisumu. Hence, the need for rural eye care is real and acute in Kenya.

As in most other developing countries, the incidence of blindness and ocular disability is alarmingly high--approximately ten times that in America--and visual disability has a much greater social and economic impact than in the developed nations. The incidence of blindness in Kenya is estimated to be in the range of one and one-half per cent, including the totally blind and those people with a visual acuity of less than 20/200. The distribution of the causes of blindness is calculated as follows: Senile cataract, 43.6 per cent and infections, 36.9 per cent. The remaining 20 per cent include trauma, glaucoma, non-senile cataract and uveitis. It is highly significant that 80 per cent of the blindness in Kenya is either treatable or preventable. Those Kenyans suffering from ocular disease not causing blindness, but resulting in significant disability, comprise a large proportion of the total population--an estimated ten per cent, or over 1,000,000 persons.

The Mobile Eye Unit program was the first organized attempt to deliver eye care to rural Kenyans and was begun in 1963. In view of the great need for rural eye care and the limited funds and trained personnel available, it was decided that a Mobile Eye Unit program would best suit the existing needs and the resources available. From the initial single Mobile Eye Unit put in operation in 1963, the program has been expanded to the present six fully equipped Mobile Eye Units. Each Mobile Eye Unit is begun with an

ophthalmic medical assistant who is trained at Kenyatta Hospital in a special twelve-month program begun by Doctor G. G. Bisley of the Kenya Ministry of Health. Each trainee, after assignment to an area where his own language is spoken, selects his own driver and ungraded assistant. Each fully developed mobile eye team has a Land Rover vehicle, surgical and diagnostic instruments and medical supplies and ranges over a wide area seeing patients in government and mission hospitals and local health centers.

The role of the medical assistant in the delivery of health care in Kenya is an important one. There are fewer than 1,100 physicians in Kenya, and despite the yearly addition to that number made by the Medical School at Kenyatta Hospital, the ration of physicians to population continues to decrease significantly each year. This fact, based on the phenomenal population growth rate, makes apparent the difficulties inherent in delivering medical care in Kenya. The African medical assistant is, thus, the first line of defense in the delivery of health care and the one on whom the brunt of the clinic load falls in mission and government hospitals, health centers and clinics. With the even greater scarcity of qualified ophthalmologists, the specially trained ophthalmic medical assistant becomes the keystone to the effectiveness of the Mobile Eye Unit program.

Recognizing the importance and effectiveness of the Mobile Eye Unit program, the International Eye Foundation for the past four years has worked with the Kenya Society for the Blind and

the Kenya Ministry of Health in the development and supervision of this program.

In view of the fact that almost 80 per cent of ocular disease in Kenya is either curable or preventable, any realistic and effective program must address itself to *both* the *preventive* and *therapeutic* aspects of eye care. The work of the Mobile Eye Unit program has, up to the present, been largely concerned with curative eye care, and though it recognizes the necessity of work in the areas of blindness prevention and health education, resources for the development of an effective preventive eye care program are simply not available.

The medical and surgical work of the present Mobile Eye Unit program is critically important because its six fully equipped Mobile Eye Units and four undeveloped units are the only significant source of eye care for the more than 11 million rural Kenyans. Although the Mobile Eye Unit program is at present clearly inadequate to meet all the critical needs of the people, and though it is marginally funded and working at capacity, neither expansion of the services to include preventive eye care, nor more adequate support for the program is possible because of the lack of technical and financial resources.

IEF PRIOR EXPERIENCE AND CAPABILITIES:

For the past 15 years, the International Eye Foundation has successfully demonstrated to governments, international funding agencies, and other institutions concerned with the social and economic impact of blindness and related eye disease, its

ability to plan and implement in-depth eye health care and disease prevention programs.

International Eye Foundation programs currently being conducted in developing nations are designed to impact meaningfully on critical social and economic problems at hand and are intended to involve participation of national, regional and community institutions in solving their mutual problems.

Specifically, the IEF's experience lies in designing and implementing health care projects in areas where there are few ophthalmologists available to provide eye care and where the incidence of blindness and ocular morbidity is alarmingly high. Significantly, the large numbers of either blind or disabled from ocular disease are most often the very young or those who are in their productive years and who are therefore unable to contribute to the social and economic well-being of community life.

As a result, the delivery emphasis of the IEF's efforts has been aimed at the large numbers of urban and rural poor who are beyond the range of current social services. A broad range, multi-faceted approach has been designed to accomplish this. Although each eye health care and prevention program is tailored to a specific country's needs, an approach is used combining increased treatment services, long and short term post-graduate and undergraduate training, and a broad, public health oriented education and disease prevention program.

IEF units are established only where requested, where the needs are greatest, and where local facilities are inadequate and understaffed. Each unit is a cooperative effort between the IEF and the Host Country and is designed to phase out after it is determined that a self-sustaining, continuous ophthalmic program has been established.

As an example, the IEF has been working closely with the Ethiopian Ministry of Health and the U.S. Government during the past year to expand the current delivery of eye health to include a broader emphasis on health education and disease prevention. The Ethiopian MOH estimates that more than 14 million of its over 25 million population suffer some form of eye disease, most notably trachoma. Recognizing that such widespread disease impacts directly on social and economic development at the local level, the MOH has placed a high priority on developing a solution to this largely preventable problem. Included in the IEF's approach are an IEF directed epidemiological study, an influx of IEF teaching personnel, public health specialists and paramedical training personnel, as well as sizeable amounts of equipment and medical supplies. These resources will be combined into a comprehensive coordinated program which will be conducted over a three year period.

Integral to the IEF is its affiliation with leading U.S. universities and ophthalmological teaching centers, some of which are: Washington University in St. Louis, Missouri (El Salvador); the U.S. Department of the Navy (Ethiopia); the Jules Stein Eye Institute of the University of California at Los Angeles (Honduras);

Yale University in New Haven, Connecticut (Haiti); Walter Reed Army Medical Center, Washington, D.C. (Peru); Scheie Eye Institute of the University of Pennsylvania, Philadelphia, Pennsylvania (Ethiopia); Proctor Foundation in San Francisco, California (Peru); Johns Hopkins University, Baltimore, Maryland, and New York Eye and Ear Infirmary, New York, New York (Fellowship Program); and Georgetown University in Washington, D.C. (Ophthalmic Assistant Program).

In order to respond immediately to a given country's request for improved eye health care, the IEF has established an Ophthalmic Assistant Training Course (OATC) to train indigenous personnel to free local ophthalmologists for treatment of the more serious cases. These Ophthalmic Assistants provide preliminary screening, minor diagnosis and treatment of patients and assist the ophthalmologists in all basic aspects, saving this highly skilled and trained medical doctor up to 60% of his time.

Approved by the Joint Commission on Allied Health Personnel, the first IEF OATC Program was conducted in 1972 in Indonesia, which has a population of 120 million and only 120 eye doctors. Working with the Indonesian Ministry of Health and the University of Djakarta, two three-month courses were taught, resulting in 36 graduate Paramedical Assistants. An OATC graduate attended the two-year program at Georgetown University, Washington, D.C., returned to Djakarta and instituted a permanent program for Indonesia. Similar programs have been conducted in the Philippines in 1973,

Bangladesh in 1974, Barbados in 1975, and Pakistan in 1975-1976.

For several years, the U.S. Government--through USAID--has recognized the social and economic impact of eye disease and blindness and the IEF's abilities in the planning and implementation of realistic programs. AID has awarded major grants to the IEF to develop teaching and health care programs in selected developing countries.

As an example, the U.S. Government requested the IEF to initiate a corneal teaching program in Bangladesh in 1973. A team of volunteer eye surgeons was dispatched, a wide range of medical equipment and necessary supplies was obtained, and the Islamia Eye Hospital in Dacca was completely equipped. The Field Staff trained operating room technicians, organized glaucoma screening clinics, and established an Ophthalmic Assistant Training Course. Contemporary local customs prohibited the donation of corneas, but as a result of the IEF's involvement, the "Blindness Prevention Ordinance of 1975" was passed, enabling citizens to donate their eyes. Initiated by the IEF, this highly sophisticated program is now directed by a U.S./IEF trained Bengali ophthalmologist.

To further the teaching aspects of its programs, the IEF has sponsored 451 long and short term Fellowships both to the U.S. and abroad. These particular programs are designed in conjunction with U.S. teaching centers. Depending on the sub-specialty interest, participants are rotated to selected university programs.

The Visiting Professor/Senior Surgeons Program, the IEF's program to utilize volunteer U.S. Senior Surgeons, is coordinated through the Society of Eye Surgeons (SES). The SES was organized by the IEF in 1969 as an international body to promote the science of ophthalmic surgery worldwide. The SES now has 1,200 members representing professional excellence from 28 countries. The governing Board of Consultants lists the most prominent individuals in ophthalmology worldwide.

The SES convenes a Congress every two years to discuss advances in all aspects of eye surgery. The I World Congress was held in Washington in 1969, successive ones in Athens and San Salvador. Each Congress is an intensive meeting in which two to three hundred surgeons contribute significantly towards upgrading eye health care in many countries.

Thus, while the IEF began in 1961 as the International Eye Bank, it has grown significantly and systematically in range of activities. At first a program to distribute eye tissue to developing nations and to assist in the establishment of eye banks, the International Eye Foundation is now a major organization for the design, delivery, management and evaluation of eye health care systems in developing areas worldwide.

IV. PROJECT ANALYSIS

ECONOMIC EFFECTS:

As stated above, 80% of the people located in six rural target areas live largely outside the money economy and are subsistence farmers or herdsmen, wholly dependent on the fruits of their physical labors.

The debilitating effects of widespread blindness and eye disease in this context have more of a direct impact on abilities to produce than any other illness--simply because the illness is rarely fatal and the victims--always rendered unproductive--can very rarely be absorbed into the local subsistence economy.

In addition, a major portion of those afflicted even temporarily with an eye ailment are the young or those in their productive years.

Studies have proven that the proposed program of taking services to the people is the most effective and economical approach (cf. Maurice King, Medical Care in Developing Countries).

Statistics show that the number of out-patient attendances per person falls precipitously the greater the distance that separates the patient's home from the hospital or clinic. In a study done in Kenya it was shown that the average patient traveled six miles (10 km) to receive care. Sheer economy demands that traveling be minimized by enabling a few staff members to deliver care and prevention services over a wide distance.

The value of time used by numerous patients traveling to and fro and waiting at the clinic must be given economic consideration. For adults who are directly responsible for economic production and well being, there may be even more hidden costs than transportation. So, the need for expanded, far-reaching eye care and prevention is real and acute in these areas of Kenya.

Economic consideration must also be given to the approach's demonstrated ability to deliver services to large numbers of people at a low per capita cost. In terms of direct cost effectiveness, the MEU program is conducted with remarkable efficiency. In 1973 over 140,000 patients were seen by the KSB and MOH at 709,000 KS-- 5.06 KS or 62¢ each. The envisioned prevention and health education program can continue to demonstrate this level of cost effectiveness.

TECHNOLOGY TO BE USED:

The technology to be used includes more effective and more advanced preventive and therapeutic eye care to be delivered to ophthalmic and preventive clinical assistants working in the field by American ophthalmologists, surgeons and public health specialists.

The teaching approach at all levels--medical assistants, preventive assistants, village and school leaders, will be as direct and as basic as possible. As was pointed out above, equipment and medicines used are kept as simple as possible, and central to the whole program is the training and supervision of teams of Africans to work among their own people.

The equipment and technology necessary to conduct preventive screening and follow-up treatment does not involve highly specialized degrees of technological sophistication. Once the basic procedures of identification and treatment have been taught to a medical assistant, all that is needed is a means of reaching the people, a flashlight, a supply of drugs, and an assortment of other inexpensive diagnostic equipment. Even the more sophisticated surgical procedures once learned, such as cataract surgery, require only relatively basic equipment. Eye care and prevention and the technology needed to provide them can be adapted exceedingly well to rural health care delivery.

PERTINENT SOCIO-CULTURAL FACTORS:

The implementation of this project will take place in a socio-cultural environment conducive to its success and favorable impact. Firstly, the peoples and tribes of the six target areas have for 12 years been exposed to and benefited from the advantages and results of medical technology available in the long-existing MEU program.

Secondly, a strong, advantageous impact has been made by highly visible curative services already provided, so that the less striking preventive services will nevertheless be accepted by the people. Evidence of acceptance by the people ranges from the incident of a blind Somali woman walking 300 miles to be cured, with a subsequent steady influx of people from her area,

to the steadily increasing numbers of diverse peoples coming for eye health services.

Thirdly, the key personnel proposed for this project are of high leadership qualities. A medical doctor generally has a uniquely influential position in the local community. The proposed Project Director, Doctor Whitfield, has a demonstrated, highly impactful leadership role already established among the peoples, the medical assistants, the Kenya Society for the Blind, the Ministry of Health and the Kenyan Government. The proposed Assistant Director likewise has already demonstrated abilities to work successfully within a variety of East Africa settings. The important MEU assistants will be indigenous leaders, each one versed in the rural conditions, language and customs particular to the area served by his unit.

Fourthly, the impact upon traditions and values will be strongly positive because the vehicle for the betterment of health care will be both the formal and informal educational systems, both of which are valued by the people of these developing areas.

Fifthly, the impact upon women will be significant because disease prevention and health education will be addressed above all to mothers, educating them in nutrition, diet, hygiene and child health care. Furthermore, the mobile nature of this delivery system facilitates reaching this all-important segment of the population who would find it difficult if not impossible to travel far for health services while burdened with the care of children, cooking and food raising.

Sixthly, this project will greatly strengthen the Host Country capabilities because it will train and develop the village and local health workers, the first line of defense in a country's health system. Furthermore, the medical assistants, nurses and ungraded assistants trained in disease prevention and health education will add significantly to the corps of indigenous personnel essential to the development of health services for the poorest majority.

INSTITUTIONALIZATION:

One of the IEF's overriding concerns in planning this proposed program has been the development of an approach that not only insures maximum impact but also works within a framework which contributes to the continuance and effectiveness of the program after the cessation of USAID and IEF inputs.

The proposed program will be conducted largely within the framework of the KSB's MEU program developed over the past ten years. The current curative program is a joint effort involving the KSB, MOH and IEF, with the MOH providing the bulk of input in personnel and facilities. The KSB provides the vehicles, instruments, planning and management with the IEF providing supervisorial technical assistance, training and quantities of equipment and supplies.

The IEF's proposed approach will be integrated into this existing, institutionalized structure and is aimed at extending both the scope and reach of the curative services through the

added dimensions of health education and disease prevention services.

USAID and IEF inputs are largely limited to personnel, supplies, training and the development of an overall comprehensive approach. Large capital expenditures other than vehicles, are non-existent. As was stated earlier, the project is aimed at training teams of Africans to work among their own people. Once trained, these people, although employed by the MOH, will continue to function within the structure managed mainly by the KSB, an indigenous organization with a proven track record in developing and administering a successful program which reaches a large rural population beyond the reach of social services (in 1974, 600,000 people served at 64¢ per person).

Although a large share of the continued responsibility for administration, planning and funding will be carried on by the KSB once the inputs provided by AID and IEF have been discontinued, the IEF is acutely aware that the KSB will depend heavily upon inputs from the MOH. The fact that this expanded program will require defined, on-going commitments and support have been heavily stressed by the IEF in planning talks with the MOH. Indeed, strong indications that this guideline would be adequately followed played a significant role in the IEF's decision to proceed, in light of its limited resources, with this revised project proposal.

It is important to note that the MOH has made several decisions which clearly indicate its desire for and the recognition of the need for a comprehensive eye care program. Addition-

ally, the MOH has demonstrated a long range plan to assume management responsibilities of an on-going program. The additional personnel who will be assigned for training are currently employed or will be employed by the MOH. This is significant in that the major share of the on-going program costs will be for personnel. Among these personnel will be three indigenous ophthalmologists who will be trained by the senior IEF ophthalmologists assigned to the project, the first indigenous eye surgeons. In January, 1976 the MOH is assigning three graduate medical students to Doctor Geoffrey Bisley, Senior Ophthalmic Consultant and Director of Eye Services at Kenyatta National Hospital for training as residents in ophthalmology. They will be sent to England for 18 months of intensive academic training. They will receive no surgical training while in England, but will return to Kenya as Junior Ophthalmologists to complete their surgical training under U.S. Board Certified ophthalmologists supplied by the IEF. The education and employment of these indigenous surgeons will be supported by the MOH. At the completion of the proposed project these surgeons will be fully qualified and capable of assuming responsibility for the field operations of the curative and prevention units.

All the foregoing factors add up to a reasonable assurance that sufficient institutionalization will occur in the comprehensive eye care and disease prevention program in Kenya.

V. PROJECT DESIGN AND IMPLEMENTATION

GENERAL DESCRIPTION:

The proposed health education and blindness prevention program will be established substantially by being integrated into and expanding the scope of an already well-functioning, cost effective MEU program managed by a capable, private indigenous voluntary organization, the Kenya Society for the Blind. Thus there is a proven, solid base upon which to structure the new program.

The core of this new program is the HEP unit, which will deliver health education and prevention services to the people. Two of these units will be established each year of the three year program. Their movements will be coordinated with the already existing MEUs and their curative services. The HEPs will be stationed at strategically located population centers, rotate over fixed routes on a regular basis so that the peoples will become used to periodic health services and precede the MEUs by an appropriate number of days so that preliminary screening, minor diagnosis, treatment and referral can be timed for the MEU follow-up. Such preliminary work accomplished will permit an even more intensive, efficient application of MEU personnel and equipment, giving the latter a multiplier effect in curative services. The MEU personnel will thus be able to spend more time in essential surgery.

Simultaneous in the HEP units' delivery of services, however, will be health education and disease prevention, teaching, training and demonstration work. This work will comprise the other main effort of the HEP units and is aimed primarily at the long range objectives of a lowered incidence of disease, data on prevalence and the training and education of health workers and the people in public health measures.

The implementation plan for this specific part of the program will be designed by the Program Director, the Public Health Specialist, the Ophthalmologist/Epidemiologist and the Public Health Nurse. The implementation will then be the primary responsibility of the Public Health Specialist. He will work with the ophthalmic surgeons, Public Health Nurse and Medical Assistants to determine the rotation schedule for the HEP units, how they are to be outfitted, curricula and teaching aids for public health education and procedures for screening and referral to the MEUs.

The Public Health Specialist will work closely with the Ophthalmologist/Epidemiologist to determine procedures for carrying out the prevalence/incidence study to be integrated into the HEP program. This study will provide data to guide program decisions according to needs in given areas, to evaluate progress in disease prevention and to point out other health services that can be delivered eventually by the MOH.

The training and education efforts of the HEP units will be aimed at several levels of health workers, at school populations,

churches and voluntary organizations and at the people in general. In other words, efforts to effect public health measures will use every ready made channel already available. Teachers, leaders, administrators and indigenous healers will all be approached to reach great numbers with improvements in nutrition, hygiene and child health care.

The HEP units will work extensively in pre-natal and under-five clinics, as well as in schools and existing local and regional clinics. Both screening and referral and public health education and training will be done on a periodic basis in these locations.

The teaching and demonstration methods, the aids and technical devices and the ideas and conceptual matter will all be kept very simple. Nothing technologically complicated or unwieldy will be used. Every procedure in this public health education will be designed so as to be easily communicable on the simplest technological levels.

The capabilities outlined above are also to be added in a sequential manner to the six existing MEUs. Two Ophthalmic Assistants will be trained yearly in public health and preventive measures so that they, too, will contribute to reaching the longer range objectives of the total program.

The activities of the MEUs will remain primarily curative in nature for the duration of the program. Central to their eventual takeover by indigenous ophthalmologists is the assigning by the MOH of three medical graduates to further studies in ophthalmology for approximately 18 months, following which they will do

surgical training in the MEUs under the supervision of the Program Director and Assistant Director, both U.S. Board Certified ophthalmic surgeons.

The three Kenyans will gradually assume more and more direct responsibilities for all aspects of the delivery system for rural eye health care services, providing the fundamental element for the progressive indigenization of this program. Gradual introduction into these responsibilities will be closely and carefully aided by the MOH, the KSB and the supervising ophthalmic surgeons.

Supervisory activities by the latter will be of considerable importance to the implementation of the program at all levels. They will provide regular recognition of and supervision for the personnel of both MEUs and HEP units in order to keep motivation and performance standards high and improving. They will be responsible for periodic evaluation of all units, personnel, trainers and trainees.

Reports of these periodic evaluations will be included in the reports of progress measured against the implementation plan submitted every six months by the program directors to the USAID Mission of Kenya and to AID/Washington.

Finally, an experienced administrator will be engaged to direct program operations during the first year. He will train an indigenous administrator over a one-year period so that all administration can be handled by a Kenyan by the third year of the program.

Takeover of the program by the MOH and KSB should be possible by the end of the third year. The in-field training of Kenyan ophthalmologists, the formation of a corps of paramedical assistants, the gradual entry into efficient operation of all HEPs and the local takeover of program management will have reached a plateau sufficient for withdrawal of major outside support.

Final evaluations by the program directors and recommendations resulting from the prevalence/incidence studies will be made to the MOH, KSB and USAID at the end of the third year.

By then the effort to bring self-sufficiency in eye health care for the rural poor of a major portion of Kenya will have completed three years of blindness prevention and health education.

ACTIONS AND TIMING:

FIRST YEAR

1. Assignment of personnel during first year:
 - a. Program Director
 - b. Assistant Program Director
 - c. Public Health Specialist
 - d. Public Health Nurse
 - e. Local Program Administrator
 - f. Two Medical Assistants
 - g. Two Ungraded Assistants
 - h. Two Drivers

1. Part Time American Epidemiologist/Ophthalmologist
2. Two mobile units operational in health education and prevention.
3. Two MEUs up-graded in health education and prevention.
4. Finalized over-all strategy for delivery of health education in the areas of personal hygiene, diet and nutrition, and maternal child health care through the means of publications, radio, posters, schools, local leaders, indigenous healers.
5. Training programs for health education and prevention to be designed and delivered.
6. Design and implementation of training programs for Medical and Ungraded Assistants.
7. Design and initial implementation of epidemiological study.
8. Procurement and allocation of essential equipment and supplies.
9. Semi-annual evaluations done by program directors.

SECOND YEAR

1. The integration of three Kenyan ophthalmologists into surgical training programs in MEUs.
2. Two additional mobile units (MEUs) up-graded in prevention and health education.
3. Two additional health education and prevention (HEPs) units made operational.
4. Prevalence/incidence study begun in coordination with MEUs and HEPs.

5. Two Medical Assistants assigned and on the job.
6. Two Ungraded Assistants assigned and on the job.
7. Indigenous administrator in training for eventual takeover as full time director of operations.
8. Public Health Nurse assigned and on the job.
9. Semi-annual evaluations done by program directors.

THIRD YEAR

1. Three Kenyan ophthalmologists begin gradual takeover of responsibilities for MEUs.
2. Two additional mobile units up-graded in prevention and health education.
3. Two additional prevention and health education units made operational.
4. Two more Medical Assistants assigned and on the job.
5. Two more Ungraded Assistants assigned and on the job.
6. Indigenous administrator now fully responsible for program operations.
7. Prevalence/incidence study to be completed at the end of third year; recommendations to be made for follow-up.
8. Semi-annual and final evaluations done by program directors.

PERSONNEL AND JOB RESPONSIBILITIES:

1. Program Director/Senior Ophthalmologist - Randolph Whitfield, Jr., M.D. Four years active experience in professional medical assistance and teaching in rural Kenya. Excellent face-to-

face relations with populations. Full range of cross-cultural skills. Combination of personal, professional, managerial, cross-cultural, and experiential skills makes Dr. Whitfield ideal for directing and facilitating the implementation of this program. Excellent working relations with Ministry of Health and Kenya Society for the Blind over four year period. Extensive in-depth experience in delivery of eye health care in Kenya. As Program Director, Dr. Whitfield will:

- a. Be Chief Executive Officer responsible for the development of over-all program objectives, design, implementation, personnel and outputs.
- b. Act as Chief Eye Doctor and Surgeon.
- c. Be directly responsible for three Mobile Eye Units and three Public Health Prevention Units.

2. Ophthalmic Surgeon - Larry Schwab, M.D. Two and one-half years' active experience in delivery of eye health care services in Ethiopia. Will strengthen greatly the implementation, training and management of this program. Chief duties:

- a. Assistant Program Director.
- b. Chief Assistant in helping deliver eye health care, surgery, and teaching and training.
- c. Directly responsible for three Mobile Eye Units and three Public Health Education and Prevention Units.

3. Public Health Specialist - A Masters in Public Health. Given an intensive short course as Ophthalmic Assistant, if necessary. Job responsibilities:

- a. Work with Senior Ophthalmic Surgeons in developing public health prevention and education.
 - b. Work directly with each of the public health and prevention units.
 - c. Monitor all day-to-day operations of public health and prevention units.
 - d. Develop curricula and conduct teaching and training programs for public health and prevention units.
4. Ophthalmologist/Epidemiologist - James Ganley, M.D.
Part time throughout the three year period. Responsible for:
- a. Epidemiological studies.
 - b. The interpretation and evaluation of statistics gathered in epidemiological studies.
 - c. Formulation of recommendations and proposal of follow-up procedures.
5. Indigenous Public Health Nurse - This position will be of primary importance in the development and delivery of the local primary level of all public health education and prevention systems.
6. Local indigenous Administrator - This position should be filled by an experienced Kenyan, knowledgeable in finances, payments, records, logistics, supplies, vehicles and licensing.
7. Medical Assistants - These will be African-trained by the Ministry of Health, i.e., Medical Assistants who have completed three years at Kenyatta National Hospital. Two will be engaged in

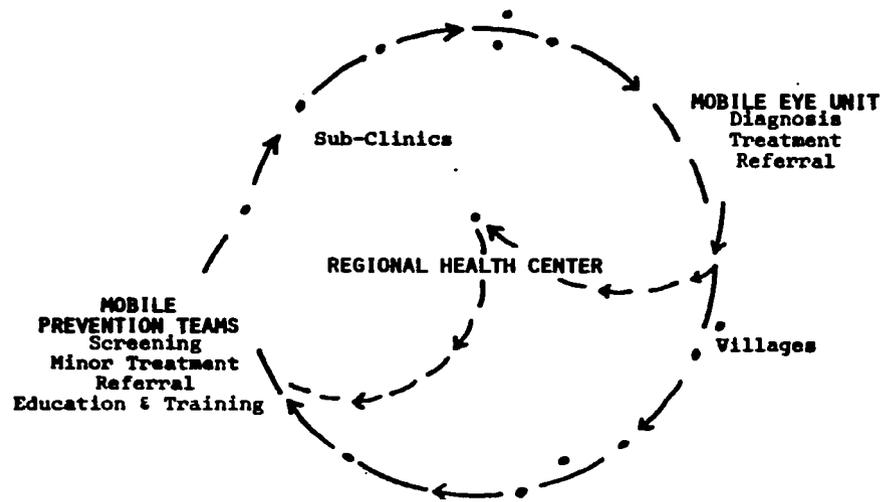
the first year, two the second year, and two the third year of the program. Their duties will be:

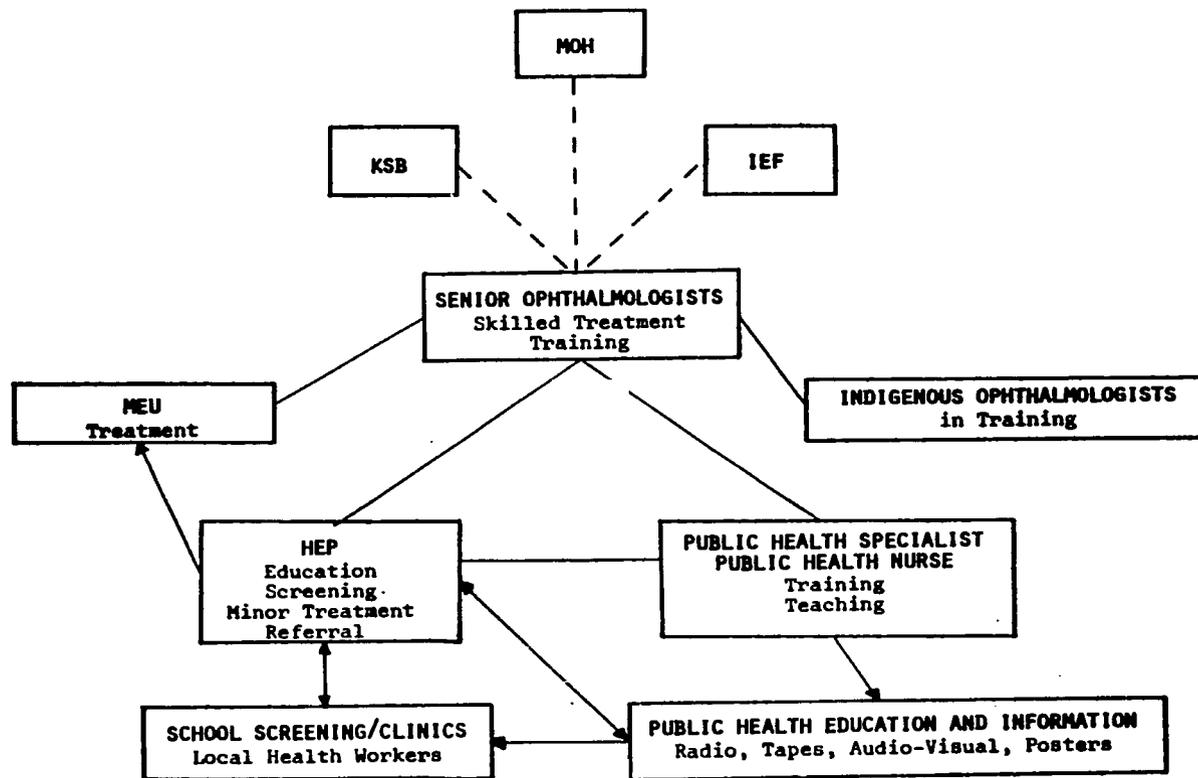
- a. School screening.
- b. Regular pre-natal and under-five clinics.
- c. Conduct regular training sessions.
- d. Lectures.
- e. Referral of patients to MEU and other public health facilities.
- f. Daily supervision of health education and prevention unit.

8. Six Ungraded Assistants - These will assist the Medical Assistants in:

- a. Filling out of forms.
- b. Screening people.
- c. Collecting relevant data.
- d. Aiding in all operational functions.

9. Six Drivers - These drivers will be responsible for driving and maintaining the six public health and prevention mobile units.







POPULATION

Persons per square mile
 0 - 25 25 - 100 100 and over
 Persons per square kilometer
 0 - 10 10 - 40 40 and over
 Source: Census of August 1962

● LOCATION OF HBU - HEP UNITS

May	JULY	Sept	Nov	1979 JAN	Mar	May	JULY	Sept	Nov	Dec	JAN
2 Additional MEUs Functioning in Prevention & Health Education (Total: 4)				2 Additional MEUs Functioning in Prevention & Health Education (Total: 6)							
2 Additional PMAs (Total: 4)				2 Additional PMAs (Total: 6)							
2 Additional HEP Units (Total: 4)				2 Additional HEP Units (Total: 6)							
				Kenya's Take Over Surgical Programs & Supervision of Paramedicals							
				→							
2 Additional UAs (Total: 4)				2 Additional UAs (Total: 6)							
P/I Study Expanded to New Units				P/I Expanded to New Units				P/I Stud Complete			

MINISTRY OF HEALTH

Telegrams: "MINHEALTH" Nairobi
Telephone: Nairobi 21581,
When replying please quote

Ref. No. DS/7/A/61/Vol.1/32
and date



AGRICULTURE HOUSE
HARAMBEE AVENUE
P.O. Box 30016, NAIROBI

.....27th October 1961

Mr. Charles A. Nelson,
Mission Director,
USAID Mission,
P.O. Box 302161,
Nairobi.

Dear Sir,

RE: KENYA RURAL EYE CARE PROGRAMME

My Ministry attaches the greatest importance to the development of an adequate health care delivery system that would reach the majority of our people in the rural areas. Consequently any programme designed to meet this objective would receive the greatest support from this Ministry.

The Kenya Rural Eye Care Programme would be committed to the development of preventive and curative eye care, with particular emphasis on the rural areas of Kenya. We are also keenly aware that in this country the vast majority of blindness is both preventable and treatable and that the Mobile Eye Units, manned by specially trained Medical Auxiliaries under the supervision of an ophthalmologist have over the past twelve years, made a great impact in dealing with this problem.

As you may already know, we have had for a number of years a special training programme in ophthalmology for post-graduate doctors and another one for Medical Auxiliaries at the Kenyatta National Teaching Hospital under the direction of a Senior Government Ophthalmic Consultant. As this Ministry intends to assume responsibility for the operation and management of the rural eye care programme as soon as it is capable of doing so, the training programmes just mentioned are of great importance in supplying ophthalmologists and paramedical personnel to run this project. We anticipate that within three years we will have trained six ophthalmologists who are to be assigned to work at Provincial level in rural Kenya.

Due to limited Government resources, a number of agencies have been helping us in our extended ophthalmic programme. In particular the Kenya Society for the Blind and the International Eye Foundation of Washington D.C.

This development programme is coordinated by our Prevention of Blindness Committee of which the Chairman is a Senior Member of this Ministry.

VII. CONDITIONS

See contents of attached letters:

1. Approval of proposed project by Kenya Ministry of Health.
2. Intention of MOH to assume, as soon as capable, responsibility for proposed project.
3. Approval and support by Kenyan MOH Senior Ophthalmic Consultant.
4. Approval and support by Kenya Society for the Blind.

VII. CONDITIONS

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MINISTRY OF HEALTH



Telegrams: "MOHEALTH" Nairobi
Telephone: Nairobi 21381,
When replying please quote
Ref. No. DC/7/A/61/Vol.1/32
and date

AGRICULTURE HOUSE
HARAMBEE AVENUE
P.O. Box 30016, NAIROBI

.....27th October, 1975

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Mission Director,
USAID Mission,
P.O. Box 302151,
Nairobi.

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MINISTRY OF HEALTH



AGRICULTURE HOUSE
HARAMBEE AVENUE
P.O. Box 30016, NAIROBI

Telegram: "MINHEALTH" Nairobi
Telephone: Nairobi 27381.
When replying please quote

Ref. No. DS/7/A/61/Vol.1/32
and date

.....27th October 1975

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USAID Mission,
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Nairobi.

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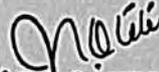
This development programme is coordinated by our Prevention of Blindness Committee of which the Chairman is a Senior Member of this Ministry.

However, much more material, technical and financial assistance is required to make a real impact on total eye care, through the agency of the projected preventive and curative programme developed by the International Eye Foundation.

Therefore I wish to restate my enthusiastic support for the Operational Grant submitted to U.S.A.I.D. one year ago by the International Eye Foundation. I understand this grant will not affect the normal allocation that the Kenya Government obtains from USAID.

With this grant it will be possible to extend our training and preventive programme into many areas where eye care is so desperately needed.

Yours Sincerely,



(DR. J. OTETE)

for: PERMANENT SECRETARY

Telegram: "Micosu", Nairobi
Telephone: 29122/3
25191/3

When replying please quote

Ref. No.
and date



KENYATA NATIONAL HOSPITAL
P.O. Box 30024, NAIROBI

23rd October 1975

To: The Permanent Secretary,
Ministry of Health,
P.O. Box 30016,
NAIROBI.

Dear Mr. Kyalo,

RE: KENYA RURAL EYE CARE PROGRAMME
O.P.C. REQUEST - U.S.A.I.D.

As your Adviser in Ophthalmology, I wish to place on record my enthusiastic and whole-hearted approval of this imaginative and generous programme of aid through U.S.A.I.D., and I sincerely hope that it will go through successfully.

You are, I know, aware that the existing Kenya Extended Ophthalmic Programme for rural eye care started in 1967 through our six Mobile Eye Units, and the setting up of static Eye Clinics in Government Hospitals in strategic areas, has already made a considerable impact on the problem. With this, in our training course in Ophthalmology for Clinical Officers at the Kenyatta Hospital, to increase suitably qualified ophthalmic assistance.

However, the fact is that we have now reached saturation point, as we have not the financial resources to proceed further. This aid scheme would enable us, in a co-ordinated manner, through our Prevention of Blindness Committee, of which the Chairman is a senior member of your Ministry, to reach out into the important field of prevention of eye diseases, besides giving us the means to train and equip the teams of National personnel to do this.

It seems that there is a close parallel here to what Mr. Churchill once said to Mr. Roosevelt during the second world war - "Give us the tools, and we will finish the job". So may it be here in Kenya!

Yours sincerely,

G. G. DINEEN,
Senior Ophthalmic Consultant
Adviser in Ophthalmology to the
Ministry of Health.

Telegram: "Mombasa". Nairobi
Telephone: Nairobi 27921
When replying, please quote

Ref. No. ASS/14/1/12/Vol. I/125.
and date



AGRICULTURE HOUSE
MARSHALL AVENUE
P.O. Box 3094, NAIROBI

28th JANUARY..... 1975.

The Executive Officer
Kenya Society for the Blind
P.O. Box 46656
NAIROBI

(For the attention of Mr Mackay)

Dear Mr Mackay:

I have now had an opportunity to read your memorandum on the work of the Kenya Society for the Blind in the field of prevention and treatment of blindness in the rural areas of Kenya. I have studied also the comprehensive document prepared by the International Eye Foundation, Washington, D.C., for submission to USAID.

I have no hesitation in warmly commending the work undertaken by your Society in conjunction with my Ministry. The present Kenya Ophthalmic Programme sponsored by your Society has led to the establishment of a permanent Eye Clinic at five Government Hospitals and one Mission Hospital. In addition to the excellent work being done at these Eye Clinics a fully equipped Mobile Eye Unit has been attached to each hospital. These Mobile Eye Units provide treatment, both clinical and surgical, to thousands of patients each year during their regular visits to outlying hospitals, Health Centres and Dispensaries. As you know Government is committed to ensuring the extension of essential services such as Education, Health, etc. in the rural areas and this is exactly what the Mobile Eye Units are doing. That all the Units are supervised by a qualified Eye Surgeon is excellent and it is obvious that the Prevention of Blindness Committee which meets regularly to discuss problems which may arise and to review the work of the various Units has contributed a great deal to the success of the current programme.

I am pleased that my Ministry has been able to make available Clinical Assistants, specially trained in ophthalmology at the Eye Clinic, Kenyatta National Hospital, to take charge of the various Units and I have no doubt that as the present programme expands we will be able to meet your requirements in that direction. Blindness is a heavy handicap, with severe economic consequences for all concerned, so anything we can do to prevent blindness or to restore sight is highly desirable. I am pleased to support the application for funds to extend the current Kenya Ophthalmic Programme which has been submitted to USAID by the International Eye Foundation and I feel sure that USAID will give the application the sympathetic consideration which it deserves.

Yours sincerely,

PRM Reg. for Assistance

KENYA SOCIETY FOR THE BLIND
(KENYA SOCIETY FOR THE BLIND AFD, INC.)

AFFILIATED TO THE ROYAL CONGO-HEALTH SOCIETY FOR THE BLIND
(PATENTED)
 H.E. THE PRESIDENT OF KENYA

CHAIRMAN
 Dr. Whitfield
 Vice Chairman

P.O. BOX 4658, NAIROBI
 TELEPHONE: 28618

HON. TREASURER
 R. C. W. PIGGOTT
 Executive Officers
 ALEX. MACHAY, J.

13th. January, 1975.

Misc. L. Richards
 U.S./A.I.D.,
 P.O. Box 30251,
 NAIROBI.



See PRO

Dear Miss Richards:

I have pleasure in enclosing a copy of a memorandum which I prepared during a recent visit to Kenya of Mr. John Costello, Director of Administration, International Eye Foundation, Washington, D.C.

I hope it will give you a reasonable picture of the work being undertaken in Kenya's rural areas by my Society in conjunction with the Ministry of Health. Please do not hesitate to contact me if you require any further information.

We started our work in the field of prevention and treatment of blindness in a small way but now with trained staff and well equipped Mobile Eye Units based at Machakos, Meru, Nyeri, Kisumu, Mukumu, Kisii and Eldoret, in addition to established Eye Clinics at each of the Hospitals to which these Units are attached, I think it can be safely said that our Eye Surgeons and their teams are doing a splendid job in the rural areas.

We would like to expand our work in this field but the funds of the Kenya Society for the Blind are limited and there are other calls on our funds in addition to money ear-marked by the Council of the Society for prevention and treatment of blindness. If U.S.A.I.D. can give sympathetic consideration to the request made to by the International Eye Foundation, Washington, D.C. we will be most grateful. Perhaps I should add here that ever since I.E.F. kindly agreed to assist us our relationship with them has been most cordial and I am certain that this happy state of affairs will continue.

Yours sincerely,

Alex. Machay
 Executive Officer

Action	<i>PRM</i>
Info	<i>CH/Rec</i>
	<i>R.F.</i>
Answer due	<i>1-22</i>
Plan	
Initials	
Date	

AM/RSL.

c.c. Dr. Whitfield
 P.O. Box 1323,
 NYERI.

	M/1	A I D			K S B			M O H			T O T A L			Three Year Totals Per Category
		1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	
U.S. SURGICAL AND TEACHING PERSONNEL														
Assignment of 2 U.S. eye surgeons for 3 year period each:														
1. Program Director/Eye Specialist	36	24,000	26,400	29,000							24,000	26,400	29,000	79,400
2. Assistant Program Director/Eye Specialist	36	20,000	22,000	25,000							20,000	22,000	25,000	67,000
Fringe Benefits estimated @ 30% annual salary. Costs include Health Insurance, FICA, Retirement, Workmen's Comp., etc. Does not include retirement cost, FICA, etc., paid by individual employee:														
1. Program Director		7,200	7,920	8,700							7,200	7,920	8,700	23,820
2. Assistant Program Director		6,000	6,600	7,500							6,000	6,600	7,500	20,100
Seven R/T Economy Airfares @ \$1,700 each based on fares for 2 surgeons, wives and provisions for 3 full fares for children. Also includes provision for 35% inflation for return in 3rd year.														
		5,950		8,032							5,950		8,032	13,982
Shipment of household and personal effects and allowance for estimated 35% inflation for 3rd year.														
		5,600		7,560							5,600		7,560	13,160
Housing allowance @ \$225 per month.														
							5,400	5,400	5,400	5,400	5,400	5,400	5,400	16,200
One ophthalmic surgeon/public health specialist for 3 month epidemiological study - 90 days @ \$42														
	6	3,780	1,260	2,520							3,780	1,260	2,520	7,560
R/T Economy Airfare - Inflation factor of 35% over 3 year period.														
		1,700	1,997	2,295							1,700	1,997	2,295	5,992
Excess Baggage Allowance														
		200	270	350							200	270	350	820

	M/M	A I D			K S B			M O H			T O T A L			Three Year Totals Per Category
		1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	
One public health training specialist.	36	18,000	19,800	21,780							18,000	19,800	21,780	59,580
Fringe Benefits estimated 30% yearly.		5,400	5,940	6,534							5,400	5,940	6,534	17,874
Housing allowance @ \$175 per month.	36							2,100	2,100	2,100	2,100	2,100	2,100	6,300
R/T Economy Airfare @ \$1,700 based on one specialist, wife and two children (4 individuals). 3rd year includes 35% inflation factor.		3,400		4,590							3,400		4,590	7,990
Shipment of personal and household effects.		2,800		3,780							2,800		3,780	6,580
U.S. personnel for evaluation and consultation - one per year, 30 days each.	3													
R/T Economy Airfare		1,700	1,997	2,295							1,700	1,997	2,295	5,992
Per Diem - 90 @ \$42		1,260	1,260	1,260							1,260	1,260	1,260	3,780
		106,990	95,444	131,196				7,500	7,500	7,500	124,490	102,944	138,696	356,130
THREE YEAR TOTAL PER AGENCY			333,630					22,500			356,130			

	M/M	A I D			K S B			M O H			TOTAL			Three Year Totals Per Category
		1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	
AFRICAN PERSONNEL														
6 Current Mobile Health Units Drivers @ \$100 per month	216				7,200	7,200	7,200				7,200	7,200	7,200	21,600
Clinical Assistants @ \$200 per month	216							14,400	14,400	14,400	14,400	14,400	14,400	43,200
Ungraded Assistants @ \$60 per month	216							4,320	4,320	4,320	4,320	4,320	4,320	12,960
6 Public Health & prevention clinical assistants @ \$200 per month	72							14,400	14,400	14,400	14,400	14,400	14,400	43,200
6 Statistical health workers/drivers @ \$100 per month	36							7,200	7,200	7,200	7,200	7,200	7,200	21,600
1 Instructor Preventive Eye Care (PIH) @ \$200 per month	36	2,400	2,400	2,400							2,400	2,400	2,400	7,200
1 Local Administrative Manager @ \$500 per month	36	6,000	6,000	6,000							6,000	6,000	6,000	18,000
		<u>8,400</u>	<u>8,400</u>	<u>8,400</u>	<u>7,200</u>	<u>7,200</u>	<u>7,200</u>	<u>40,320</u>	<u>40,320</u>	<u>40,320</u>	<u>55,920</u>	<u>55,920</u>	<u>55,920</u>	<u>167,760</u>
			25,200			21,600			120,960			167,760		

	M/M	A I D			K S B			M O H			TOTAL			Three Year Totals Per Category
		1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	
U.S. PERSONNEL HEADQUARTERS AND MATERIAL COSTS														
Assistant Medical Director (20%)		7,200	7,920	8,712							7,200	7,920	8,712	23,832
Administrator (30%)		6,500	7,150	7,865							6,500	7,150	7,865	21,515
Secretary (100%)		8,500	9,350	10,285							8,500	9,350	10,285	28,135
		22,700	24,420	26,862							22,200	24,420	26,862	73,482
Fringe Benefits (30%)		6,660	7,326	8,058							6,660	7,326	8,058	22,044
		29,360	31,746	34,920							28,860	31,746	34,920	95,526
OTHER DIRECT COSTS														
Materials and Supplies		750	1,000	1,250							750	1,000	1,250	3,000
Telephone and Telegraph		3,000	2,000	3,000							3,000	2,000	3,000	8,000
Printing, Postage, and Reproduction*		2,500	1,500	5,700							2,500	1,500	5,700	9,700
Equipment		1,700	800	500							1,200	800	500	2,500
		7,950	5,300	10,450							7,450	5,300	10,450	23,200
* NOTE: Cost will include cost of publication of study on incidence, causes and socio-economic effects of eye disease in Kenya.		36,310	37,046	45,370							36,310	37,046	45,370	118,726
			118,726									118,726		

	M/M	A I D			K S B			M O H			T O T A L			Three Year Totals Per Category
		1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	
EQUIPMENT AND SUPPLIES														
I. Vehicles/expense & maintenance														
A. Maintenance & support of 6 MBs currently functioning @ \$4,800 ^a each per year.					28,800	28,800	28,800				28,800	28,800	28,800	86,400
B. Eight 4-Passenger 4-Wheel Drive vehicles @ \$10,000 each	40,000	20,000	20,000								40,000	20,000	20,000	80,000
C. Maintenance & support of 8 vehicles under Sec. B @ \$3,000 per year each	12,000	18,000	24,000								12,000	18,000	24,000	54,000
D. Spare Parts shipments, etc.	5,000	5,000	5,000								5,000	5,000	5,000	15,000
E. Cost of Insurance	2,000										2,000			2,000
F. Shipment of vehicles from U.S. to Kenya	6,000	3,200	3,200								6,000	3,200	3,200	12,400
	65,000	46,200	52,200	28,800	28,800	28,800					93,800	75,000	81,000	249,800
		163,400			86,400							249,800		
II. Surgical & Diagnostic														
A. Non-recurring:														
5 Surgical sets with case @ \$600 each	3,000										3,000			3,000
1 Portable operating microscope	1,800										1,800			1,800
5 Slit lamps @ 2,500 each	12,500										12,500			12,500
5 Tonometers @ \$125 each	625										625			625

	M/M	A I D			K S B			M O H			T O T A L			Three Year Totals Per Category
		1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	1st Yr	2nd Yr	3rd Yr	
II. Surgical & Diagnostic, Cont'd.														
5 Diagnostic retinascopes and ophthalmoscopes @ \$190 each		950									950			950
5 Lenses @ \$880 each		4,400									4,400			4,400
3 Trial lens sets @ \$985 each		2,955									2,955			2,955
6 A.O. trial frames @ \$130 each		780									780			780
12 Jackson Cross cylinders @ \$8 each		96									96			96
		(27,106)									(27,106)			(27,106)
B. Recurring														
Dependable Commodities: sutures, drugs & medicines, surgical supplies		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	30,000
Teaching Aids: books, supplies, printing, publicity (radio broadcasts, etc.)		20,000	19,000	19,000							20,000	19,000	19,000	58,000
		57,106	29,000	29,000	10,000	10,000	10,000	19,000	19,000	19,000	86,106	58,000	58,000	202,106
			115,106			30,000			57,000			202,106		
III. Shipping project equipment, commodities & supplies														
		5,000	2,500	2,500							5,000	2,500	2,500	10,000

MAJOR COST AREAS

	<u>1st Year</u>	<u>2nd Year</u>	<u>3rd Year</u>
U.S. Field Personnel	\$106,990	95,444	131,000
Equipment, Shipping, Maintenance	65,000	46,200	52,200
African Personnel	8,400	8,400	8,400
U.S. Headquarters Costs, Administration, Back-Up, and Support	36,310	37,046	45,300
Preventive, Diagnostic and Teaching Aids	57,106	29,000	29,000
Shipment of Equipment and Supplies	5,000	2,500	2,500
	278,806	218,590	268,600
	\$766,062		

Cost Per Man/Month for and Support of U.S. Professionals and families in the Field:

\$2,851.53

III. PROJECT ACTIVITIES

LOGICAL FRAMEWORK MATRIX - FROP WORKSHEET

Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>A.1. GOAL To improve the quality of life and increase the productivity of the peoples in six selected and highly populated areas of rural Kenya by reducing the incidence of eye disease and associated ocular disability</p>	<ol style="list-style-type: none"> 1. Reduce incidence of eye disease by % by year 2. Kenyans returned to productive and useful pursuits annually. 3. Kenyans screened and treated for eye disease annually. 	<p>A.3. On-going follow-up joint evaluation and review. IEF reports and records. USAID reports and records. Host Country reports. Kenya Society for the Blind reports and records. Embassy reports.</p>	<p>A.4.1. Improvement of eye care and delivery of Health Education and disease prevention contributes to the well-being and productivity of the peoples of rural Kenya. 2. Kenya Government will continue to demonstrate that development of an on-going system for the delivery of eye disease prevention and health education is a priority. 3. In Kenya visual disability from preventable and treatable ocular disease has a much greater social and economic impact than in developed nations. 4. Institutionalized capability in eye care importantly complements general health care programs.</p>
<p>B.1. PURPOSE To initiate a new program of blindness prevention and health education extending the capabilities of the KSB and the MOH to deliver effective eye care to the rural poor of six selected target areas over a three year period.</p>	<p>B.2. Conditions Expected at end of Project</p> <ol style="list-style-type: none"> 1. Three indigenous ophthalmologists trained in rural eye health care and assuming responsibility for the program. 2. Six fully operational HEPs. 3. Health education and disease prevention capabilities added to six existing NEUs. 4. Measurable impact in modifying personal hygiene in the six selected target areas. 5. Regular pre-natal and under-five screening clinics. 6. School screening and health education programs. 7. General screening and referral programs integrated with existing local and regional clinics. 8. Collection of baseline data on the incidence, cause and socio-economic impact of eye disease and blindness. 9. Primary health workers, teachers, opinion leaders and local authorities trained in diagnosis, referral, minor treatment and prevention of simple eye disease. 10. Confidence of target peoples in themselves and services delivered. 11. Takeover of program by MOH and KSB. 	<p>B.3. On-going joint evaluation and review. IEF reports and records. USAID reports and records. Host Country reports. Kenya Society for the Blind reports and records. Embassy reports.</p>	<p>B.4.1. MOH recognizes need for improved delivery of eye care to rural Kenya. 2. Three ophthalmologists train one year abroad and then assign to program. 3. Willingness to work in rural areas.</p>

LOGICAL FRAMEWORK MATRIX - PROP WORKSHEET

Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>C.1. OUTPUTS</p> <ol style="list-style-type: none"> 1. Ophthalmic Medical Assistants trained in public health aspects of delivering health education and eye disease prevention. 2. Prevention Medical Assistants fully trained in delivery of Public Health education and eye disease prevention, screening and minor treatment. 3. Mobile Prevention teams established. 4. Long term ophthalmic surgeons for teaching and supervision assigned. 5. Public Health Specialist for training and supervision assigned. 6. Short term Public Health ophthalmologist, epidemiologist for training, supervision and collection of relative data on incidence, causes and socio-economic effects on blindness and eye disease. 7. Ungraded assistants trained to assist in delivery of prevention, health education, screening, minor treatment, and collection of statistics assigned. 8. Public Health Nurse trained and assigned. 9. Public information material designed and distributed effectively. 10. Collection of baseline data reflecting the incidence, causes and socio-economic effects of eye disease and blindness. 11. Regular school screening and lecture programs in effect. 	<p>C.2. OUTPUT INDICATORS</p> <ol style="list-style-type: none"> 1. Staffs of existing curative units demonstrating new acquired skills of prevention and health education: two units by 1977, two by 1978, two by 1979. 2. Six fully trained prevention medical assistants trained in the field and on the job: two by 1977, two by 1978, two by 1979. 3. Six fully functioning, integrated mobile prevention and health education teams operating in the field: two by 1977, two by 1978, two by 1979. 4. Three indigenous ophthalmologists trained and on the job to direct continuing education and treatments by 1979. 5. One assigned and working throughout 3 year period 1976-1979. 6. One assigned and working on periodic basis throughout 3 year period 1976-1979. 7. Six trained and on the job: two by 1977, two by 1978, two by 1979. 8. One indigenous Public Health Nurse trained and on the job directing on-going prevention and health education programs by 1978. 9. 10. A completed comprehensive study by 1979, indicating the incidence, causes and effects of eye disease and showing impact of continuing program by lower incidence of eye disease among: <ol style="list-style-type: none"> a. under five age group b. school children c. over 45 age group 11. Two programs by 1977, two by 1978, two by 1979. 	<p>C.3. On-going joint evaluation and review.</p> <p>IEF reports and records. USAID reports and records. Host Country reports. Kenya Society for the Blind reports and records. Embassy reports.</p>	<p>C.4. 1. IEF has the expertise necessary to transfer ophthalmological technology, establish treatment and education centers, train auxiliary personnel and initiate blindness prevention programs specifically geared to substantial improving the day to day existence of rural Kenyans.</p> <ol style="list-style-type: none"> 2. Continued political stability in Kenya is necessary to achieve project goals. 3. School system accepting of health education and prevention program as screening. 4. Trainees successfully complete training programs and remain in positions for which trained.

LOGICAL FRAMEWORK MATRIX - PROP WORKSHEET

Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>C.1. OUTPUTS (Cont'd.) 12. Ante-natal/under 5 screening treatment, and referral clinic. 13. Indigenous Administrator trained and assigned.</p>	<p>12. 13. One administering overall program by mid-year of program's first year.</p>		
<p>D.1. INPUTS 1. AID Operational Program Grant 2. MOH technicians, technical resources, commodities, vehicles manpower. 3. Kenya Society for the Blind technical resources, commodities vehicles, manpower. 4. IEF technical resources, teaching and management capabilities.</p>	<p>D.2. See Budget</p>	<p>D.3. On-going joint evaluation and review. IEF reports and records. USAID reports and records. Host Country reports. Kenya Society for the Blind reports and records. Embassy reports.</p>	<p>D.4. (as related to Inputs) 1. AID funding will be provided as projected. 2. IEF has the ability to identify and utilize resources, financial, material and intangible, available at the local level. 3. KSB and MOH, as well as AID Regional and Mission levels will assist in providing local currency, manpower, equipment and facilities. 4. Qualified experts available. 5. Qualified trainers available.</p>