

CLASSIFICATION  
PROJECT EVALUATION SUMMARY (PES) -- PART I

Report Symbol U-447

<b>1. PROJECT TITLE</b>  Rural Blindness Prevention, Phase I ( IEF OPG)	<b>2. PROJECT NUMBER</b> 615-0173	<b>3. MISSION/AID/W OFFICE</b> USAID/Kenya
<b>4. EVALUATION NUMBER</b> (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) <u>615-81-04</u>  <input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION		
<b>5. KEY PROJECT IMPLEMENTATION DATES</b> A. First PRO-AG or Equivalent FY <u>76</u> B. Final Obligation Expected FY <u>79</u> C. Final Input Delivery FY <u>80</u>	<b>6. ESTIMATED PROJECT FUNDING</b> A. Total    \$ <u>2,325,000</u> B. U.S.     \$ <u>1,214,000</u>	<b>7. PERIOD COVERED BY EVALUATION</b> From (month/yr.) <u>June 1977</u> To (month/yr.) <u>July 1979</u> Date of Evaluation Review <u>July, 1979</u>

**8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR**

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)

B. NAME OF OFFICER RESPONSIBLE FOR ACTION

C. DATE ACTION TO BE COMPLETED

The final project evaluation was conducted by Dr. Alfred Buck of AID/W and Dr. David Vastine of IEF/Washington in June 1979. Their report, attached, was submitted to USAID/Kenya in July 1979.

Details of the project back ground are included in the report as is a list of specific recommendations (pg 23-24). Recommendations Nos. 1, 2, 3, 4 and 6 were taken into account during the design of the project second Phase and appropriate implementation actions were incorporated in the new project. The rest of the recommendations were discussed with the MOH and relevant organizations. The first evaluation of the Rural Blindness Prevention Phase II (615-0203) examined recommendations Nos. 2 and 3.

**9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS**

<input type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan e.g., CPI Network	<input type="checkbox"/> Other (Specify) _____
<input type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	<input type="checkbox"/> Other (Specify) _____
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	

**10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT**

A.  Continue Project Without Change

B.  Change Project Design and/or  Change Implementation Plan

C.  Discontinue Project    N/A

**11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)**

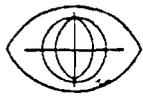
Nellie Muinde  
Program Operations Assistant

**12. Mission/AID/W Office Director Approval**

Signature: 

Typed Name: Allison B. Herrick

Date: 7-6-81



INTERNATIONAL EYE FOUNDATION  
kenya rural blindness prevention project

## EVALUATION REPORT

INTERNATIONAL EYE FOUNDATION BLINDNESS PREVENTION  
AND HEALTH EDUCATION PROGRAM - KENYA

*BEST AVAILABLE COPY*

## EVA LUATION

The evaluation report of the Kenya Rural Blindness Prevention Project is presented in three parts. In the first, a step-by-step assessment of the achievements is made according to the goals, purpose, outputs, inputs, evaluation indicators and assumptions of the Project, as listed in the logical framework matrix of the Project Paper. Due consideration has been given to the Project Implementation Schedule and to the scope of work for the Evaluation Team as detailed in the document of the Evaluation Plan for the International Eye Foundations Kenya Rural Blindness Prevention Project.

The second part summarises observations made by the Team that appeared to be particularly relevant for the second phase of the Project, after termination of the present grant at about March 1980.

Finally, the third part of the Report lists specific recommendations for the second phase of the Project, with emphasis on ways and means of how to integrate the Rural Blindness Prevention Project into a nationwide program of primary health care.

BACKGROUND

The current joint United States Agency for International Development (AID) and International Eye Foundation (IEF) evaluation of the Project Grant No. AID/afr-G-1266 is required before the termination of the three year International Eye Foundation's Rural Blindness Prevention and Health Education Program in Kenya. The project began in October, 1976 and a preliminary evaluation and recommendations for modification were presented to the IEF participants and AID/Washington in June, 1977. That evaluation was done by Isao Hosiwara, M.D. Senior Ophthalmologist, Indian Health Service and Joseph M. Deering, Program Development Officer of the IEF.

The evaluation team appointed by AID and IEF is composed of Dr. Alfred A. Buck, M.D., MPH-DR. PH., Tropical Medicine Advisor, Office of Health, Development Support Bureau, Agency for International Development, Department of State and David W. Vastine, M.D. Asst. Professor of Ophthalmology, Pacific Medical Center, San Francisco.

After familiarization with the project background and objectives and orientation and briefing by AID/W and the Africa Bureau/Department of State and IEF/W (Dr. Vastine) and AID/W (Dr. Buck) the evaluation team met in Nairobi and spent 11 days in Kenya directly involved in evaluation of the Project in various parts of the country where the project has on-going activities.

EVALUATION TIMETABLE - 24 June - July 6, 1979

- Sunday, 24 June - Arrival of Dr. Vastine in Nairobi
- Monday, 25 June - Open
- Tuesday, 26 June - 10.00 - Dr. Vastine met with Dr. Whitfield, Dr. Schwab, Mr. Swartwood and Mrs. Ann Fettner for overview of the project activities.
- Wednesday, 27 June - Arrival of Dr. Buck in Nairobi
  - Briefing Session - Whitfield, Schwab, Swartwood and Vastine
  - 2.00 - MOH - Dr. Kanani
  - 3.00 - Briefing Session - USAID
  - 4.00 - John Alden USAID
- Thursday, 28 June - 8.30 - Depart for Nyeri
  - Arrival - Meet and observe RBPU in operation.
  - In Nyeri District
  - Observe Clinic, laboratory and hospital facilities in Nyeri
  - Overnight in Nyeri
- Friday, 29 June - 8.30 - Depart for Nairobi
  - Arrival - Mrs. Ann Fettner - re Educational Materials
  - 2.00 - Mr. Alex Mackay - review of project budget and expenditures, Review of KSB and PBC history and function
- Saturday, 30 June - 9.00 Awan, Senior Ophthalmic Advisor, MOH.
  - Discussion of Rural Eye Care plans and facilities
  - Overview of Project
  - Tour of clinic and in-patient facilities at Kenyatta National Hospital.

Saturday, 30 June

- Depart for Nakuru (Dr. Vastine and Dr. Schwab)
- Evaluation of Clinical facilities - discussion of Rift Valley Province Ophthalmologic problems, relationship to size and ecologic diversity of Provincial responsibility.
- Observation of the Eye Exhibit at the Nakuru Agricultural Fair.

Sunday, 1 July

- FREE

Monday, 2 July

- (Dr. Vastine) ward rounds with clinical offers Nakuru District Hospital - observation and participation in Ophthalmis clinic at Nakuru with the clinical officers:
- Arrival Dr. Buck (observation of clinic and discussions with Dr. Schwab re: Rift Valley Province
- (Dr. Vastine and Buck) Meeting with Dr. Kayo PMO of Rift Valley Province and Mrs. Onyango Nursing Matron of Rift Valley Province
- Meeting with 5 Clinical Officers (Ophthal) of Rift Valley Province, including District CO's of Kericho and Narok.

Tuesday 3 July

- (Dr. Vastine) Observation and assisting, the District CO Ophthalmic at cataract surgery 9.00 - 1.00 p.m.
- (Dr. Buck) - Investigation of the District hospital of Kericho's Ophthalmic facilities with the CO and discussions of the project with the Hospital administration and Medical Director 8.00 - 1.00 p.m.
- Depart for Nairobi (PM).

Wednesday, 4 July

- Drafting Final Report.

Thursday, 5 July

- Continue drafting final report.

Friday, 6 July

- 9.00 - Debriefing and wrap-up meeting at USAID.

The evaluation is based on site visits, interviews with officials and members of the IEF staff, in depth discussions with Ministry of Health officials, the senior Ophthalmic Advisor to the MOH, Provincial Medical Officers, District Hospital Medical Officers, clinical officers / ophthalmology and participation in project training, treatment and education activities. A list of the individuals contacted are supplied in the Appendix (1). The final evaluation report was based on the project's logical framework matrix and on the evaluation plan submitted by the IEF Field personnel to USAID.

The formal evaluation report appears in the following order:

- I. A summary of major conclusions and recommendations
- II. IEF Project background information
- III. Areas of Excellence which exceed expectations.
- IV Areas of Deficiency
- VI. Recommendations and conclusions
- VII. Annex:
  - Statistics of effect of the RBFU
  - Statistics of surveys
  - Essential Ophthalmic Drugs Needed
  - All training aids
  - Original Project Paper
  - Annual Report

I. PROJECT EVALUATION ACCORDING TO THE LOGICAL WORK MATRIX.

The goal of improving the quality of life in selected areas of rural Kenya by providing curative and preventive eye care services and health education to the people of Central and Rift Valley Provinces has been met. Objectively verifiable indicators of the achievements made are summarised in Tables 1 (Total Number of Patients treated and screened for Eye Disease) # 2 (Prevalence of Impaired Vision Detected by Population Surveys), #3 (Summary of Ocular Status Surveys), and Figure 1 (Prevalence of Severely Impaired Vision by Diagnostic Category).

The success is based on the excellent work of the team of the International Eye Foundation in Kenya and on the equally important contributions of the Ministry of Health as detailed in the section on Important Assumptions of the Logical Framework Matrix.

Purpose: Of the conditions expected from the project at the end of the first three years the following have been verified.

There are five fully operational, integrated RBPUs.

An additional Eye Unit was established in Mombasa. Health education and disease prevention capabilities were added to seven of the existing MEUs. Eye services have become a part of the pre-natal and under-five screening clinics. School screening and health education programs have been instituted, and a general screening and referral service involving health centers, district and provincial hospitals has become fully operational in the Provinces serviced by IEF staff.

The confidence of the peoples in the target areas in the ophthalmic services delivered to them is reflected by two indicators, viz. the ever increasing number of the patients seeking treatment and advice from the eye units at all levels, and the high esteem with which the clinical officers (O) are held by the local population, their peers and by the medical officers in charge of the Provincial and District Medical Services.

Conditions not yet completed at the time of the visit by the evaluation team include the following: Complete assumption of the Program by the MOH and KSB is not feasible in the immediate future. The continuation of the Blindness Prevention Project is a sine qua non, lest the project becomes static or collapses.

The collection of baseline data concerning the prevalence, causes and distribution of eye disease and blindness has to continue in areas where these conditions appear to be of public health importance. It is not yet possible to directly assess the socio-economic impact of eye disease and blindness.

There are no measurable quantitative data to indicate changes in personal hygiene. Reliable parameters and assessment of attitudes, habits and of sanitary improvements would require additional specialists and extra funds.

However, success of the Program is reflected indirectly by the popularity of the prevention program and of the educational material sent to schools and primary health care facilities.

The MOH has not been able to assign the three Kenyan ophthalmologists envisioned by the Project to assume responsibilities in rural eye health care and for the management of the program.

One of the important assumptions that was not met by the GOK is the provision of "three ophthalmologists trained one year abroad and then assigned to the program". Because of the great demand for specialized manpower in ophthalmology, the three Kenyan eye surgeons were immediately transferred to fill vacant positions elsewhere in the country. Hence, there is a great need for the two ophthalmologists of the IEF now working on the project to continue their services as provincial ophthalmologist, as teacher in preventive eye care, as investigator of eye disease in the general population, and for studies of how to integrate the eye services into the rural health units of primary health care.

Outputs

The first output indicator, that three Kenyans ophthalmologists will be in charge of the program by the end of the third year, has not been achieved for the reasons discussed in the section on "Purpose".

There is ample evidence from the field that the staff of the curative eye units has acquired new skills in the prevention of eye diseases and blindness and in health education.

The training of five medical assistants for prevention of blindness has been completed.

There are, at present, five fully functional, integrated prevention and health education teams in the field.

Three Kenyan ophthalmologists have been trained and are on the job. There is no program for continuing education, neither for ophthalmologists nor for clinical officers.

There is no indigenous Public Health Nurse to direct prevention and health education programs. This does not include the training of the clinical officers after their graduation as nurses.

Public information material of high quality has been designed, printed and is ready for distribution. The material is prepared for the training of clinical officers, paramedical staff in Health Centers, dispensaries as well as for school teachers and the public.

The collection, analysis and interpretation of the data obtained from the surveys for eye disease in random samples of ecologically different areas in Kenya will be completed by the end of 1979. However, the eye surveys need to be extended to include other parts of Kenya. There is a need for technical assistance by epidemiologists and statisticians to make optimal use of the wealth of information on eye disease collected by the surveys and for developing a realistic surveillance system for eye disease in the future.

Treatment and referral clinics have been established in most of the

MEU and RBPV circuits, covering MCH, under-five clinics and school children.

There is an indigenous Administrator for the Project who works under the umbrella of the KSB. However, the managerial aspects of the Project need much improvement.

Inputs

All inputs were made according to the Operational Program Grant of AID. Payments made under the terms of reference of the AID grant were often late.

All of the important assumptions have been realised.

## HISTORICAL REVIEW OF THE PROJECT

The role and the impact of the IEF Project cannot be discussed without the full understanding of how it integrates into the general health care delivery system and how it relates to the pre-existing structure of eye care delivery throughout rural Kenya.

### The Kenya Society for the Blind

The key to the effectiveness and popularity of the GOK eye care delivery system is a result of the actions and thoughtful guidance of the Kenya Society of the Blind (KSB). This Society is an outgrowth of the Royal Commonwealth Society for the Blind and was established in 1956 by an Act of the GOK as a statutory body which provides it with a unique and sheltered position. The KSB is funded by contributions from Kenyan citizens and carries on numerous educational and social activities such as rehabilitation which do not relate to the current project.

The importance of the KSB is that it is the agency through which the national and international organizations contribute to the general ophthalmic program in Kenya. These organizations include the African Medical and Research Foundation (AMRF), the Lions Club, Kenya (Central), Royal Commonwealth Society for the Blind (RCSB), Professor Weve Foundation (PWF), Operation Eye Sight Universal (OEU), the Christoffel-Blinden Mission of West Germany, The Kresge Foundation, and various missionary Clinics and Hospitals spread throughout Kenya. These private voluntary organizations (PVO) have continued to give financial and administrative support throughout the project and are most likely to continue this aid in the future. These PVOs contribute funds for operating costs, medicine, professional and ancillary personnel, vehicles and maintenance. All these activities are integrated within the GOK Eye Programme. In the provinces, where IEF personnel are assigned as provincial Ophthalmic officers, they direct and control these activities. The primary goal for these PVO's has been the delivery of eye care to the rural population of

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Kenya which represents approximately 90% of the total population.

#### PREVENTION OF BLINDNESS COMMITTEE

The activities of the KSB have been coordinated and directed by the Prevention of Blindness Committee (PBC), which was established in 1966 but was somewhat inactive until 1970.

The key to the success of this committee has been the constitution of its membership which includes a Chairman, Dr. Gikonyo, Deputy Director of Medical Services of the Ministry of Health. Therefore, the MOH is directly involved in the planning and execution of the activities of the eye program and is fully aware of the plans, problems, goals and capabilities of the KSB and associated governmental policies which are influenced by this committee. Additional members of this committee include Dr. Awan, Chief Ophthalmologist Advisor, all the provincial ophthalmologists, members of the KSB and each of the PVOs have a representative. The PBC meets every three months to review the work of the Mobile Eye Units (MEU) and the newly formed Rural Blindness Prevention Units (RBPU). It also deals with other administration problems of eye care delivery. Organization of the committee is illustrated in Figure 2.

#### MOBILE EYE UNITS

The delivery of eye care to the rural population began with the Mobile Eye Unit program established by Dr. Bisley in 1963. The first officer was Mr. Amiani, who began his work on a motor cycle. There are now nine active MEUs all of which have a clinical officer (Ophthal), an ungraded assistant and a driver with a landrover or similar vehicle. All of these units are qualified to do extraocular surgery for entropion and trichiasis and other minor surgery, as well as treatment of acute ocular infections and other common eye disease. These MEUs are supervised by the provincial ophthalmologists which include the IEF personnel. The MEUs work out of fixed dispensaries Rural Health Units and outdoors at

fixed locations. Their field base is at a district or provincial hospital eye unit. Although their primary effort is in therapeutic ophthalmic care, they also provide general health care in certain situations. Under the eye program functions, it is integrated into the rural health care delivery system and the MOH provides the salaries of the clinical officers, assistants, and supports the fixed facilities, supplies and drugs depending on the budgetary limitations. Efforts are beginning to expand their activities into preventive health education as well.

#### CLINICAL OFFICER, OPHTHALMOLOGY PROGRAM

The backbone of the MEUs are the clinical officers. These men are previously trained nurses and then undergo training in general medicine and pediatrics for two years after graduation. They work as general CO's for three or more years before being selected for one year additional training under Dr. Awan at the Kenyatta National Hospital.

The COs are specially selected because they have demonstrated extraordinary skills.

They are taught extraocular lid surgery and depending on their skills, receive additional training in intraocular surgery. Because of their high level of training, these CO/Ophthalmologists occupy a position just below the Ophthalmic surgeon/provincial ophthalmologist.

These clinical officers are assigned to district or provincial hospitals, the national hospital in Nairobi, the MEUs or the newly formed Rural Blindness Prevention Units (RBPUs) established by the IEF Rural Blindness Prevention Project in Kenya. These Clinical Officers are sent to the field and begin their work under the direct supervision of an ophthalmologist. The MEU's and RBPUs have been increasingly active and under the guidance of the IEF Ophthalmologist have seen a steady increasing number of patients for screening and treatment (see Table 1). Over the last three years, the teams under the IEF project personnel

has seen a total of 315,536 patients.

At the present time, there are 33 COs in ophthalmology assigned to the various governmental clinical and mobile units. There are an additional seven clinical officers in training who will be posted to various areas throughout Kenya presently uncovered or in need of additional personnel.

The ophthalmologists available in Kenya at this time are unequally distributed throughout the country. Currently there are six government ophthalmologists assigned as provincial officers. Two are supplied by the IEF, the other three are staffed by Kenyan citizens and the seventh is relatively inactive. The remainder of the country's 25 ophthalmologists are practising in Nairobi, either in government or university service or in private practice.

INVOLVEMENT AND PARTICIPATION OF THE INTERNATIONAL EYE FOUNDATION.

The IEF entered into the rural eye program with the assignment of Dr. Randolph Whitfield in 1972. He was supported by IEF funding and in part by the Ministry of Health. He was appointed as the provincial Ophthalmologist of the Central Province and was assigned to the Nyeri Provincial Hospital. He supervised five fixed clinics and four MEUs and directed the eye care facility at the Nyeri Provincial Hospital. Dr. Whitfield was instrumental in establishing and initiating the current project and the operational agreement which established the IEF Kenya Rural Blindness Preventive Project.

According to the original agreement (Annex 1) the Rural Blindness Prevention Project was staffed by the IEF with Dr. Randolph Whitfield, as Program director / Senior Ophthalmologist who was appointed as the CP Ophthalmologist; Dr. Larry T. Schwab, Asst. Program Director/ Ophthalmologist and Rift Valley Provincial Ophthalmologist; Mr. Jack W. Swartwood as Public Health Specialist and operations officer. Mr. Alex Mackay who was a founder and executive officer of the KSB

for 25 years is the Fiscal Manager for IEF/Kenya. Pursuant to the previous evaluation a specialist in health education/publicity was employed, Ann Fettner, to develop instructional materials with the program personnel for all levels of health education from COs to the public.

Since the beginning of the project, the goal of the IEF Rural Blindness Prevention Project has been to establish five RBPUs which included a trained clinical officer and an assistant driver. These units are now functional. They are primarily preventive in nature and provide public health education. They screen for eye disease especially trachoma and treat these diseases where appropriate in school children (grades one through four), pre-natal, under-five and MCH/FP clinics. The units also teach public health and preventive eye care to teachers, enrolled nurses and dispensary health assistants. In the Rift Valley and Central Province, the educational, screening, and therapeutic activities of these units have been coordinated with the activities of the MEUs.

The training of Clinical Officers (Ophthalmic), establishment of the RBPUs and extension of the functions of the MEUs to include preventive eye care have been the major thrust of the program up to now. Four additional eye units have been added and are functioning since the time of the first interim evaluation. The Clinical Officers (Ophthalmic) working in these units were supervised in their performance of eye surgery by the ophthalmologists at the Provincial Hospitals of Nyeri and Nakuru. One of the major efforts in the past two years has been the systematic ocular disease and blindness surveys in five different areas of Kenya. The initial survey was done in the Samburu region with a slightly different record and without the addition of nutritional studies. The data of the four completed surveys are not yet fully analyzed. These surveys were done in the Eastern (Meru), Central (Nyeri), Coast (Kwale) and Western (Kakamega) Provinces.

The results of these surveys are presented in Annex Tables 2 and 3.

The prevalence of severely impaired vision, including blindness varies

from 1.4% to 6.2% in the population samples studied. These surveys will be utilized to plan the distribution of eye care according to needs. The future plans of the GOK Eye Program will make full use of these data. Additional surveys in different ecological areas not yet surveyed are planned. The last survey of the current project in this phase is scheduled for August, 1979 in the District of Karachuonyo of Nyanza Province. The information from these surveys and surveillance data to be collected systematically from the new reporting forms will be utilized to continue the further development of the eye care program in the country. Continued surveillance is necessary to monitor the effects of therapeutic eye care health education and disease prevention activities that are part of the Prevention of Blindness Program.

The development of new educational material for clinical officers, school teachers and the lay public has been completed by Ann Fettner with inputs from the Ophthalmologists and the Public Health Specialist of the IEF Project. This material includes visual acuity charts, "Red Eye charts, the Clinical Officer's Eye Disease charts, as well as other instructional aids for the educational activities of the RBPU for radio announcements and newspaper publicity. (Annex 2).

The Public Health Specialist (PHS) has been effective in establishing and developing a training program in Public Health and Prevention of Eye Diseases for clinical officers (ophthalmic).

This training course has been in increasing demand with the broader scope of the training program as established by the senior eye consultant, Dr. Awan. The coordination of the various activities and the conduct of the blindness surveys is another important contribution of the PHS. In addition, the PHS along with Mr. Mackay have been working with Mrs. Mary Auka, Executive Officer of the Kenya Society for the Blind to take over the administration of the RBPU at the termination of the Project.

It is difficult to measure the impact of each of the various IEF funded projects within the eye program of the GOK because they are successfully integrated into the broad structure of the eye health delivery system. In addition to the obvious therapeutic effects of the provincial ophthalmologists and their influence on the COs, the impact of the Public Health awareness generated by the MEU and RBP can only be assessed by the considerable increase in eye care as measured by the patients treated and the population screened for blinding eye disease (see Table 1). The previous evaluation team strongly found that the efforts of monitoring measurable changes of the social and cultural attitudes toward eye disease and prevention of blindness were fruitless and recommended that further efforts in this area should be discontinued.

III. Observations by the independent evaluation team.

A. Achievements exceeding the project objectives.

1. Teaching charts and Aids of the visual materials prepared by the International Eye Foundation (IEF) have far exceeded the basic needs for training as indicated in the Log Frame. These materials are well planned and logically presented for use by clinical officers and teachers. They consist of the Visual acuity chart with summary of common diseases and treatment. The diagnosis and management folder on the common eye disorders seen in Kenya, the red eye chart, an educational booklet on basic eye anatomy and disease for teachers as well as educational materials directed toward school children. Other educational materials established for exhibits at the provincial fairs and felt boards for teaching the basics of eye disease and good nutrition are provided to the clinical officers.
2. The Clinical and Surgical skills of the Clinical Officers ophthalmology are unique if compared with ophthalmologic skills of trained medical personnel observed by specialists in other parts of Africa. The COs level of surgical competence was reviewed closely by Dr. Vastine who assisted them at cataract surgery in Nakuru. The surgical skills exceeded that expected and are above the skill level practised by some ophthalmologists in other parts of Africa. The COs who have been selected for intraocular surgical training are highly motivated conscientious and industrious.
3. The operational coordination between the Central, Provincial and District levels of Eye Care delivery and between fixed clinical facilities, Mobile Units and Preventive Eye Units is excellent. Furthermore, in the two project areas visited, Central Province and Rift Valley Province,

there was good cooperation between the Eye Disease units and the general Health Services of the provincial and district hospitals.

In the district hospitals , the CO (ophthal) has frequently been assigned to assist in general health care in addition to his duty as a special consultant in ophthalmology.

4. The acceptance of the services provided by the Clinical and Preventive Units in the general population can be described as overwhelming.

The provincial medical officer of Rift Valley province, the hospital-medical officer at the district hospital in Kericho have stated verbally and in writing strong support of the program and their desire for extension and expansion to the peripheral health workers. Most importantly strong spontaneous commendations have been sent to the IEF concerning the program from the Ministry of Health.

5. There is an excellent cooperation and coordination of work between Governmental and various private organizations concerned with the provision of services for people with Eye disease and blindness. The details of the organizational structure and activities of the KSB and the instrumental role of the Prevention of blindness committee have been detailed in the introduction and in Figure 2.

The continued cooperation of these organizations has been unique in our experience in the developing world. The available funds for blindness prevention and therapeutic eye service as well as for rehabilitation have been used efficiently.

6. Because of the excellent work done and liaison established by the IEF personnel, the desire to extend the Eye services

to the most peripheral primary health care delivery stations have been expressed explicitly by the Ministry of Health, the Provincial Medical Officer, the District Medical Officer, the Clinical Officers, the Matron of Nurses and Community Leaders interviewed.

7. The morale of the Kenyan members of the eye units, especially that of the clinical officers in the two provinces visited is excellent. The recognition by the community and the high esteem of their position among their peers and the community is indicative of the quality of work produced by these men. They have been able to maintain the esprit de corps, in spite of inadequate compensation for the difficult and strenuous work in the field and for overtime work. The dedication of the COs to their work spoke highly of the standards set by the IEF program personnel.

#### DEFICIENCIES AND NEEDS

1. Many parts of a District cannot be reached because of insufficient transportation available to the local health services. This is most pronounced in areas where clinical officers are assigned without vehicle support. The coordination between these clinical officers and space for their equipment in other ministry vehicles is often difficult to manage. This decreases their ability to train and assist health workers at the rural health clinic and dispensaries. Further educational materials and training at the primary health care worker is strongly recommended.
2. There is no incentive pay for extra work, overtime work or initiative at all levels. The salaries and benefits of the physicians, clinical officers and administration personnel within the program are inadequate. In order to maintain the esprit de corps of the clinical officers, realistic displacement compensation, overtime

or out-of-pocket expenses should be provided. In the past the American project personnel have been grossly underpaid. The evaluation team feels that it is essential to develop realistic salary scales in order to have highly qualified individuals attracted to these activities. Anything else is devastating to the morale and career development for these individuals.

- 3. The supply of urgently needed drugs and medications is not continuous by the Government Stores. Therefore IEF Support through the KSB is urgently needed and required for the future. The problem of drug supply and distribution has been a chronic one in the GOK Ministry of Health. At the time of the initial evaluation a governmental drug corruption scheme was exposed. Likewise during our evaluation a similar public scandal was revealed concerning purchase and distribution of drugs. An essential list of drugs was developed by Dr. Schwab and is presented in Table 4. The supply and distribution of drugs should be guided by the prevalence of disease in certain areas such as areas of high trachoma endimicity defined by the surveys. In addition the indiscriminate use of topical steroids or steroids/ Antibiotic mixtures can only be stopped by appropriate purchase of drugs by the MOH and continued education of the peripheral health worker.
- 4. The available manpower is overworked and cannot be expected to take up additional services unless more para-medical personnel and ophthalmologists are made available. The acceptance and success of the program has engendered greater demand for service in the educational, therapeutic and preventive components of the Program. These demands require that the IEF personnel regroup and spend all their time in preventive screening and health education service. However, the evaluation team feels that withdrawal from the therapeutical aspects of the ophthalmic care system will result in loss of

achievements to date and lack of creditability within the health care system and population served. Therefore, the evaluation team recommends maintenance of therapeutic services and teaching of clinical officers according to the wishes of the MOH and local officials.

5. There appears to be a lack of appreciation of the public health importance of Eye disease among clinicians. This has resulted in difficulty of the IEF provincial ophthalmologist and some of the COs in initiating their programs at the district hospital level. There is a lack of recognition of the morbidity and mortality associated with blindness among surgeons, pediatricians and primary health care workers. Education of the physicians, general clinical officers and other health personnel is essential to the development of better rapport with the other subspecialists and health care workers.
6. The population coverage of Eye services is incomplete and should be guided by the results of the Eye Surveys. The results will provide information on the prevalence and distribution of specific Eye diseases and blindness as seen in the major ecologically contrasting areas of Kenya. Areas of need were identified by the results of the prevalence surveys. Areas of insufficient coverage are mostly found in sparsely populated areas where effective therapeutic and prevention activities are more difficult than in the densely populated regions of Kenya.
7. The survey data need to be fully analyzed and the lack of available local resource for this must be addressed. In addition the biochemical studies on sera and blood specimens collected during the survey had not been completed.
8. There was a definite need expressed by the senior officials in MOH and by the regional or provincial medical officers to guide the integration of various specialised services at the level of primary health care. The evaluation team accepts

and supports the fact that eye services are a subspeciality service that must be provided at the levels of the national medical centre and the provincial and district hospitals levels. At the level of the district hospital, therapeutic managements of eye infection, trauma and diagnostic services must be separated to maintain adequate quality of eye care and support the need of the public and medical and para-medical workers in eye care. Once this infrastructure has been established and solidified, extension of the eye care services to the dispensary rural health centers and the field health workers must be integrated into the training of the personnel. They must be properly educated in the management of common eye disorders and instructed to refer appropriate patients to an ophthalmologist. Teaching materials for these workers is available. It is the task now to develop the educational system for the primary health care workers as an integral part of the primary health care system.

9. The need for adequate diagnostic laboratory procedures was obvious. The present facilities supplied by the MOH at the district level are inadequate. The upgrading of diagnostic laboratory services would benefit all medical services.

RECOMMENDATIONS

GENERAL

- 1. That the project be continued and expanded to include training of para-medical workers at the Dispensary, dresser station and community field Health Service Levels.
- 2. That the training program for clinical officers (Ophthal) and the educational material for all levels of primary and secondary eye health care be considered for the Planning and operation of eye care programs in other LDC's of Africa.
- 3. That the model of the collaboration between various private, governmental and international funding organizations under a coordinating board such as the Kenya Society for the Blind (KSB) be considered in countries without any organized eye care projects.
- 4. That the National program of the eye care delivery system at all levels by a body such as the Prevention of Blindness Committee be recommended as the essential element for establishing a successful eye care system.

This committee deals with all aspects of the program i. e. curative, preventive, training and surveillance.

SPECIFIC

- 1. That the nutritional and biochemical information collected during the first five years be made available as soon as possible for epidemiologic analyzis.
- 2. That the information obtained from the eye surveys be utilized to guide the staffing of health centers , dispensaries and district hospitals. The information could be used also to direct the supply of essential drugs according to priority.
- 3. That the eye surveys be extended to such areas where blinding eye disease is suspected to be highly prevalent, in order to determine

the nature, incidence and exact geographic distribution of endemic eye disease for appropriate intervention.

4. That a practical and economic surveillance system be developed. This requires the services of a statistical assistant.

5. That the expertise of the clinical officers (O) be utilized to train family field health educators, community elected health workers, dressers and community nurses in simple diagnostic skills and treatment of trauma and eye infections, including instructions for referral to clinical officers (O) when indicated. The Instructional material is already developed and can be distributed as part of a training program.

6. That a study of carefully selected districts within the two Provinces be carried out to find optimal ways and means of integrating the Eye Health Services into an effective general health service system at the primary health care level.

7. That to provide an effective primary health care service provision should be made at the district hospital level for an eye unit staffed by a clinical officer and at the provincial level by an ophthalmologist.

8. That postgraduate continuing education of the clinical officers and the primary health care worker be provided on an annual basis.

TABLE 1

TOTAL NUMBER OF PATIENTS TREATED AND OF SELECTED POPULATION<sup>1</sup>  
 GROUPS EXAMINED OF THREE PROVINCES OF KENYA BETWEEN 1976 TO 1978

	CENTRAL <sup>2</sup>		RIFT VALLEY <sup>3</sup>		WESTERN <sup>4</sup>		TOTALS		
	prev.	cura.	prev.	cura.	prev.	prev.	cura.	total	
1976	5417	12910	-	5458	-	5417	18368	23785	
1977	38185	60835	11929	15624	-	50067	76459	126526	
1978	39500	80246	12267	20227	12985	64752	100473	165225	
GRAND TOTAL-120236							195300	315536	

1. Target Population all schoolchildren ages 5 - 9 and MCH Clinics.
2. Supervised by Dr. Whitfield - Project Director - Provincial Eye - Central
3. Supervised by Dr. Schwab - Assistant Project Director " - RVP
4. Supervised by Dr. Mandalia - Provincial Eye Specialist Western Province

1976 - One Preventive Unit - 8 Curative units.

1977 - two Preventive Units - 10 Curative Units.

1978 - three Preventive Units - 10 Curative Units.

1979 - five Preventive Units - 10 Curative Units.

TABLE 2

## CRUDE PREVALENCE OF IMPAIRED VISION IN POPULATION SAMPLES OF KENYA

PROVINCE	DISTRICT	POPULATION <sup>1</sup>	SAMPLE <sup>2</sup>	VISUAL LOSS <sup>3</sup> IN PERCENT			
				MODERATE	SEVERE	BLIND	ALL CATEGORIES
EASTERN	MERU	410,000	1,186	3.9	0.6	1.7	6.2%
CENTRAL	NYERI	2,910,000	1,940	2.1	0.2	0.3	2.6%
COAST	KWALE	1,000,000	1,346	2.0	0.1	1.0	3.1%
WESTERN	KAKAMEGA	3,460,000	1,822	0.7	0.7	0.5	1.4%
RIFT VALLEY	SAMBURU	1,710,000	844	2.4	0	1.1	3.5%
EASTERN	UKAMBANI	1,587,000	895	2.4	0	1.57	3.97%

a) Cluster samples randomly selected from tax records of the general population

1. Estimated population at year of survey
2. Size of enumerated population sample.
3. Moderate      6/18 in better eye  
Severe        6/60 in better eye  
Blind         3/60 in better eye

TABLE 3

## Summary of Ocular Status Surveys by KRBPP (plus Machakos survey by Sinabulya)

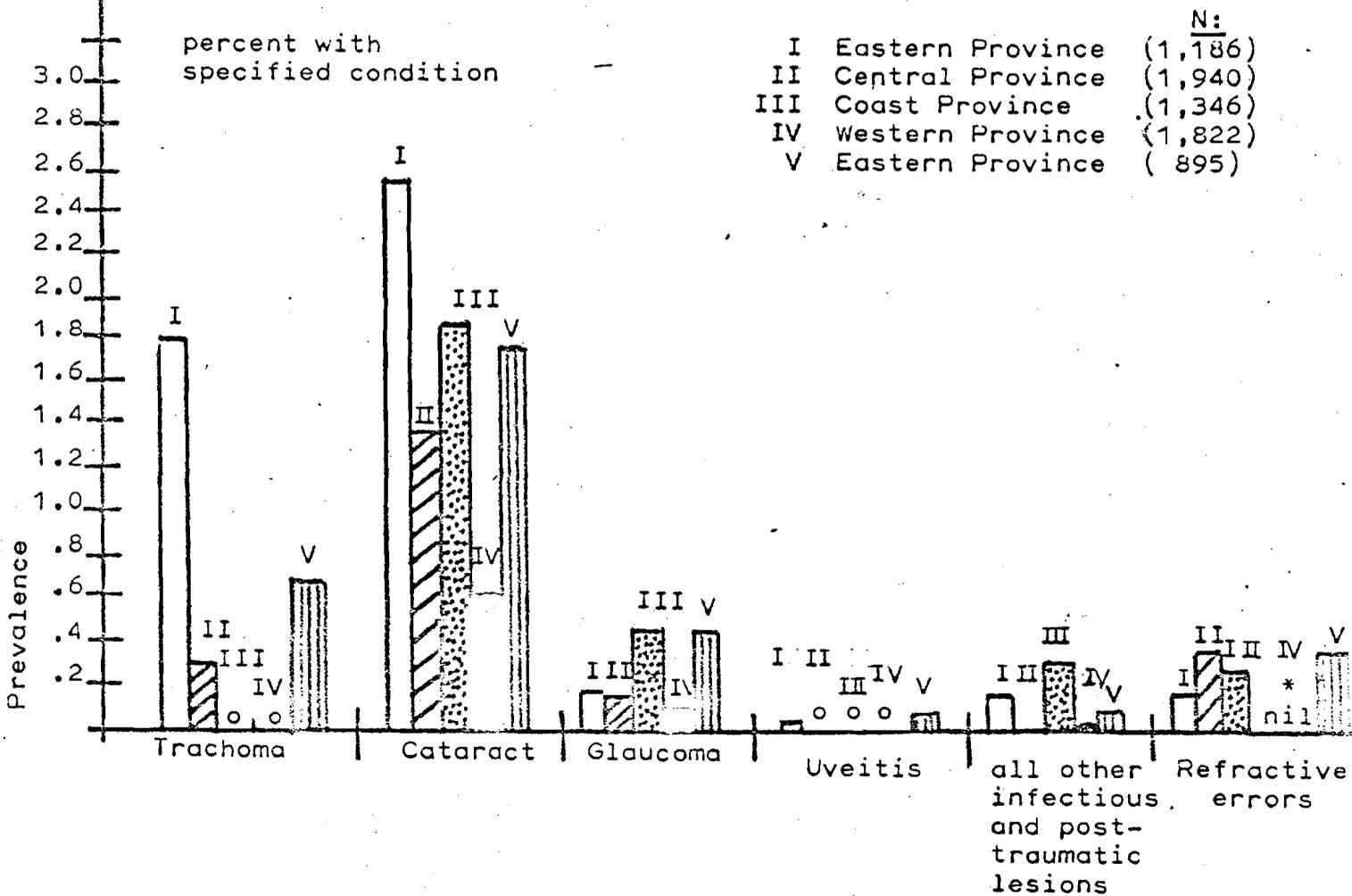
NAME OF SURVEY	SAMBURU		MERU		NYERI		COAST		UKAMBANI*		WESTERN		TOTALS		
	1,710,000		410,000		2,910,000		1,000,000		1,587,000		3,460,000		11,077,000		
Estimated Population Represented**	844(1 loc)		1,186( 1 loc)		1,940(3 loc)		1,346 (1 loc)		895(1 loc)		1,659 (2 loc)				
Number of Survey Members															
Degree of Visual Loss	VA-Better Eye	%	#	%	#	%	#	%	#	%	#	%	#	%	
Significant Visual Loss	Less than 6/18	3.5	59,850	6.2	25,420	2.6	75,660	3.1	31,000	3.97	63,000	1.4	48,440	303,370	2.74
Economic Blindness	" " 6/60	1.1	18,810	2.3	9,430	0.45	13,095	1.1	11,000	1.57	24,900	0.66	22,836	100,075	0.93
Virtual Blindness	" " 3/60	1.1	18,810	1.7	6,970	0.28	8148	1.0	10,000	1.57	24,900	—	—	68,828	0.62
Blind, USA Criteria: - or "	" 6/60	1.7	29,070	3.2	13,120	1.2	34,920	2.2	22,000	2.06	32,700	1.3	44,980	176,790	1.60
Causes of Visual Loss in those People with VA in better eye of less than 6/60 (Economic Blindness)															
		%	#	%	#	%	#	%	#	%	#	%	#	%	#
Senile Cataract		38.6	7,300	36.9	3,500	40.0	5,200	55.2	6100	45.5	11,300	45	10,276	43,676	43.64
Trachoma		6.8	1,300	31.1	2,900	10.3	1,400	-	-	18.2	4,500	-	-	10,100	10.09
Chronic Open Angle Glaucoma		2.3	430	5.8	550	7.7	1,000	15.2	1,700	12.1	3,000	10	2,285	8,965	8.95
Uveitis		2.3	430	4.9	460	1.3	170	-	-	3.0	750	-	-	1,810	1.80
Non Trachomatous Leucoma		27.3	5,100	-	-	2.9	380	12.8	1,400	-	-	3.3	755	7,631	7.62
Senile Macular Degeneration		11.4	2,100	13.6	1,300	13.0	1,700	2.4	260	-	-	27	6,165	11,525	11.51
Refractive Error		-	-	1.9	180	13.0	1,700	12.0	1,300	12.1	3,000	-	-	6,180	6.17
Xerophthalmia		2.3	430	-	-	0.6	79	0.8	88	3.0	750	-	-	2,347	2.34
Other		15.4	2,900	5.8	540	11.2	1,470	1.6	176	6.1	3,030	14.7	3,370	11,486	11.47
*Sinabulya, P.M.	An Assessment of Blindness in Machakos District, East African Medical J. 53:64, 1976														
**Population figures	are preliminary estimates kindly supplied by the Core Group, Rural Health Development Project														

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percent with condition

Figure 1.

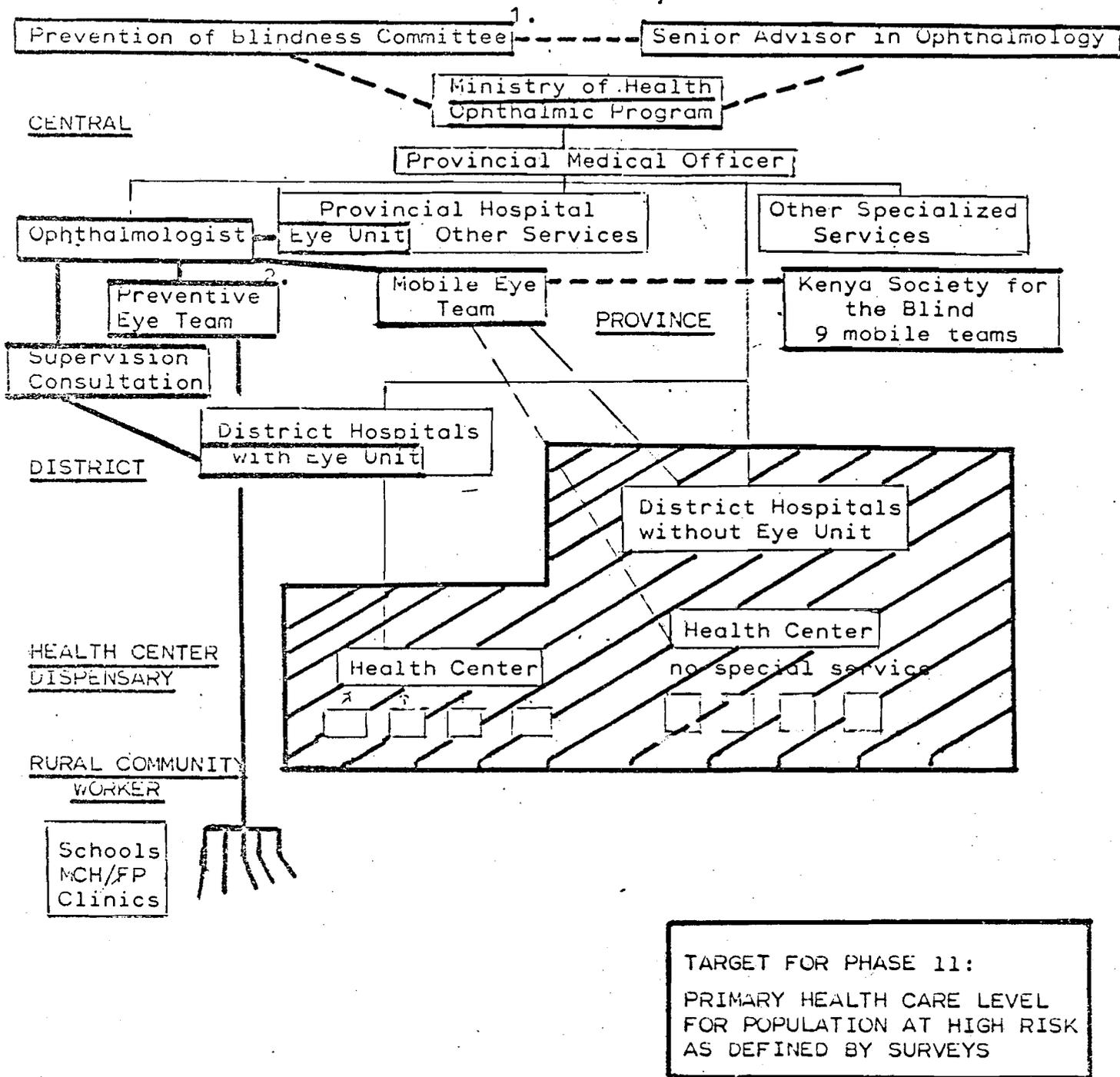
Prevalence of severely impaired vision in five different areas of Kenya for six diagnostic indicators used for screening



\* MD information

Figure 2

CURATIVE AND PREVENTIVE EYE SERVICES IN KENYA- 1979



\* \* \* \* \*

- 1.) Prevention of Blindness Committee advises Ministry of Health on health strategy and policy: Kenya Society for the Blind, Christofel Blinden Mission, Sight By wings, International Eye Foundation, African Medical Research and Education Foundation, Professor Weve Foundation, University of Nairobi, Operation Eyesight International
- 2.) There are 5 Rural Blindness Prevention Units in operation in districts with high population density.

TABLE IV

ESSENTIAL OPHTHALMIC DRUGS NEEDED FOR THERAPEUTIC AND DIAGNOSTIC EYE CARE

Tetracycline 1% ointment  
Tetracycline 3% ointment  
Sulfacetamide 10% solution  
Chloramphenicol ointment  
Garamycin injectable  
Hydrocortisone 0.5% ointment  
Prednisone 5mg. and 20mg. tablets  
Hydrocortisone injectable  
Atropine 1% ointment  
Homatropine 5% solution  
Pilocarpine 4% solution  
Cocaine 5% solution  
Xylocaine 2% with epiniphrine 1/100,000 injectable  
Methidine 100mg. injectable  
Diamox 250mg. tablets  
Ampicillin 250mg. tablets  
Aqueous penicillin  
Idoxuridine 0.5% solution  
Nystatin 100,000 units/cc  
Zinc Sulfate 5% solution  
Valium 5mg. tablets  
Hylase Powder  
Alpha Chymotrypsin, ocular  
Epiniphrine 0.1%  
Aspirin 300mg. tablets  
Mydriacyl 1% solution  
Neosynephine Solution 2.5% and 10%

DEPARTMENT OF STATE  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D.C. 20523

September 29, 1976

Mr. John H. Costello  
Director of Program Development  
The International Eye Foundation  
Sibley Memorial Hospital  
Washington, D. C. 20016

Subject: Grant No. AID/afr-G-1266

Dear Mr. Costello:

Pursuant to the authority contained in the Foreign Assistance Act of 1961, as amended, the Agency for International Development (hereinafter referred to as "AID" or "Grantor") hereby grants to The International Eye Foundation (hereinafter referred to as "IEF" or "Grantee") the sum of \$363,100 to provide assistance to the Government of Kenya for the initiation of a program of blindness prevention and health education in Kenya as more fully described in the Attachment to this Grant entitled "Program Description."

This Grant is effective and obligation is made as of the date of this letter and shall apply to commitments made by the Grantee in furtherance of program objectives during the term of this Grant which shall expire on September 30, 1977.

This Grant is made to IEF on condition that the funds will be administered in accordance with the terms and conditions as set forth in Attachment A entitled "Program Description," Attachment B entitled "Standard Provisions" and Attachment C entitled "Payment Provisions," which have been agreed to by your organization.

Please sign the Statement of Assurance of Compliance, enclosed herein, and the original and seven (7) copies of this letter to acknowledge your acceptance of the conditions under which these funds have been granted.

**BEST AVAILABLE DOCUMENT**

International Eye Foundation  
Grant No. AID/afr-G-1266  
Page Two

Please return the Statement of Assurance of Compliance and the original and six (6) of this Grant to the Office of Contract Management, Regional Operations Division, Africa.

Sincerely yours,

*William E. Gale*

N. A. Caticchio *for*  
Grant Officer

Regional Operations Division, Africa  
Office of Contract Management

Attachments:

- A. Program Description
- B. Standard Provisions
- C. Payment Provisions

ACCEPTED:

INTERNATIONAL EYE FOUNDATION

BY: *J. H. Costello*

John H. Costello

TITLE: \_\_\_\_\_

Director of Program Development

DATE: \_\_\_\_\_

SEP 29 1976

Program DescriptionA. Purpose of Grant

The purpose of this Grant is to provide assistance to the Government of Kenya by initiating a program of blindness prevention and health education in six target areas of Kenya and assisting the Kenya Society for the Blind (KSB) and the Ministry of Health (MOH) expand their institutional capability so program responsibility may be assumed by KSB and MOH in three years. However, funding is only provided for one year at this time.

B. Specific Objectives

The specific objectives of this Grant are:

1. To expand the capability of two Mobile Eye Units to operate in Nyeri and Nakuru. These units are to primarily deliver therapeutic eye care. In addition health education and prevention capability will be added. One new Health Education and Prevention Unit is to be made operational in the first year.
2. The design and implementation of an epidemiological survey on the distribution and incidence of ocular disease.
3. The training of a Kenya Administrator, who will become the full-time director at the end of three years. Surgical training of three Kenyan ophthalmologists is to be carried out during the field operations of the Mobile Eye Unit (MEU).
4. The design and implementation of a training program in health and nutrition education for Medical ungraded assistants, rural nursery and primary school teaching staff. The training program is to be delivered by the Health Education and Prevention Unit's Staff.
5. The development of a strategy for delivery of health education in the areas of personal hygiene, diet, nutrition and maternal child health care through publications, radio, and other media.

The Grantee will submit to USAID/Kenya for its review and comment by the end of the fourth month of project activity an evaluation plan for the project. This plan will include evaluation benchmarks and baseline data against which the project success can be measured, a proposal for the actual timing of the joint AID/IEF evaluation and recommendations for the evaluation team's membership.

A joint AID/IEF evaluation will be completed at the end of the ninth month of project activity. Selection of the individual to conduct the evaluation will be the responsibility and prerogative of both AID and IEF. AID reserves the right to conduct an independent evaluation in addition to the joint evaluation. The exact timing and the scope of work for the evaluation will be developed by AID and IEF. This evaluation will provide AID with recommendations concerning further funding for this project.

C. Implementation

To assure the above stated objectives, the Grantee shall carry out the following activities utilizing the funds provided by the Grant:

1. Operations

The Grantee shall provide the following individuals to carry out the tasks described below:

- a. The Program Director/Senior Ophthalmologist will be (i) chief executive officer responsible for the development of over-all program objectives, design and implementation, personnel, and project outputs; (ii) act as chief program ophthalmologist; (iii) responsible for operation of three Mobile Eye Units and three Health Education and Prevention Units; and train one Kenyan in Ophthalmic Surgery.
- b. The Ophthalmic Surgeon will be (i) assistant program director; (ii) deliver eye health care and perform surgery; (iii) train two Kenyans in ophthalmic surgery; and (iv) be responsible for operation of three Mobile Eye Units and three Health Education Prevention Units.
- c. The Public Health Specialist will (i) work with the two ophthalmologists in developing public health prevention and education programs; (ii) monitor day-to-day operations of the Mobile Eye Units and Health Education and Prevention Units; and (iii) develop curricula and conduct teaching and training programs for the health workers for the Mobile Eye Units, ungraded Medical assistants and drivers.
- d. The Ophthalmologist/Epidemiologist will (i) be responsible for the epidemiological studies; (ii) interpret and evaluate the data gathered in the epidemiological surveys; and (iii) formulate recommendations and a proposal for follow-up procedures.
- e. The U. S. Program Director, an IEF senior staff Ophthalmologist, will be required to (i) direct the medical and education aspects of the project, particularly the surgical training of the Kenyan ophthalmologists, medical assistants, and other health workers for the project; (ii) provide policy, guidance and oversight for the field training; (iii) evaluate project progress, and (iv) analyze, interpret and determine use of epidemiological data.
- f. The U. S. Assistant Program Director will provide management for (i) personnel, (ii) commodity purchase and shipping, (iii) financial records, (iv) field and Washington communications, (v) participate in evaluation of progress and performance, and (vi) prepare reports required by AID.

- g. The Public Health Nurse, a Kenyan, will have responsibility for development and delivery of the local, primary level of public health and prevention systems.
- h. The Local Program Administrator, a Kenyan, will have responsibility for bookkeeping, maintenance of records, coordination of logistics, purchase and inventory of supplies, and vehicle maintenance and licensing.
- i. Two Medical Assistants, Kenyans, will have responsibility for (i) school screening; (ii) conduct of pre-natal and under-five clinics, (iii) training sessions; (iv) lectures on nutrition, health and disease prevention; (v) screening and referral of patients to the Mobile Eye Units and other public health facilities; and (vi) daily supervision of the Health Education and Prevention Units.
- j. Two ungraded Medical Assistants, Kenyans, will have responsibility for (i) bio data collection from patients and filling out forms (ii) screening people; and (iii) assisting in operational functions.
- k. Two Kenya Drivers will be responsible for driving and maintenance of the two Health Education and Prevention Unit vehicles.

2. Relationship of Grantee to Cooperating Country and to AID

a. Relationships and Responsibilities

The Grantee will be responsible for keeping the Kenyan Government, USAID/Kenya, and AID/W informed on the project.

b. Cooperating Country Liaison Official

The Permanent Secretary, Ministry of Health or his designee.

c. AID Liaison Officials

The USAID/Kenya Mission Director (1) or his designee (2) AID/W:  
Rose Marie Depp, Office of Development Resources, Eastern/Southern Africa Projects, Bureau for Africa

Thomas O'Keefe/Harvey Ames, Office of Eastern/Southern Africa/  
Bureau for Africa

3. Technicians

a.	<u>Number</u>	<u>Specialized Field</u>	<u>Grade and/ or Salary</u>	<u>Duration of Assignment (Man-Months)</u>
	1	Senior Ophthalmologist/ Program Director	To be funded by grantee	Not less than 12 months
	1	Ophthalmic Surgeon/ Assistant Program Director	To be funded by grantee	Not less than 12 months
	1	Public Health Specialist	To be funded by grantee	Not less than 12 months
	1	Ophthalmologist/ Epidemiologist	To be funded by grantee	3 months
	1	Program Director	To be funded by grantee	2.4 months
	1	Assistant Program Director	To be funded by grantee	4 months
	1	Secretary	To be funded by grantee	Not less than 12 months
	1	Public Health Nurse (local)	To be funded by GOK	Not less than 12 months
	1	Program Administrator (local)	To be funded by grantee	Not less than 12 months
	2	Medical Assistants (locals)	To be funded by GOK	24 months (12 months eac
	2	Ungraded Medical Assistants (locals)	To be funded by GOK	24 months (12 months eac
	2	Drivers (locals)	To be funded by grantee	24 months (12 months eac

b. Duty Post

Washington, D. C., Nyeri and Nakuru and other locations in Kenya as assigned.

c. Language Requirements

None

d. Access to Classified Information

None

4. Equipment and Supplies

Surgical and diagnostic equipment, drugs and medicines are to be procured by the Grantee outside of the Cooperating Country by the Grantee in furtherance of this Grant. In the event any equipment must be imported the Grantee will obtain duty free entry from the Government of Kenya.

5. Vehicles

Vehicles, spare parts and maintenance service for the life of the project will be procured by the Grantee in Kenya.

6. Other

A six (6) day work week is authorized; no premium pay authorized.

D. Reporting

1. The Grantee shall submit six copies each of the following reports to the Government of Kenya (GOK) and the USAID/Kenya Mission Director. However two (2) copies of each of said reports shall be forwarded by USAID/Kenya to the Office of Development Resources, Eastern Southern African Projects, Bureau for Africa (AFR/DR). AFR/DR will forward one of these two copies to the Office of Contract Management, Regional Operations Division, Africa. In addition the USAID/Kenya will transmit two (2) copies of said report to the Office of Eastern/Southern Africa Affairs, Bureau for Africa.

a. IEF monthly reports

b. A sixth month progress report - This report will be based on the internal IEF reports and submitted six months after the project activity begins. The report will include, but not be limited to, reporting on the accomplishment of the planned activities during this time period. The report should include IEF's assessment of their success in (1) the training of Ophthalmic Medical Assistants and Prevention Medical Assistants; (2) field training of Ophthalmic Surgeons; (3) training of indigenous administrator; (4) progress of blindness prevalence and incidence survey;

(5) expanding MEU capability to include preventative care; (6) reaching pre-natal, under-five and family planning clinics with education and preventative eye health programs; and (7) screening and introduction of preventative health programs in schools.

- c. A joint AID/IEF evaluation will be completed at the end of the ninth month of project activity which will include the evaluators assessment of IEF's success in meeting all of the planned objective during the course of implementation to date. This will include items (b) (1-7) plus the following: (1) an evaluation of the program's impact in modifying personal hygiene in the ~~six~~<sup>six</sup> target areas ~~(2) a description and evaluation of the first Mobile Eye Unit's activity,~~ (2) a review of the original concept of the Grant activity (3) GOK support and participation, (4) the level of IEF staffing provided for under the Grant and (5) future AID financing. This report is due not later than the end of the ninth month of project activity.

#### E. Budget

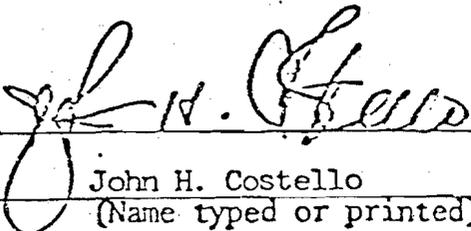
The funds provided herein shall be used to finance the following items:

BUDGET		
9/29/76 - 12/30/77		
9/30/77		
1. Salaries		
a. U.S. Surgical and Teaching Personnel plus fringe benefits		\$ 86,800
b. Consultants		3,780
c. African Personnel		10,900 ✓
d. U.S. Headquarters - Personnel plus fringe benefits		31,995
2. Travel & Transportation		125,810
3. Subsistence or Per Diem		12,180
4. Evaluation		8,000
5. Office Equipment		2,000
6. Surgical Equipment		36,035
7. Teaching Materials		20,000
8. Expendable Drugs & Medicines		13,000
9. Other Direct Costs		12,600
	TOTAL	\$363,100

NOTE: Although this is a proposed three year grant, funding is only provided for one year at this time. The Government of Kenya (GOK), Ministry of Health (MOH), and the International Eye Foundation (IEF) are also making contributio

the first year.

The GOK contribution for the first year is \$337,800 and the IEF contribution for the first year is \$249,000, making the total of all sources for the first year \$949,900. However, the Grantee may not exceed the total amount (\$363,100) of the Budget as provided by AID. Reasonable adjustments among the line items constituting the \$363,100 are unrestricted.

1. Amendment No. 3	2. Effective Date 12/21/77	3. Grant No. AID/afr-G-1266	4. Effective Date 9/29/77
5. Grantee (Name and Address) International Eye Foundation Sibley Memorial Hospital Washington, D.C. 20016		6. Administered by- Grant Officer Regional Operations Division, AFR Office of Contract Management Agency for International Development Washington, D.C. 20525	
7. PIO/T No.- 615-173-3-80002  Appropriation No.- 72-11X1024  Allotment Symbol- 848-50-615-00-09-81 (Increase \$390,000)		8. Previous PIO/T's-  615-173-3-60064 A2	
9. The above numbered Grant is hereby modified as follows:			
a) The date of expiration set forth in the grant letter is hereby extended to December 31, 1978, in lieu of December 1977.			
b) The amount of the grant set forth in the grant letter is changed to read "\$753,100" in lieu of "\$363,100".			
c) Attachment A, Program Description is deleted in its entirety and the following substituted in lieu thereof.			
10. This amendment is entered into pursuant to the authority of the Foreign Assistance Act of 1961, as amended. Except as herein provided, all terms and conditions of the grant referenced in Block #3 remain unchanged and in full force and effect.			
11. Grantee is required to sign this document and return 7 copies to issuing office			
12. GRANTEE		UNITED STATES OF AMERICA AGENCY FOR INTERNATIONAL DEVELOPMENT	
BY:  John H. Costello (Name typed or printed)		BY: _____ (Name typed or printed)	
TITLE: Director of Program Development		TITLE: Grant Officer	
DATE: January 3, 1977		DATE: _____	

PROGRAM DESCRIPTION

A. PURPOSE OF GRANT

The purpose of this Grant is to provide assistance to the Government of Kenya by initiating a program of blindness prevention and health education in six target areas of Kenya and assisting the Kenya Society for the Blind (KSB) and the Ministry of Health (MOH) expand their institutional capability so program responsibility may be assumed by KSB and MOH in three years.

B. SPECIFIC OBJECTIVES

The specific objectives of the Grant are:

- (1) The establishment of five mobile Rural Blindness Prevention Units (RBPUs). One RPU was made operational during the first year, and two will be made operational during the second year and two during the third year.
- (2) The design and implementation of an epidemiological survey on the distribution and incidence of ocular diseases. Five of these surveys will be carried out in selected areas of Kenya. One was completed during the first year and two each will be carried out in the second and third years of the project.
- (3) The design and implementation of a training program in health and nutrition education and blindness prevention for medical ophthalmic assistants, and rural nursery and primary school teaching staff. The activities associated with the training program will be carried out by RPU staff.
- (4) The development of a strategy for delivery of health education and nutrition information to rural people as it relates to blindness prevention through publication, brochures, charts, posters and other appropriate media.
- (5) The training of a Kenya Administrator who will become the full-time director of the RBPUs and associated activities at the conclusion of this OPG.

To achieve the above stated objectives, the Grantee shall carry out the following activities utilizing the funds provided by the grant:

- (1) Two RPU's made operational, possibly in Nyanza and Western Provinces.

Grant No. AID/afrc-1266  
Attachment "A"

- (2) Two epidemiological studies carried out and reported on by IEF and project staff.
- (3) Training programs in health and nutrition education and blindness prevention carried out by Kenyatta National Hospital by the IEF public health specialist.
- (4) Delivery of health and nutrition education and blindness prevention information to rural ungraded medical assistants and rural teaching staff by RBPU personnel.
- (5) Development, publication and distribution of teaching materials on health education, nutrition and blindness prevention to be carried out by the education materials specialist.
- (6) Two Mobile Eye Units (MEU's) will be upgraded to have blindness prevention and health education capabilities.
- (7) Two indigenous ophthalmologists will be given surgical training in the MEU's.
- (8) Training of the indigenous administrator for eventual assumption of responsibility as full-time director of operations.
- (9) IEF will continue procurement and allocation of essential equipment and supplies.
- (10) IEF will submit to USAID/Kenya before February 28, 1978<sup>79</sup> an evaluation plan for the project. This plan will include evaluation benchmarks and baseline data against which the project success can be measured, a proposal for the actual timing of the joint AID/IEF evaluation and recommendations for the evaluation team's membership. The evaluation itself should take place in June, 1979 with one person provided by IEF and a second person to be provided by AID. Further, AID reserves the right to conduct an independent evaluation in addition to the joint evaluation.

The above work plan for year two shall be accomplished by the following IEF personnel:

- (1) The Senior Ophthalmologist/Program Director will be (a) chief executive officer responsible for the development of overall program objectives, design and implementation, personnel and project outputs; (b) will act as chief program ophthalmologist; (c) will be directly responsible for the operation of three MEU's and one RBPU and supervise the Kenyan public health nurse; and (d) will train one Kenyan in ophthalmic surgery.

- (2) The Ophthalmic Surgeon will be (a) assistant program director; (b) will deliver eye health care and perform surgery; (c) will train two Kenyans in ophthalmic surgery; and (d) will be responsible for the operation of three MLU's and one RBPU.
- (3) The Public Health Specialist will (a) work with the ophthalmologists in developing public health prevention and education programs; (b) monitor day-to-day operations of the MEU's and RBPU's; (c) develop curricula and conduct teaching and training programs for the health workers for the MLU's ungraded medical assistants and drivers; and (d) have administrative responsibility for the final four ocular morbidity surveys.
- (4) The Ophthalmologist/Epidemiologist (TDY) will (a) be technically responsible for the epidemiological studies; (b) interpret and evaluate the data gathered in the epidemiological surveys; and (c) formulate recommendations and a proposal for follow-up procedures.
- (5) The Education/Materials Specialist will develop teaching aids, health education materials for use in the MEU's AND RBPU programs.

C. REPORTS

The Grantee shall submit six copies of each of the following reports to the Government of Kenya and the USAID Mission in Kenya. USAID will make further distribution of the reports within AID as follows: Two copies each to AFR/DR and AFR/EA.

- A. IEF Quarterly Reports, due to USAID within 21 calendar days following the end of a calendar quarter. The report shall include information as to IEF actions taken toward meeting the objectives of the grant; status of equipment purchases and personnel actions; financial activity, and a brief summary of activities planned over the next quarter.
- B. An annual report of work completed due to USAID no later than 30 calendar days following the effective date of the Grant Agreement. The report will include, but not be limited to, reporting an accomplishment of the planned activities during the previous period. Specifically, the report will include IEF's assessment of their success in training of ophthalmic medical assistants; field training of ophthalmic surgeons; training of an indigenous administrator; progress of blindness prevalences and incidence survey; expanding MEU capability to include preventive care; reaching prenatal, under-five children, and MCH/FP clinics with education and preventive eye health care programs, and child screening and introduction of preventive health programs in schools.

USAID will receive two copies of each of the epidemiological studies when printed.

D. BUDGET

1. Salaries	\$312,389
2. Travel and Transportation	225,370
3. Per Diem	29,940
4. Evaluation	20,780
5. Office Equipment	2,900
6. Surgical Equipment	41,035
7. Teaching Materials	39,000
8. Drugs and Medicines	34,886
9. Other Direct Costs	28,800
10. Surveys	<u>18,000</u>
TOTAL	\$753,100

The Grantee may not exceed the total budget amount. Adjustments between line items shall be unrestricted.

TOTAL PROJECT BUDGET SUMMARY

a. USAID Grant	\$ 753,100
b. IEF	492,480
c. MOH	<u>226,400</u>
TOTAL	\$1,471,980

NOTE: Although this is a proposed three year grant, funding is only provided for two years at this time.

E. SPECIAL PROVISIONS

The following provisions set forth in attachment 2 Standard Provisions of this grant are hereby deleted:

- Standard Provision 6 - Limitation of Funds
  - Standard Privision 7B - Payment - Periodic Advance
  - Standard Provision 7C - Payment - Reimbursement
  - Standard Provision 11 - Government Furnished Excess Personal Property
  - Standard Provision 12A - Title to and Use of Property (Grantee Title)
  - Standard Provision 12B - Title to and Use of Property (U.S. Government, Title)
  - Standard Provision 15 - Voluntary Participation
  - Standard Provision 16 - Prohibition on Abortion - Related Activities
  - Standard Provision 17 - Voluntary Participation Requirements for Sterilization Programs
  - Standard Provision 19 - Patents
- D) Attachment B "Standard Provisions" dated 10/15/74 is deleted in its entirety and attachment 2 "Standard Provisions" dated September 1977 is substituted in lieu thereof.
- E) Attachment C "Payment Provisions" is deleted in its entirety.

1. AMENDMENT/MODIFICATION NO 4	2. EFFECTIVE DATE 12/31/78	3. ESTIMATION/PUBLIC LAW NO P10/T No. 615-173-3-80002	4. PROJECT NO. (if applicable) 615-0173
5. ISSUED BY Contracting Officer Regional Operations Division, Africa Agency for International Development Washington, D.C. 20523		6. Technical Office: AFR/EA Office of Eastern Africa Affairs	

7. CONTRACTOR NAME AND ADDRESS  International Eye Foundation 7801 Norfolk Ave. Bethesda, MD 20014	8. AMENDMENT OF SOLICITATION NO.  DATE _____ (See block 9)	9. MODIFICATION OF CONTRACT/ORDER NO. AID/afr-G-1266 DATED 9/29/77 (See block 11)
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9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers  is extended,  is not extended

Offers must acknowledge receipt of the amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:

(a) By signing and returning \_\_\_\_\_ copies of this amendment, (b) by acknowledging receipt of this amendment on each copy of the offer submitted, or (c) by separate letter or teletype which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by teletype or letter, provided such teletype or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (if required)

Appropriation No. 72-11X1024  
Allotment No. 848-50-615-00-69-81

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

(a)  This Change Order is issued pursuant to \_\_\_\_\_  
The Changes set forth in block 12 are made to the above numbered contract/order.

(b)  The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12

(c)  This Supplemental Agreement is entered into pursuant to authority of The Foreign Assistance Act of 1961, as amended,  
and Executive Order 11223.

12. DESCRIPTION OF AMENDMENT/MODIFICATION

The purpose of this Amendment is to extend the estimated completion date of support.

In the Grant letter, delete the date "December 31, 1978" and substitute therefor the date "February 28, 1979".

Except as provided herein, all terms and conditions of the document referenced in block 8, as hereinafter changed, remain unchanged and in full force and effect.

13.  CONTRACTOR/OFFICE IS NOT REQUIRED TO SIGN THIS DOCUMENT  CONTRACTOR/OFFICE IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 11 COPIES TO ISSUING OFFICE

14. NAME OF CONTRACTOR/OFFICE <i>Joseph M. Deering</i> (Signature of person authorized to sign)	15. UNITED STATES OF AMERICA <i>James A. Anderson</i> (Signature of Contracting Officer)
16. NAME AND TITLE OF SIGNER (Type or print) Joseph M. Deering, Director of Program Development & Management	17. DATE SIGNED 2/5/79
18. NAME OF CONTRACTING OFFICER (Type or print) James A. Anderson	19. DATE SIGNED

BEST AVAILABLE COPY

INTERNATIONAL EYE FOUNDATION  
KENYA RURAL BLINDNESS PREVENTION PROJECT  
GRANT No. AID/afr-G-1266  
ANNUAL REPORT

Grant No. AID/afr-G-1266 was signed in Washington, D.C. on 29 September 1976 as a three year project carrying annual funding. The first year of funding was extended through 31 December 1977, with amendment No. 3 establishing a new fiscal year through 31 December 1978. This Annual Report therefore, covers the period 1 January - 31 December 1978.

I. Activities

The following actions have been undertaken which will lead to the fulfillment of the specific objectives of the grant as follows:

a. Expansion of prevention and health education capabilities of MEU's:

Materials are currently being developed which are intended to enhance the role of the MEU as a provider of primary health care information.

Included in these materials are a Primary Health Care Manual as well as an improved version of a visual acuity chart with simple eye health care messages imprinted on the lower portion. Through the Ophthalmologists posted through this project, input into mobile and static clinics of prevention, health education and nutrition materials is being carried out on a regular basis. It is important to note that of the 27 mobile and static units functioning in Kenya, the IEF Ophthalmologists are supervising either directly or indirectly 22 of them. Thirteen of these units are supervised directly, with the remaining nine being supervised through, and with the assistance of three other ophthalmologists. This supervision is done through periodic visits of IEF staff, as well as through provision of equipment and supplies. For the most part, these 22 units are equipped with diagnostic equipment and therapeutic supplies, as well as with expendable drug supplies through the International Eye Foundation. A "Permanent Display" has been developed which is used on a rotating basis for Agricultural Shows throughout Kenya. The Display focusses on Preventive Eye Care, and has been used during this reporting period at shows in Nyeri, Nakuru, Nairobi and Kakamega. It is anticipated that the display will be used again this coming year in these locations, as well as in Mombasa, Kisumu, Meru and Machakos. Plans are underway for a major Symposium to be held in Nairobi of all Clinical Officers/Ophthalmic trained to date, with the IEF making the major contributions. These will be in the areas of: 1) proper use of educational materials developed thus far; 2) introduction of a standardized reporting form for use of all C.O./Ophth. in Kenya (considered invaluable as data gathering mechanism to augment information collected during surveys); 3) Discussion of the proper use of Steroid preparations in the eye; and, 4) Discussion of the IEF activities

and their importance to the Kenya Ophthalmic Program.

b. Blindness Prevalence Survey:

Effective 28 January 1978, approval from the Office of the President was received to conduct research on the topic "Ocular and Nutritional Status Survey Among Peoples of Rural Kenya". The IEF was granted Permit No. O.P. 13/001/7C174/9, valid through 31 August 1979. This permission is to conduct research in any location in Central, Coast, Nyanza and Western Provinces. During this reporting period, two surveys were carried out. The first survey was conducted in Nyeri District, Central Province from 9 - 26 April. During the course of the survey, 1940 survey members were identified and registered. Over 92% of those registered were examined. All children 6 months to 6 years of age were also examined for nutritional status. The second survey was carried out in Kwale District, Coast Province from 5 - 25 August. During the course of the survey, 1453 survey members were identified and registered, of which 1,346 were examined (92.6%). All children between the ages of 6 months and 6 years were examined for nutritional status. Preliminary reports on these surveys are attached. It is anticipated that a pilot survey carried out in Samburu District, Rift Valley Province prior to the beginning of this contract will be published by the British Journal of Ophthalmology. It is likely, therefore, that the remaining five surveys carried out under the auspices of this grant will also be published by BJO. Two additional surveys will be carried out in 1979, in April (Western Province) and in August (Nyanza Province).

c. Training of Indigenous Administrator:

Mrs. Mary Auka, Executive Officer for the Kenya Society for the Blind was identified as the Indigenous Administrator. Lengthy discussions have been held between Mrs. Auka and IEF staff, aimed at familiarizing her with the goals and objectives of the Rural Blindness Prevention Project. It is felt that the choice of the Executive Officer of the KSB to fulfill this role is a critical one, as the position ensures continuity of project activities, in addition to negating the necessity of creating yet another salaried position. In addition to the efforts of IEF staff, the Royal Commonwealth Society for the Blind provided a full time administrator to assist with the daily operations of the Society. This has assisted greatly in more fully integrating Mrs. Auka into the activities of the IEF, as well as other international donor agencies cooperating through the KSB.

d. Field Training of Ophthalmic Surgeons:

Due to a political decision at the highest levels in the Ministry of Health, no indigenous ophthalmologists will be posted to receive additional training from the IEF team. Efforts have been made on the part of the IEF staff to visit on a regular basis the newly returned ophthalmologists, and to influence

when and where possible their attitudes to rural service and preventive ophthalmology. As no field training per se, will take place, this reporting category will henceforth be deleted.

e. Design and implementation of training programs in health and nutrition education for medical ungraded assistants, rural nursery and primary school teaching:

A teaching manual on primary eye care is being developed and will be printed and distributed during the first quarter of 1979. Standardized Visual Acuity testing materials have been developed, which incorporate primary eye care on the lower portion of the testing chart. A "Red Eye Chart" has been developed, tested extensively, revised, and will be field tested again. It is anticipated that the Red Eye Chart will be printed and distributed during the first quarter of 1979 also.

f. The development of a strategy for the development and delivery of health education materials in the areas of personal hygiene, diet, nutrition and maternal and child health care through publications, radio and other media:

A magazine has been developed, entitled "Macho ya Kenya" (meaning Eyes of Kenya) which will be distributed free of charge to approximately 20,000 schoolchildren in rural Kenya. The audience will be standards 5, 6 & 7, where the children are old enough to be able to read the magazine by themselves, both in Swahili as well as in English. The content of the magazine will include information on primary eye care, preventive and hygiene measures, as well as nutritional tips on how to avoid injuring the eyes through poor diet. Posters, cartoons and several illustrations will serve to keep this as a childrens magazine, with bright colors being used to attract attention. It is planned for the original art work to be turned over to a locally produced childrens magazine, "Rainbow" who will then run excerpts over a several week period of time, so as to increase the distribution by at least another 10,000. Eventually, the "Macho ya Kenya" will serve also as the basis for a short course for teachers in what primary health care is all about. The magazine will be printed and distributed in early February 1979. Two TV shows have been broadcast, featuring Clinical Officers/Ophth., with the object being to inform the general public about general eye care, and also to enlist the interest and support of the public to the blindness prevention aspects of their work. Radio spots are being planned which will be broadcast over the VOK Educational Media Service for schools and general audiences. Henry Rhono and other Kenyan Athletes are being approached to record various messages concerning eye care for this activity. Teaching activities have included the following: giving lectures at seminars at the Maragua Rural Health Training Center; and plans to establish a regular lecture series on blindness prevention and primary eye care at the three scheduled Rural Health Training Centers. It is anticipated that the Rural

Blindness Prevention Unit will be responsible for, and conduct these seminars and lecture series. During 1978, two 12 lecture series to the Registered Clinical Officer students at the Nakuru Medical Training Center were given. IEF staff participated in a Rural Health seminar in April in Kericho. General Clinical Officer students rotate through the eye clinic and surgery for on-the-job training. A C.O./Ophth. teaches basic ophthalmology and disease recognition to the enrolled nurse students from Nakuru MTC. The Public Health, health education and nutrition course with Ophthalmic Clinical Officers in training is an ongoing activity at the Kenyatta National Hospital Eye Unit.

## II. Equipment

Surgical instruments, textbooks, sutures, examining lights and other diagnostic and therapeutic equipment, as well as expendable supplies were received and distributed to eye units throughout the country. Twenty two of the existing 27 mobile and static eye clinics have now been supplied with equipment and drugs through this program.

## III. Vehicles

During this reporting period two vehicles were purchased to serve as Rural Blindness Prevention Units. One of these vehicles was put into operation in Kakamega, as RBFU/Western Province, and the second vehicle was put into operation in Nyeri, as RBFU/Central Province. All other vehicles in operation have been maintained as per normal maintenance schedules, and all are in full operating capacity at this time. No major equipment failures have been noted, and no problems have been encountered with respect to obtaining spare parts, petrol or vehicle servicing.

## IV. Finances

Local expenditures for the year just ended totalled \$ 116,107.93. No information is available from the IEF home office re US expenditures. These expenditures will be provided by the Home Office directly to USAID. A complete breakdown of disbursements for the twelve months ending December 1978 are appended.

## V. Blindness Prevention and Health Education Activities

During the past year, Mr. Stanley Ntuara visited 135 schools and examined 28,252 children. In addition, he screened at pre-schooler clinics and at the Miathene Child Welfare Center, where 11,248 mothers and children were examined and treated, and the mothers instructed in the prevention of ocular diseases, and in proper nutritional practices. Mr. Paul Rotich, RBFU/RVP visited 61 schools and examined 10,892 children. He also screened at MCHC Clinics where he examined 1375 mothers and children. Mr. Timothy Riaga, RBFU/WP, visited 59 schools and

examined 11,622 children. In addition, he conducted several chief and sub-chief Barazas where 971 individuals were examined for glaucoma and other ocular conditions. 1,363 mothers and children were examined at health centers and MCHC Clinics. During the month of April Mr. Riaga assisted greatly at the Ocular and Nutritional Status Survey in Nyeri District, where he single handedly saw 2522 patients at the open clinic which was established for all members of the public to attend.

#### VI. Clinical Activities

During the past year, therapeutic units under the supervision of Dr. Whitfield saw a total of 80,246 patients. Therapeutic units under the supervision of Dr. Schwab saw a total of 20,227 patients.

#### VII. Projected Activities

1. Publication and Distribution of Red Eye Chart.
2. Publication and Distribution of Macho ya Kenya.
3. Publication of results of Samburu Study in BJO.
4. Publication of teaching units on Trachoma and on Vitamin A. Deficiency.
5. Planning and conducting two surveys on Ocular and Nutritional Status of Peoples of Rural Kenya.
6. Organizing and comparing the data from the five above mentioned surveys, and preparing the results for publication.
7. Develop plans for radio programs through VOK Educational Media Services.
8. Develop manual for Primary Eye Care, and also curriculum for teaching primary eye care at the Rural Health Training Centers throughout Kenya.
9. Distribute standardized reporting forms to all C.O./Ophth. in Kenya, as well as other materials mentioned in the above text.
10. Continue with teaching activities as outlined earlier.