PROJECT SEE ANNUAL REPORT
OCTOBER 1993 - SEPTEMBER 1994

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A world leader in blindness prevention and rehabilitation since 1915.

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Executive Summary

Project SEE (Sustainable, Efficient, Eye Care) is a major public health and blindness prevention effort undertaken by Helen Keller International. This project builds on progress attained through previous Matching Grant programs. Over the last year, Project SEE has successfully enhanced the ability of HKI field staff and Ministries of Health to deliver eye health and blindness prevention services to the people of Mexico, Morocco, Philippines and Tanzania. With the support of USAID and Helen Keller International, hundreds of thousands of families have access to services, not previously available to them, and in many cases, this service is now closer to home. A major component of Project SEE is improved access as can be measured in increasing numbers who take advantage of eye care services provided by health care workers, nurses and others in eye disease, blindness prevention, public health and income-generation activities for blind adults. Skills development, such as training of trainers in communication skills, is one method of achieving improved service delivery. Doctors, including ophthalmologists, receive state-of-the-art training in eye care from experts in pediatric surgical techniques and public health ophthalmology.

Another component of Project SEE has had dramatic impact in quality of life for the blind people in the income generation project of the community-based rehabilitation program. Seven blind persons in the village of Ibwaga, Tanzania, have been fully trained in orientation and mobility techniques which allowed them to garden, collectively, for food for the family and for sale. This year, they made a profit of 105,000 Tanzanian shillings (about $200), and saved it in the local bank.

Throughout the first year, Project SEE activities have progressed without a major shift in planned direction. Some of the activities have been slightly delayed in Mexico without any harm to programmatic objectives. Specific problems and challenges and their resolution have been outlined, by country. Several major programmatic accomplishments are worth noting:

- **HKI/Mexico.** In Mexico, the newest Project SEE country, preliminary results from the baseline survey suggest that refractive error is the leading cause of blindness followed by cataract. Survey results will be used to inform policy makers (March 1995), alter project design, advise trainers and set into motion the new HKI ChildSight™ initiative. The latter program provides a simple refraction and an instant pair of eyeglasses, to children in school, for under $10 per child. Additionally, recent economic changes in Mexico imperil thousands of children who suffer from vitamin A deficiency. HKI proposes to assess this problem and assist in its resolution.

- **HKI/Morocco.** Five provinces have been added to the Project SEE program and Childhood Blindness Centers were established in Rabat and Casablanca. The following training programs have been completed: for 98 doctors and 169 nurses in primary eye care; for five doctors and 15 nurses in trichiasis surgery; and for eight ophthalmologists in refresher training.
**HKI/Philippines.** As of January 1995, 13 new ophthalmology residents of the Modified Residency Training Program (MRTP) are in training in five regional hospitals. The Child Surgery Unit was established at the Philippines General Hospital.

**HKI/Tanzania.** Thousands of Dodoma residents continue to be treated for eye problems at the Kongwa Eye Clinic and over 1,000 were provided surgery for trichiasis—the blinding complication of trachoma. About 100 persons received cataract surgery.

Headquarters (HQ) support for Project SEE is well established, formal and consistent. Reporting from the field is regular and technical support from HQ has followed the plans established during the December 1993 Program Start-Up Meeting. Shipments of Gifts-in-Kind, totalling $244,344, and commitment of corporate and foundation donors to provide the necessary cash match are both in line with grant requirements.

In summary, the trek towards sustainable and efficient eye care is well underway. No major obstacles were recorded and plans are well underway for implementation in Year Two.
I. HEADQUARTERS

HKI received the news announcing the award by USAID's BHR/PVC Matching Grant program to undertake Project SEE with a great deal of excitement. Long-planned activities were immediately set in motion. The task of redesigning the program, based on changes in the size and scope of the award, began immediately. The new budget was somewhat complex as the funding emphasis shifted towards a program focus on the Childhood Blindness component. Implementing this intricate and highly specialized component required even more emphasis on broad infrastructure support, sustainable administrative systems, training and outreach programs.

Headquarters staff, with direct and specific recommendations from field offices, planned a Project SEE start-up meeting which was held in Agadir, Morocco, in December 1993. With matching and other funds, additional staff from non-Project SEE countries were able to attend. Much of the success outlined in this report began with a powerful and directed start-up meeting.

The next major program development step—designed to amplify and maximize resources—was the meeting of the Childhood Surgery Technical Advisory Group on January 15, 1994. This meeting resulted in the development of guidelines for selecting children with congenital cataract surgery. Once their ophthalmic evaluation proves surgery is warranted, the children are operated and follow-up is scheduled with their families. The importance of this meeting was illuminated during a recent trip to the Philippines by Professor Richard Robb, an expert on the committee. This procedural groundwork provided the physicians with areas of common understanding and, therefore, a base for discussion of concerns and an opportunity to offer recommendations to the technical expert and vice versa.

HKI's great strength resides in the resourcefulness, flexibility and energy of its field staff. The field staff is to be congratulated, once again, as Project SEE exceeded expectations of the first year. This view will soon be verified by an external USAID review. With the suggested corrections in hand, we anticipate another two years of reducing blindness, restoring sight and working for a better life for blind children and adults for whom treatment or surgery is not an option.

Service statistics, revised activity plans, problems encountered, problem resolution and financial documents are reported to headquarters on a regular basis. At headquarters, the field reports are translated and analyzed for weekly review at the Program Staff meeting. On an annual basis, each Project SEE country provides a report which is reviewed and prepared for submission to USAID. The Headquarters financial and technical support components of Project SEE were implemented as expected, with the exception of the change in some headquarters staff.
The following is a list of Year One headquarters activities:

- Budgets prepared from October 1993 through December 1994 (See Appendix VIII, Budget Pipeline October 1993-September 1994)
- Project SEE Start-Up Meeting held in Agadir, Morocco, December of 1993
- Manual of Operations Developed
- Quarterly and Annual Reports submitted from field offices to headquarters
- Childhood Blindness Technical Advisory Group (CBTAG) convened January 15, 1994
- Childhood Blindness Protocol developed March 1994 (See Appendix I)
- Gifts-in-Kind match totalling $244,344 sent to field (See Appendix II)
- Medical equipment and supplies valued at $66,703 procured and shipped
- Headquarters staff reorganization, July 1, 1994; Medical Director assumes oversight for technical and medical coordination (See Appendix III)
- Support staff positions of Assistant Manager and Administrative Assistant for Procurement established July 1, 1994
- New Director of Eye Care hired October 3, 1994

Program Plans for Year Two

HKI is developing a comprehensive primary eye care manual which will be tested in Year Two and published in Year Three. The manual will be a synthesis of activities developed from HKI’s primary eye care activities in a variety of countries. For example, key activities from the ivermectin distribution program to prevent river blindness will be used for the chapter on onchocerciasis. The manual will be formatted as a series of activities which highlight the most effective and creative training ideas, including management of common eye problems, creative ideas for preventive education, diagnosis and referral. It will serve as a "boiler plate" to new programs launching training activities for primary eye care. It will make HKI’s experience and expertise accessible to other international and local organizations interested in integrating eye care into primary health care programs. (See Appendix IV for the Manual’s Draft Table of Contents)

The new Mexico project will be the locale for pilot schemes in micronutrient deficiency assessment and its integration into eye care activities. In addition, the cross-border eye screening and eyeglass provision will have been launched in the twin cities of El Paso and Juarez.

The Childhood Blindness Technical Advisory Group will reconvene with a view toward incorporating recommendations with pediatric surgery advisors assigned to each of the projects in Mexico, Morocco and the Philippines. In addition, methods of providing simple, yet appropriate forms of low-vision aids, eyeglasses or rehabilitation training will be analyzed for the feasibility of integration.

Childhood Blindness Centers will be established in Manila, Mexico City, Rabat and Casablanca, where a more complete picture of congenital cataract blindness will be analyzed. Recommendations for appropriate equipment and training for these centers will be written.
II. MEXICO

Summary of Program Status:

The report on Mexico covers the period October 1993-March 1995 because this is a new site. As a result of the completion of the baseline survey in December of 1994, HKI plans to implement integrated eye care services in three major regions of the state of Chihuahua: Ciudad Juarez, Ojinaga, and La Sierra. On March 28th, 1995, a major policy-formation event will take place. Mexican and HKI staff will present results of the survey to the governor and health officials. The primary topics will be the unnecessary human and economic toll of blindness, the cost-effectiveness of integrated eye care and the necessary coordination of training and implementation of strategies aimed at preventing and treating blindness.

HKI's Mexico Project SEE finished the year with the following major accomplishments:

- Completion of a baseline eye survey of 2,354 persons 0-65 years old, in the state of Chihuahua--population 2.6 million in October 1994 (with the collaboration of Instituto Chihuahuense de la Salud (ICHISAL) and Desarrollo Integral de la Familia (DIF)); (See Appendix V)
- Collection of socio-economic profiles of 700 families who participated in the above eye survey (December 1994);
- Very preliminary assessment of the micronutrient deficiency problem in La Sierra and planning for the dietary assessment (October 1994);
- Establishment of Committee to Prevent Blindness and cooperation among major groups in Chihuahua State: Health & Social Services-DIP, Instituto Mexicano del Seguro Social (IMSS), ICHISAL; the Chihuahua Lions; College of Ophthalmologists and Canacintra (a group representing the Tarahumara Indians industry);
- Implementation of funded cross-border program ChildSight™--a project to screen, refract and provide eye glasses for children 11-14 years old in Ciudad de Juarez, October 1994;
- Installation of HKI office with computer, photocopier, secretarial and accounting staff (December 1994);
- Appointment of Mexican ophthalmologist, Dr. Joaquin Tovar Diaz, as HKI Country Director;
- Plans of implementation of childhood blindness program with Dr. Everado Weber of the Association to Prevent Blindness in Mexico in March 1995;
- Translation of HKI's Simple Eye Care manual into Spanish and preparation for publication (to be completed February 1995).
- Donation of equipment valued at $2,200 (see Appendix II).
Uncorrected refractive error is the major cause of blindness in Chihuahua State. Simple measures are available for screening and providing both children and adults with an inexpensive pair of corrective lenses. HKI will harness the cooperative energies of the Lions Clubs in addressing this major cause of poor vision. In addition, funding from Chase Manhattan Bank and Reuters News service has been obtained in order to launch simple vision screening and provision of eye glasses.

Pterygium, the second leading cause of eye disease in the whole state. The city of Ojinaga will be the focus of intensive pterygium campaigns sponsored by the community and Lions Clubs. Similarly, cataract campaigns will be established in each of the three project sites. Ophthalmic supplies (intraocular lenses (IOLS), Healon, sutures and medicines) have already been donated for the project by US corporations Alcon, Allergan, Johnson & Johnson, Ethicon, and Merck, Sharpe & Dohme.

### Table 1

**Five Major Eye Problems in Chihuahua State**

*December 1994*

<table>
<thead>
<tr>
<th>Number</th>
<th>Eye Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Refractive Error</td>
</tr>
<tr>
<td>2</td>
<td>Pterygium</td>
</tr>
<tr>
<td>3</td>
<td>Senile Cataract</td>
</tr>
<tr>
<td>4</td>
<td>Congenital Eye Problems</td>
</tr>
<tr>
<td>5</td>
<td>Age-Related Macular Degeneration</td>
</tr>
</tbody>
</table>

**Major Causes of Refractive Error**

<table>
<thead>
<tr>
<th>Number</th>
<th>Cause of Refractive Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Presbyopia</td>
</tr>
<tr>
<td>2</td>
<td>Astigmatic Hyperopia</td>
</tr>
<tr>
<td>3</td>
<td>Astigmatic Myopia</td>
</tr>
<tr>
<td>4</td>
<td>Hypermetropia</td>
</tr>
<tr>
<td>5</td>
<td>Myopia</td>
</tr>
</tbody>
</table>

The groundwork has been laid to provide assistance to the health authorities to evaluate micronutrient deficiency in the drought-prone region of La Sierra, home to the Tarahumara Indians. HKI's Director of Nutrition, Dr. Susan Burger, has determined that an accurate portrayal of the dietary habits of the population is not available. In order to adequately plan and implement a strategy for the prevention of micronutrient deficiency, a nutritional assessment is necessary. HKI-Mexico Director of Program Development, William Winkley, and Dr. Tovar discussed the project with USAID Director, Mr. Arthur Danart. He has suggested they submit a project proposal for such an assessment for review by the Ambassador's fund.
Implementation of the Integrated Eye Care strategy will begin in 1995. The identification of a lead training team will be made and HKI’s Training Director will provide technical assistance in the design and implementation of training strategies. The key interventions are: (a) the training of school teachers, community volunteers and leaders, doctors and nurses to detect, treat and refer eye patients; (b) the dissemination of prevention and community education messages (for example, this can be done through DIF, the social service agency, with a strong presence and training capacity) and (c) the provision of services including screening, treatment and referral and surgical intervention.

Because the schools for the blind in Chihuahua do not have as many children with congenital cataract whose vision will improve with cataract surgery, measures have been taken to locate children with potential for visual rehabilitation. Waiting lists at several hospitals in Chihuahua, Ojinaga and Mexico City are being examined to locate children with unoperated congenital cataract. Fifty children in Mexico City meet the childhood blindness protocol criteria and will be scheduled for surgery early in 1995.
<table>
<thead>
<tr>
<th>DIP ACTIVITY</th>
<th>DATE ACCOMPLISHED</th>
<th>PROBLEM/CHALLENGE</th>
<th>RESOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headquarters Visit</td>
<td>January 1994-</td>
<td>-Procure written agreements</td>
<td>Agreement signed with DIF and Gov't of Mexico February 1993</td>
</tr>
<tr>
<td></td>
<td>March 1995</td>
<td>-HQ staff changes</td>
<td>New Eye Care Director Appointed October 1994</td>
</tr>
<tr>
<td>Visit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline Survey</td>
<td>December 1994</td>
<td>Delay due to scope of study and geography of regions High Sierra, Chihuahua, Ojinaga, Juarez</td>
<td>-Survey completed in December 1994</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Delay in receiving EPIINFO</td>
<td>-Final Survey results to be presented at meeting with Governor March 28, 1995</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Delays in entering data</td>
<td></td>
</tr>
<tr>
<td>Training Workshops</td>
<td>Planned for March</td>
<td>Without survey, impossible to begin training</td>
<td>-Translation of Simple Eye Care Manual completed in December 1994.</td>
</tr>
<tr>
<td>(Planned for March 1995)</td>
<td></td>
<td></td>
<td>-Training expert to begin training lead trainers in March 1995.</td>
</tr>
<tr>
<td>Campaigns: School, Cataract</td>
<td>Planned for March</td>
<td>Awaiting completion of data analysis on which to base intervention strategy and</td>
<td>Identification of Lions and two ophthalmologists who will launch</td>
</tr>
<tr>
<td>and Community Clinics</td>
<td>1995</td>
<td>implementation plan</td>
<td>Cataract Campaigns and Childhood Blindness campaigns in March 1995</td>
</tr>
<tr>
<td>Supervisory Visits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-First visit by Karima Kerby, Eye</td>
<td></td>
<td>Host country relationship established with DIF and ICHISAL</td>
<td>-Supervision/technical support by:</td>
</tr>
<tr>
<td>Care Director (Jan 1994).</td>
<td></td>
<td></td>
<td>Dr. Joaquin Tovar Diaz, Country Director</td>
</tr>
<tr>
<td>-Second supervisory visit by</td>
<td></td>
<td></td>
<td>-William Winkley, Consultant</td>
</tr>
<tr>
<td>Training Director Kirsten Laursen</td>
<td></td>
<td></td>
<td>-Eye Care Director</td>
</tr>
<tr>
<td>and K. Kerby (February 1994)</td>
<td></td>
<td></td>
<td>-Nutrition Director</td>
</tr>
<tr>
<td>-William Winkley (Fall 1994)</td>
<td></td>
<td></td>
<td>-Medical Director</td>
</tr>
<tr>
<td>-Medical Director Dr. Louis Pizzare</td>
<td></td>
<td></td>
<td>-Public Health Specialist</td>
</tr>
<tr>
<td>llo (August 1994)</td>
<td></td>
<td></td>
<td>-Consultants</td>
</tr>
<tr>
<td>-Eye Care Director Meredith Tilp</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(November 1994)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quarterly Project Review</td>
<td>December 1993</td>
<td>Quarterly project write-ups incomplete</td>
<td>Consultant William Winkley visits monthly beginning in October of 1994</td>
</tr>
<tr>
<td>Staff Meeting in Morocco</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular review during Thursday</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>staff meetings</td>
<td></td>
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</tbody>
</table>

*Mexico is a new HKI country, therefore this chart reports on additional time it will be necessary to accomplish DIP Activities.
Dr. Joaquin Tovar Diaz (left) HKI's Country Director and William Winkley (right) HKI/Mexico Program Officer, in the Lions Clubs dental office.

Lions Club Mobile Eye & Dental Care Unit, cooperating with HKI.
Tarahumara Indians in High Sierra during severe drought, 1994
III. MOROCCO

Summary of Program Status:

HKI’s Morocco Project SEE has exceeded targeted objectives in the past year with the following major accomplishments:

• By 1994, the provincial coverage rate for eye care and cataract services will reach 50% (15 of 30 provinces), compared to near 0% when HKI began working in Morocco. In late 1994, the country restructuring at the provincial level produced 66 provinces from the original 30. At this rate, all Moroccans will have access to eye care by the year 2000.

• Under the previous USAID Matching grant, PREYECARE (1989-1993), HKI paid for the extra-capsular cataract extraction (ECCE) surgical equipment. In 1994, MOH paid for the training and bought and maintained some cataract sets. HKI provided 123 foreign body kits to primary eye care workers and 123 cataract instruments to new provincial hospitals to support cataract surgery campaigns. The Ministry of Health contributes more and more to the program. For instance, the training of "hygienists scolaires" (school hygienists), is sustained by the MOH.

• In 1994, 98 doctors and 169 nurses were trained in primary eye care, 8 ophthalmologists were trained in ECCE with intraocular lens implantation and 5 doctors and 1 nurse were trained in trichiasis surgery.

• The MOH is replicating the Agadir training capability to do ECCE surgery in two new centers in Fez and Tangier. The MOH is so committed that they have bought operating microscopes for Fez and Tangier.

• In 1994, 206,924 primary eye care consultations were carried out in 14 provinces. The number of cataract surgeries performed in 1993 (6,172), doubled in 1994 to 14,492. The number of cataract surgeries performed in 1994 increased five times over that of 1993 and reduced the need for aphakic spectacles.

• Childhood Blindness Centers are being established at Agadir, Rabat and Casablanca using the protocol and data collection forms developed by CBTAG. Several congenital cataract cases exist which were evaluated for surgery.

• Primary eye care was extended to provinces of Al Hoceina, Chefchaoun, Fez, Figueig, Nador, Sidi Kacem and Tangier, Taounate. Cataract surgical campaigns were held in northern Morocco (Fez, Kenitra and Tangiers) with over 500 senile cataract cases and 3 congenital cataract cases operated, and 1,000 refractions performed.
Primary Eye Care

There are four main mechanisms for referral of patients in Agadir, a province of about 799,000 (1991) which is 54% urban. Rural or urban dispensaries and mobile clinics are the venues for providing service. "Hygienists scolaires" (school hygienists) who work in primary, secondary and higher educational institutions, and traditional birth attendants "saches femmes" have been trained in eye screening. Two ophthalmologist trainers have conducted training in primary eye care and referral of eye patients for general medical doctors, nurses and "hygienists scolaires". The cascade approach is used for training, starting with Ministry of Public Health personnel, provincial personnel and then local. Retraining takes place to inform health workers of data collected on cases, pathologies and needed changes in intervention practices. At the diagnostic center in Agadir, all cases are 'triaged' and post-operative follow-up is provided.

Primary Eye Care training was carried out for a total of 98 doctors and 169 nurses in the new provinces of Al Hoceina, Chefchaouen, Fez, Figuig, Nador, Sidi Kacem Tangier, and Taounate. Project SEE provided basic eye care kits to each nurse and cataract surgical kits to cataract surgeons.

Cataract Surgery Training

In Agadir, there is a surgical training center at the Hassan II Hospital. Three Moroccan cataract surgeons learn ECCE intraocular lens (IOL) implantation and perform on average about 560 surgeries (1994) (See Appendix VI). A continuous supply of sutures, healon and IOLS could increase this rate. The hospital has about 60 beds for eye patients and two functioning operating microscopes. The hospital is spotless and equipment impeccably maintained.

There is an "eye surgeon drain" problem in that many of the surgeons trained and employed by the MOH are turning to private practice. An agreement or "convention" needs to be signed between the MOH and ophthalmologists going into private practice to allow them to operate in the public health hospitals.

Cataract Campaigns

Several cataract campaigns were jointly sponsored in Tangier, Kenitra and Fez by MOH and private donors, Lions and HKI. These campaigns raise awareness about eye services and deliver sight-restoring surgery. Publicity is developed through local government corporate sponsors such as Chibret, Roussel Diamant, the Lions and Rotary Clubs, among other. HKI provided supplies of IOLS and Healon for these campaigns.
Childhood Blindness Morocco

Three Project SEE childhood blindness centers were established in Agadir, Rabat and Casablanca in 1994. The projected total number of cases is 2,000 per year. A vitrectomy machine was purchased for the center in Rabat in January of 1995. The Agadir Center continues to conduct child surgery. Utilization of childhood blindness protocol and data collection was begun in 1994. Quality control of post operative visual acuity is better than expected.

There is no capability for low-visioned children in Morocco. Children who have surgery whose visual acuity is 20/100 or worse could benefit from low vision aids or simple toys to play with post-operatively. There are serious political constraints on the rehabilitation side of blindness in Morocco, as the schools for the blind under Organisation Arabe pour les Aveugles et Malvoyants (OAPAM) would prefer to be "left alone" by the surgeons.

HKI Country Director Fatima Akalay is prepared to "untie the knot" that is holding up ophthalmologists from going into schools for the blind to select cases for surgery. Mme Akalay has contacted the local Peace Corps in order to use PCVs in a blind rehabilitation efforts in 13 schools where they work.

Casablanca

At the August 20th Hospital, Professor Amraoui is conducting pediatric surgery along with all other eye surgeries. There are 14 eye surgeons at this hospital. Since 1993, 65 congenital and traumatic cataract cases have been operated. HKI has provided gifts-in-kind to this center for Childhood Blindness Center. Most specialized children's surgery for the southern region is done out of this hospital. With HKI assistance in Year Two, this hospital will perform about 150 congenital and traumatic cataract operations a year—90% successfully with visual acuity better than 20/200.

Dr. Amraoui's master assistant, Dr. Nadia Laouissi, who speaks English, would like to do a month's pediatric internship in the US. There is currently no pediatric specialization in Morocco. HKI Morocco has contacted the USAID Mission and the Ambassador for funding for equipment and training for this aspect of the project.

Rabat

A center is established at the Specialty Hospital in Rabat which primarily serves the north of the country. Many eye specialty cases are referred there. The operating room is available three days a week, with pediatric cases limited to two days. HKI found that will additional equipment, Professor Berraho-Hamani and her staff can perform 1,300 pediatric surgeries per year. A vitrectomy machine procured to equip an additional operating area which is dedicated now to children's surgery. A three-month backlog of children exists.

Dr. Berraho and her team are doing cataract campaigns in Fez. They did 500 surgeries in one week including several children. Dr. Berraho has additional space ready for an operating room with two tables available to be dedicated exclusively to children's surgery. The requisite staff is available.
Agadir

The Agadir Center is currently performing 21 congenital cataract surgeries and could double this number with appropriate medical supplies.

A major constraint, as we will see in the Philippines, is that parents and their children with eye problems are not coming for surgery early enough -- ignorance, the cost of an IOL--(1,000 dirham or $143) and distance to and from a surgical center are some factors HKI has encountered. Providing the intraocular lenses, ensuring surgery is available to those already waiting and providing donated IOLS to indigent patients are three strategies to overcome them.

Monitoring and Evaluation Capability

Agadir is the statistical center for the southern region. In 1991, a full-time statistician was employed. All health centers register eye referrals in their books: dispensaries, rural health stations, mobile units and diagnostic centers. These data are forwarded to the data processing unit. EPIINFO is used to tabulate data. Data from all regions are sent to MOH/Rabat on a monthly, quarterly and annual basis. It takes about one month for the data to arrive in Rabat at the MOH, where it is forwarded to HKI headquarters for analysis and feedback.
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>ACCOMPLISHED</th>
<th>CHALLENGE/ PROBLEM</th>
<th>RESOLUTION</th>
</tr>
</thead>
</table>
| Training/Retraining  
- Training of doctors and nurses in PEC  
- And trichiasis surgery  
Training/retraining ophthalmologists in extra-capsular surgery with IOL | 98 Doctors 169 Nurses 5 Doctors 15 Nurses 8 Ophthalmologists | Success in numbers trained | Need contract with eye doctors to ensure work for MOH |
| Materials Developed:  
Trachoma poster for health workers  
Cataract poster for the public  
Cataract brochure for health professionals | None | Using existing materials | Using existing materials |
| Equipment | Procurement Chart (See Appendix II) | None | Regular supply |
| Medicines | Procurement Chart (See Appendix II) | None | Regular supply |
| Expansion of Cataract Surgical Services to new provinces:  
Sidi Katra  
Cataract Operated  
IOLS implanted  
Wilara de Fez  
Cataract Operated  
IOLS implanted  
Taroudant  
Cataract Operated  
IOLS implanted  
Kenitra  
Cataract Operated  
IOLS implanted | 291 patients 22 implants 511 patients 126 implants 248 patients 48 implants 318 patients 75 implants | None | HKI provides regular shipments of IOLs and sutures from Gifts-in-Kind supply. Other sponsors include MOH, Lions Clubs, Rotary, MediOptic, Roussel Diamant, Alcon, Chibret and Dulcis Corporations |
MME Akalay, HKI's Country Director & Dr. Iddhaji - Agadir, Morocco

Didich Nezah, age 7 with her mother from Missour, Morocco - with congenital cataract Casablanca eye center
Child with retinoblastoma tumor of the eye often left untreated in developing countries because of lack of equipment & expertise

Post operative child Casablanca, Morocco
IVE. THE PHILIPPINES

The objectives of the year were:

1. To recruit, select and start the training of 15 rural doctors in the Modified Residency Training Program (MRTP) for rural ophthalmologists. This training program was initiated by Helen Keller International in 1985 in the Bicol Region of the country. Project SEE will train doctors from five regions in addition to Bicol.

2. To orient government and health officials to the availability of cataract services and develop strategies to have at least 3000 cataract surgeries performed in two regions of the country.

3. To lay the groundwork for the implementation of the Childhood Blindness Program.

Summary of Program Status:

HKI’s Philippines Project SEE finished the year with the following major accomplishments:

- Consultations with Local Government Unit (LGU) officials were held regarding the need for eye care services. A total of 17 Municipal Health Officers (MHOs) in Region V (Sorsogon) were trained in the detection, screening, pre-op examination, and post-op follow-up of cataract patients. A pilot project using volunteer health workers in three villages in Region VI (Western Visayas) to detect, screen and refer cataract patients was started to render these villages cataract-free.

- Fifteen residents started their MRTP training in January of 1994. The residents were spread out in five regional hospitals where training was conducted (See Appendix VII). Eleven participants came from HKI-targeted provinces. The Memorandum of Agreement with MOH and the Residents’ Contracts have been signed.

- A total of 45 consultant trips for resident’s training took place. Consultants from Manila, Cebu and Cotabato were recruited on the basis of their training, experience in teaching and interest in the program. Some of the consultants took part in the selection of the trainees, but their primary task is training and evaluating each trainee.

- Regular and frequent cataract missions have been implemented in the provinces of Iloilo and Antique and in Sorsogon Region, and Camarines Norte and Albay in Bicol Region. With the support of NGOs, community based organizations, the hospitals and HKI’s gifts-in-kind program, a total of 1,660 cataract surgeries were performed by MRTP graduates.

- A Childhood Blindness Center was established at the Philippines General Hospital. Doctors are using their personal equipment to work up the cases, thus lowering the cost for indigent patients. Emphasis is on careful case selection as well as follow-up.
HKI personnel visited one school for the blind. Twenty-six students had congenital cataracts and corneal scars. Two considerations for the Childhood Blindness Program are the need for early selection of cases which can benefit from congenital cataract surgery and extended surgical follow-up. Both factors are hampered by the distance some parents and their children live from centers with appropriate surgical facilities.

There are more pediatric cases present at the Philippines General Hospital (PGH) than the combined total of all other hospitals in the country. There is a list of indigent cases who are unable to afford surgery. The hospital has at least three competent pediatric ophthalmologists who are willing to render their services free of charge. These surgeons are using surgical protocol similar to that proposed by the CBTAG.
### Table 4 PROBLEMS/CHALLENGES AND THEIR RESOLUTION - PROJECT SEE, PHILIPPINES OCTOBER 1993-SEPTEMBER 1994

<table>
<thead>
<tr>
<th>DIP ACTIVITY</th>
<th>DATE ACCOMPLISHED</th>
<th>PROBLEM/CHALLENGE</th>
<th>RESOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training of Gov't Drs. in ophthalmology</td>
<td>11 as of-1994; 13 as of-1995* 28 total trainees</td>
<td>-15 additional trainees sponsored by CBM</td>
<td>-Exceeded plan despite 4 dropouts due to add'l support from NGO</td>
</tr>
<tr>
<td>-# trained &amp; accredited by PSO</td>
<td>5 passed oral and written; 2 passed written so far; 3 did not pass; 1 did not take</td>
<td>-Students need to retake</td>
<td>-Trainees will take orals and 4 will try again</td>
</tr>
<tr>
<td>-# cataract surgeries performed</td>
<td>1,778 cataract surgeries performed</td>
<td>-Cataract surgical campaigns need to be better publicized and organized</td>
<td>-Using Cataract Campaign approach more patients will be referred</td>
</tr>
<tr>
<td>Training materials developed</td>
<td>-Cataract detection card 1991</td>
<td>-Old materials still useful</td>
<td>Materials are proceeding according to plan</td>
</tr>
<tr>
<td></td>
<td>-Children's detection card piloted not complete 1994</td>
<td>-Children's detection card on schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Primary Eye Care Manual</td>
<td>-Revision of PEC Manual on schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drafted Sept 1993, revised 1994, ready 7/95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEC Materials</td>
<td>N/A</td>
<td>Due to high cost did not produce radio spots but used PSAs in Region S/ every month</td>
<td>Acquired sponsorship of different organizations, Lions etc., to sponsor radio spots</td>
</tr>
<tr>
<td># Radio spots</td>
<td></td>
<td>Staff already new barriers to surgery, needed to motivate demand</td>
<td>Organized regional task forces to promote sponsorship</td>
</tr>
<tr>
<td># Focus Groups</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td># examinations performed</td>
<td>7,134 screened</td>
<td></td>
<td></td>
</tr>
<tr>
<td># identified cataracts</td>
<td>2,377 identified with cataract</td>
<td></td>
<td></td>
</tr>
<tr>
<td># of sponsored surgeries</td>
<td>1,778 surgeries</td>
<td></td>
<td></td>
</tr>
<tr>
<td># cataract glasses supplied</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* new trainees as of January 1995

Patients buy or are sponsored by non-profit groups for 150 pesos $6

Encouraging purchase of low-cost spectacles from local groups more sustainable
<table>
<thead>
<tr>
<th>DIP ACTIVITY</th>
<th>DATE ACCOMPLISHED</th>
<th>PROBLEM/CHALLENGE</th>
<th>RESOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhood Blindness</td>
<td>July 1994 1 school visited</td>
<td>1994 at Philippines General Hospital (PGH) -63 children identified (26 congenital</td>
<td>50-100 scheduled for 1995</td>
</tr>
<tr>
<td># schools for the blind visited</td>
<td></td>
<td>cataracts) Drs not able to operate on patients due to poor prognosis for visual</td>
<td>Decide to reorient strategy to focus on establishing slowly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>outcomes</td>
<td>children's surgery center in Manila, Cebu and Davao City to</td>
</tr>
<tr>
<td># congenital cataracts operated</td>
<td>Next annual report</td>
<td>Out of congenital cataract population 30%</td>
<td>ensure proper followup</td>
</tr>
<tr>
<td></td>
<td></td>
<td>good prognosis for surgery</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>70% not good prognosis for surgery</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parents are not bringing children with</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>congenital cataracts to Manila and cannot afford surgery if they do</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity Building:</td>
<td>None scheduled yet 13 new trainees</td>
<td>On target</td>
<td>Assisting and doing minor procedures in 1st year</td>
</tr>
<tr>
<td># of MRTP new graduates</td>
<td>in 1995</td>
<td></td>
<td></td>
</tr>
<tr>
<td># of MRTPs doing surgeries</td>
<td>First year assist in surgery (see</td>
<td>Not expected yet</td>
<td></td>
</tr>
<tr>
<td># of hospitals equipped</td>
<td>1993-5 equipped</td>
<td></td>
<td></td>
</tr>
<tr>
<td># of hospitals equipped</td>
<td>1994-0</td>
<td>5 total equipped (1 Bicol, 4 other regions)</td>
<td></td>
</tr>
<tr>
<td># of consulting visits</td>
<td>45 visits January-September 1994</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 consultant trips per month</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Review of MRTP</td>
<td>To be conducted next rotation</td>
<td>85% are very satisfactory</td>
<td></td>
</tr>
<tr>
<td>% of Gov't $ for ophthalmic services</td>
<td>1993 12 regional hospitals equipped</td>
<td>Each hospital will cost 900,000 pesos to equip</td>
<td>Look for additional matching funding continueto press for</td>
</tr>
<tr>
<td></td>
<td>by DOH</td>
<td>DOH delay in delivering supplies</td>
<td>local support</td>
</tr>
<tr>
<td></td>
<td>1994 3 Provincial Hospital by HKI</td>
<td></td>
<td>Supplies budget to carry over. HKI providing GIK</td>
</tr>
<tr>
<td></td>
<td>1994-1995 13 new hospitals equipped</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>by CBM</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1994 budget for supplies committed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>for 1995</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOH designated coordinator in each</td>
<td>1994</td>
<td>Success</td>
<td></td>
</tr>
<tr>
<td>region for MRTP Program</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1) Region V-Dr. Ed Sarmiento</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2) Region VI-Dr. Mario Moscoso</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3) Region VIII-Dr. Lemuel Gatchalian</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4) Region X-Dr. Rustan Hautea</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5) Region IX-Dr. Orlando Paber</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6) PGH Dr. Teresita Castillo</td>
</tr>
</tbody>
</table>
Group Photo - HKI staff with Philippines's acting Minister of Health Dr. Jaime Tan, Dr. Richard Robb HKI's Childhood Blindness Advisor

Dr. Robb examines little girl 6 year-old Karen with two cataracts
Primary Eye care worker examining patient at Baranguay Health clinic

Vegetables for better HEALTH...a better FUTURE!

Social Marketing of Vitamin A
PHILIPPINES

Dr. Richard Robb's Pediatric Evaluation
V. TANZANIA

Summary of Program Status:

The Comprehensive Primary Eye Care Eye Health Program was begun in March 1984 at Kongwa subdistrict of Mpwapwa District, Dodoma Region. Kongwa has a population of 170,000 and is divided into four divisions and eleven subdivisions. Fifty-three villages are scattered in this arid area of the central part of Tanzania. A total of 23 villages are now included in HKI’s Project SEE. Fifteen villages are within Kongwa and eight villages are in two other districts of Dodoma.

The objectives for the year were:

1. To train 30 village health workers (VHWs), 20 nurses and doctors in the prevention and treatment of eye diseases;
2. To improve referral mechanisms and monitoring systems in order to maximize use of services by target populations;
3. To increase community participation in planning program activities;
4. To improve HKI’s organizational capability in strategic planning, health data management, impact assessment, evaluation and community mobilization.

HKI Tanzania’s Project SEE has exceeded targeted objectives in the past year with the major accomplishments listed below:

- Expansion from five to 15 project villages (Kongwa) to include eight additional villages in the Mpwapwa Main District and Dodoma Rural Area;
- Addition of two training sessions, one for village health workers and one for the district eye coordinators and policy makers;
- Participation of six doctors from six regions in the country (Kilimanjaro, Rukwa, Ruvuma, Morogoro, Mbeya and Iringa) in a trachoma grading workshop;
- A mini-workshop for three eye experts from Singida, Iringa and Dodoma rural districts to focus on Bilamellar Tarsal Rotation Procedure (BTRP) for trichiasis;
- Immunization of 2,000 children with BCG, Polio, DPT and Measles vaccines;
- Community-based development including planting of 12,000 seedlings, improvement of environmental sanitation, ventilated pit latrine construction and household refuse disposal;
- Construction of Kongwa Central Seminar & Workshop Hall (1988 HKI vehicle sold and funds used to build new classroom);
- Generation of income by seven-member team of community-rehabilitated blind clients in Ibwaga totalling 105,000 Tanzanian Shillings ($200); proposed expansion of CBR training to village of Chamae;
- Establishment of new offices providing four rooms instead of two;
- Writing of proposals for water development projects and sent to WaterAid and LVIA (Lay Volunteers International Association) to solve water shortage problem in Kongwa.
TABLE 5 PROBLEMS/CHALLENGES AND THEIR RESOLUTION PROJECT SEE, TANZANIA OCT. 1993-SEPT. 1994

<table>
<thead>
<tr>
<th>DIP ACTIVITY</th>
<th>ACCOMPLISHED OCT-DEC 1994</th>
<th>Problems/Challenges &amp; Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,000-3,000 people treated at Kongwa Eye Clinic (KEC)</td>
<td>11,344 people treated</td>
<td>Exceeded expectations due to increased number of VHWs</td>
</tr>
<tr>
<td>500-700 people received corrective eyelid surgery at KEC</td>
<td>1,419 minor operations performed</td>
<td>1,083 eyelid surgeries were performed and add'l 336 minor operations1</td>
</tr>
<tr>
<td>90-150 cataracts removed &amp; spectacles provided in Dodoma region</td>
<td>99 cataract surgeries performed</td>
<td>4 centers performed surgery. Kongwa had none because of shortage of water</td>
</tr>
<tr>
<td>15 VHWs &amp; 5 nursing auxiliaries integrated in district eye care team</td>
<td>30 VHWs trained</td>
<td>Double the number of VHWs/17 bicycles provided as incentives</td>
</tr>
<tr>
<td>6 ophthalmic nurses trained to deliver community-based education</td>
<td>Planned after trachoma grading and lid surgery retraining</td>
<td>Reschedule</td>
</tr>
<tr>
<td>Refresher courses for 6 nurses to upgrade trichiasis surgical skills</td>
<td>10 district eye coordinators</td>
<td>Need for standardization of trachoma grading 10 district eye coordinators trained in trachoma grading</td>
</tr>
<tr>
<td>5 (new) VHWs trained in eye care</td>
<td>See below2 and additional seminar</td>
<td>See below2 and additional seminar held for trachoma control</td>
</tr>
<tr>
<td>10 VHWs visited-monthly &amp; eye health activities completed</td>
<td>22,196 patients seen by VHWs in 15 villages 4,219 patients seen in outreach clinics 128,388 immunizations provided by rural health staff</td>
<td>Additional activities accomplished through integrated approach and additional VHWs</td>
</tr>
<tr>
<td>10 villages participating in organizing groups of blind people (optimistic)</td>
<td>1 more village (Chamae)</td>
<td>Identified blind role models in CBR training of others</td>
</tr>
</tbody>
</table>

1 58 Ectropion corrections, 64 excision of benign tumors; 43 eviscerations; 4 temporal tarsorrhaphy; 167 lacrimal sac lavages.

2 There have been two diversions from the Detailed Implementation Plan. During the last quarter of this year, 10 district eye coordinators underwent a course in standardization of trachoma grading. Secondly, an additional seminar for VHWs was conducted including the 5 new villages so as to improve their trachoma grading and screening with emphasis on identification of trichiasis patients. Identification and referral of cataract patients was also addressed.
Vehicle donated by Het Schild
Matching grant fund for field work in Kongwa.
Vehicle is equivalent to Project SEE field
budget for one year. Last vehicle lasted for
almost seven years and at least 200,000 kms.

Group Photo: Field Trial - July 1994
Iringa, Tanzania
TANZANIA

Eye Care Nurses Discussing the Manual "Achieving Community Support" for Trachoma Control during a field trial undertaken in Iringa, Tanzania at the PHC Institute

Workshop for Nurses in Dodoma Region To learn Communication Skills
Appendix I
Childhood Blindness Technical Advisory Group (CBTAG) Forms and Guidelines
Appendix II
Procurement and Gifts-in-Kind per country
Appendix III
Headquarters and Field Organizational Charts
Appendix IV
Primary Eye Care Training Manual Draft Outline
Appendix V
Summary of Eye Disease Chihuahua State, Mexico
Appendix VI
Morocco Surgical Outcome Details
Appendix VII
Philippines Residency Training Map & Curriculum
Appendix VIII
Budget Pipeline October 1993-September 1994
APPENDIX I

Forms and Guidelines

Childhood Cataract Surgery

developed by

Childhood Blindness Technical Advisory Group (CB-TAG)
Helen Keller International

March 1994
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<th>Page</th>
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<td>1</td>
</tr>
<tr>
<td>1.2. Locating Children</td>
<td>1</td>
</tr>
<tr>
<td>1.3. Referral for Ophthalmic Exam</td>
<td>1</td>
</tr>
<tr>
<td>1.4. Examination by Ophthalmologist</td>
<td>1</td>
</tr>
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<td>2</td>
</tr>
<tr>
<td>2.1. Visual Acuity Testing</td>
<td>2</td>
</tr>
<tr>
<td>2.1.1. Children 5 and older</td>
<td>2</td>
</tr>
<tr>
<td>2.1.2. Children under 5</td>
<td>2</td>
</tr>
<tr>
<td>3. Referral Criteria for Patients to Undergo Cataract Extraction</td>
<td>2</td>
</tr>
<tr>
<td>4. Surgical Procedure: Cataract Extraction</td>
<td>3</td>
</tr>
<tr>
<td>5. Postoperative Procedure</td>
<td>4</td>
</tr>
<tr>
<td>Appendix I Referral Form</td>
<td></td>
</tr>
<tr>
<td>Appendix II WHO/PBL Eye Examination Record for Children with Blindness and Low Vision</td>
<td></td>
</tr>
<tr>
<td>Appendix III Surgical Note</td>
<td></td>
</tr>
<tr>
<td>Appendix IV Postoperative Report</td>
<td></td>
</tr>
<tr>
<td>Appendix V Postoperative Report: 30 Days</td>
<td></td>
</tr>
<tr>
<td>Appendix VI Postoperative Report: Six Months</td>
<td></td>
</tr>
</tbody>
</table>
1. GUIDELINES FOR SELECTION OF CHILDREN FOR SURGERY

1.1. Selection Criteria:
- children from birth to fifteen years of age
- visual acuity ≤ (equal to or worse than 0.1)
- potential for improvement with surgery (initially limited to cataract surgery)

1.2. Locating Children:
- screening of populations of the appropriate age group (especially schools for the blind) by auxiliary health personnel who have received essential training in primary eye care. (Components of that screening are found in Appendix 1.)

1.3. Referral for Ophthalmic Exam:
Criteria:
1. If the child is found to have vision of worse than or equal to 0.1
2. If untestable for visual acuity
   a) white pupil in either eye
   b) perception of poor vision

1.4. Examination by Ophthalmologist:
The ophthalmologist is asked to obtain a history and examine the child using the diagnostic instruments available to him or her. It is important for the ophthalmologist to be familiar with the examination techniques used for children. The form to be completed by the ophthalmologist is found in Appendix 2.

If the ophthalmologist determines that surgery is indicated or that further diagnostic testing must be done to determine the need for surgery, then the patient is referred to the Childhood Surgery Center (CSC) which has been designated for that area.

Children examined by the ophthalmologist who are found to have other conditions not reversible by surgery should be treated by the doctor. For instance, glasses may be provided or referral made to a blindness rehabilitation program.
2. GUIDELINES FOR SCREENING CHILDREN FOR VISUAL PROBLEMS

2.1. Visual Acuity Testing

2.1.1. Children 5 and older:

- Test each eye separately using Snellen chart at 6 meters.
- The technique is described in HKI Primary Eye Care Manual. (relevant page attached as Appendix VII.)
- Children should be tested with glasses on if they have glasses.
- Vision of worse than 0.1 in both eyes are referred.

2.1.2. Children under 5 years old

Children under 5 or those who are unable to perform the Snellen test are examined by the auxiliary and asked to follow objects. The person with the child can also be asked how the child sees. The auxiliary will determine if the child has difficulty seeing. Those children who appear to have difficulty seeing are and children who have a white pupil in either eye, are referred.

3. CRITERIA FOR PATIENTS TO UNDERGO CATARACT EXTRACTION

1) Bilateral blindness with visual acuity of 0.1 or less either due to cataract in both eyes or with cataract in one eye and the fellow eye with poor vision due to other causes.
2) Ability to undergo general anesthesia.
3) Clear indication that improved sight would benefit the general well-being of the patient.
4) Willingness and ability to return for follow up care.
5) Consent and understanding of the procedure by the child's parents or guardian.
6) Absence of periocular infection.
7) Adequate corneal clarity to see the pupil and lens during surgery and to assure healing.
8) Absence of glaucoma tested via tonometry or megalocornea with corneal diameter > 13 mm.
9) Corneal diameter < 9 mm.
10) Operate on fixing eye first if abnormal eye alignment is present.
11) Optic atrophy precludes surgery.
12) If patient is candidate for bilateral surgery, surgery on second eye should be performed one month after the first eye.
4. SURGICAL PROCEDURE CATARACT EXTRACTION

1) General anesthesia, unless child is able to cooperate for local anesthesia.

2) Pupil to be dilated preoperatively with Cyclogyl 1% solution to be instilled every 5 minutes X 3 starting one hour preop. Atopine 1% ointment x 2 the day before surgery.

3) Antibiotic drops instilled every 5 minutes times 3 beginning 30 minutes prior to surgery.

4) Ocufen drops to the operated eye one drop every 5 minutes times three 30 minutes prior to surgery.

5) Betadine prep to face prior to surgery.

6) Drape with sterile sheets.

7) Superior rectus bridle suture placed.

8) Infusion system available to use with vitrectomy set and use Ringer’s lactate with 0.3 cc of 1:1000 epinephrine (perservative free) added to 500 cc of solution.

9) Limbal incision appropriate to vitrectomy unit.

10) If pupil is not adequately dilated, perform sector iridectomy.

11) Simple anterior capsulotomy and removal of anterior capsule using vitrectomy unit. Capsulorrhexis is an alternative.

12) Aspiration of the lens cortex as completely as possible.

13) Removal of the posterior capsule along with shallow anterior vitrectomy.

14) Instill Miochol into the anterior chamber or place Pilocarpine 4% drops into the conjunctival sac.

15) Once the pupil is small, assure that the anterior chamber is free of vitreous.

16) If sector iridectomy has not been performed, proceed to do a 1 mm peripheral iridectomy at this time.

17) Close the wound with 10-0 nylon suture.

18) Reform anterior chamber with Miochol or infusion solution.

19) Subconjunctival injection of 0.25 cc Celestone and 0.25 cc garamycin.

20) Instill atropine 1% ointment and available antibiotic/steroid ointment into the conjunctival sac.

21) Place patch (sterile) and shield over operated eye.

22) Patient is taken for appropriate post anesthesia monitoring.
5. POSTOPERATIVE PROCEDURE

1) Patient may be discharged on the day of surgery if living nearby or may be kept in hospital (Surgical Note: Appendix III).

2) Eye is to be examined on the first, third and fifth post op days by qualified personnel to monitor for complications including infection, wound leak or hemorrhage (Appendix VI).

3) Instruction given at the first day post operative about the use of medications and appropriate precautions.

4) Begin use of atropine 1% ointment and antibiotic/steroid ointment twice a day to the operated eye.

5) Patient to be seen by the operating surgeon on the 30th post-op day. Complete the form in Appendix V.

- Presence of surgical complications.
- Compliance with the post op medications, namely the pupil should be dilated.
- Cycloplegic refraction.
- Provision of glasses. (Distance correction plus 1.50 diopters.)
- Examination of the vitreous and retina.
- Determination of post-op visual acuity.
- The decision to proceed with surgery on the fellow eye if results in the first eye are at least 0.3. If worse please contact HKI New York with full report before proceeding.
- The decision to stop the atropine and antibiotic/steroid only if the eye is quiet. If there is any sign of inflammation, then continue the medications and recheck in one month. Continue medications until eye is quiet.

6) Next examination to take place at 6 months. To complete 6 month report form (Appendix VI).

7) Examinations yearly until age 5 or two years postop

8) Patients are encouraged to be seen every year for life.
### APPENDIX I I

Project SEE Procurement and Donations October 1993 - December 1994

<table>
<thead>
<tr>
<th>Item</th>
<th>Procured Value</th>
<th>Donation/Match</th>
<th>Donor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mexico:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer</td>
<td>$2,000</td>
<td></td>
<td>HKI/USAID</td>
</tr>
<tr>
<td>EPI INFO Software</td>
<td>$30</td>
<td></td>
<td>HKI/USAID</td>
</tr>
<tr>
<td>Photocopyer</td>
<td></td>
<td>$1,000</td>
<td>Davies &amp; Tuner/HKI</td>
</tr>
<tr>
<td>Mimeograph Machine</td>
<td>$200</td>
<td></td>
<td>Davies &amp; Turner/HKI</td>
</tr>
<tr>
<td>Vitamin A Capsules</td>
<td></td>
<td>$1,000</td>
<td>Leiner Health Products</td>
</tr>
<tr>
<td><strong>Morocco:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>123 Cataract Sets</td>
<td>$8,068</td>
<td></td>
<td>HKI/USAID</td>
</tr>
<tr>
<td>123 Foreign Body Kits</td>
<td>$3,148</td>
<td></td>
<td>HKI/USAID</td>
</tr>
<tr>
<td>356 Binocular Loupes</td>
<td>$8,244</td>
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<td>HKI/USAID</td>
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<tr>
<td>356 E-Charts</td>
<td>$3,328</td>
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<td>HKI/USAID</td>
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<tr>
<td>715 Intraocular Lenses</td>
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<td>$24,580</td>
<td>Gift of Sight IOLAB</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Allergan Pharmacia/HKI</td>
</tr>
<tr>
<td>21 Dozen Sutures</td>
<td></td>
<td>$3,910</td>
<td>Allergan Ethicon/HKI</td>
</tr>
<tr>
<td>Vitrax/Healon (Viscoelastic)</td>
<td></td>
<td>$125,000</td>
<td>Kabi Pharmacia/HKI</td>
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APPENDIX II

Page 2 - Project SEE
Procurement and Donations October 1993 - December 1994

<table>
<thead>
<tr>
<th>Item</th>
<th>Procured Value</th>
<th>Donation/Match</th>
<th>Donor</th>
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<tr>
<td><strong>The Philippines:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timoptic</td>
<td>$32,645</td>
<td></td>
<td>Merck/HKI</td>
</tr>
<tr>
<td>Sutures</td>
<td>$6,733</td>
<td></td>
<td>J &amp; J/HKI</td>
</tr>
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<td>Intraocular Lenses &amp; Sutures</td>
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<td></td>
<td>Pharmacia, Ethicon</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Allergan/HKI</td>
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<tr>
<td>Miniature Flashlights</td>
<td>$ 200</td>
<td></td>
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<tr>
<td>Vitrectomy Lens</td>
<td>$ 318</td>
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<td>Handheld Slitlamp</td>
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<td>HKI/USAID</td>
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<td>Cards for Children's Screening</td>
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<td>Handheld Tonometer</td>
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<td>1 Dictaphone</td>
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<td>6 Cataract Sets</td>
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<td>Het Schild</td>
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<td><strong>Tanzania:</strong></td>
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<td></td>
</tr>
<tr>
<td>Vehicle Spare Parts</td>
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<td>5 Kodak cartridges</td>
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<td>1 VCR</td>
<td>$ 550</td>
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<td>1 Toyota Vehicle</td>
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<td>188 Timoptic .25%</td>
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<td>Miniature Flashlights</td>
<td>$ 200</td>
<td></td>
<td>Dr. Virginia Turner/HKI</td>
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APPENDIX III

Project SEE
Morocco Country Activities
Organizational Chart (December 1994)

Country Director
Mrs. Fatima-Zohra Akalay
MOH liaison. Coordinates administrative, technical and monitoring/evaluation components.

Translator/Secretary
Ms. Kamar Bencrimo

Accountant
Mr. Mrabet Salmi

Driver
Mr. Mohamed Ouahbi

Consultants
♦ Dr. Youssef Chami, NPPB/MOH
♦ Professor Abdelouahed Amraoui, Chief Department of Ophthalmology
  20 Aout Hospital
  University Hospital Ibn Rochd, Casablanca, Morocco
♦ Professor Berraho Hamani
  Specialty Hospital Rabat, Morocco
APPENDIX III

Project SEE
Philippine Country Activities
Organizational Chart (December 1994)

Admin Support
Secretary (HCN, PT), Driver (HCN, PT)

Admin. Assistant
Rosita Tan (HCN, PT, M&E)

Country Director
Rolf D. W Klemm (Exp, PT, Mgmt)
Ellen Villate
Acting Country Director

M & E Officer
Charito Tuason
HCN, PT, M&E

Finance Officer:
(HCN, PT)
Accounting Clerk:

Eye Care Program Manager
Dr Eva Santos
HCN, PT, Mgmt, M&E, Tech
Dr. Willy Sisson
Philippines General Hospital
Childhood Blindness

Region V
Area Coordinator
Noemi Bron (HCN, PT, M&E, Mgmt)

Asst. Area Coordinator
Lourdes Lorbe (HCN, PT, M&E)

Region VI
Area Coordinator
Juvy Maloto (HCN, PT, M&E, Mgmt)

Asst. Area Coordinator
Ted Pagunsan (HCN, PT, M&E)

KEY
Exp = Expat
HCN = Host-country national
PT = Part time
FT = Full time
Mgmt = Project management & admin
M&E = Monitoring and evaluation
TECH = Technical supervisor
Project SEE
Tanzania Country Activities
Organizational Chart (December 1994)

COUNTRY DIRECTOR
Dr. B.B.O. Mmbaga
Code: 1,3,4,5
Directs administration and technical support. Cataract surgeon. Conducts seminars. Secretary of CEHEFO.

Dodoma

Program Administrator
Mr. Benjamin Molohan
1,2,4
Manages finances, logistics and reporting

Secretary
Mrs. Menna Francis
1,2,4

Kongwa

Project Manager
Sidney J. Katala
1,2,4,5
Directs Kongwa Program
Technical Oversight
Monitoring & Evaluation

Health Assistant
Mr. Senga Mlacky
1,2,4,5

Nursing Auxiliary
Mr. John Romanus
1,2,4,5

Community Development
Mr. D. Chambasi
1,3,4 (retired)

#1 = Host
Country National
#2 = Full-time
#3 = Part-time
#4 = Salaried
#5 = Seconded from MOH
Project SEE
Mexico Country Activities
Organizational Chart (December 1994)

Country Director
Dr. Joaquin Tovar Diaz
Plans, develops and implements integrated eye care, cataract surgical services, and ChildSight* organizational liaison, project management

Training Consultant
Ms. Cindy Goodale
Primary Eye Care

Rural Area
Regional Coordinator
Sra. Daubregon
Director General
Sra. Alma-Rosa Luzano (DIF)
Community groups (liaison)

Clinic Doctors and Nurses
School Teachers
Community Workers

Project Financial Officer
Armando Ortega (DIF)
Manages funds and prepares financial reports and budgets

Program Development (Consultant)
Mr. William Winkley
based in New Mexico
funded by Chase Bank
develops cross-border activities and funding

Urban Area
Director General
Sra. Eugenia Galvan
(Fomento Social)
Dr. Luis Serrano (ICHISAL)
Primary Eye Care Training Manual

DRAFT
OUTLINE
November 14, 1994

Foreword

Acknowledgements

Purpose of the Manual
  Overview of World Blindness and Blindness Prevention
  Explanation of Methodology Used

Training Needs Assessment
  Roles and responsibilities of primary health care worker
  Competency based assessment

Introductory Activities
  Building the Learning Community
  Establishing Workshop Objectives

Understanding World Blindness
  Causes of Blindness
  Blindness Prevention
  Sociology of Blindness

Assessment Skills for Eye Health
  Identifying Parts of the Eye
  Taking Patient’s History
  Testing and Recording Visual Acuity
  Examining the Eye
  Recognizing Signs and Symptoms of Eye Disease
  Refractive Errors

Common Eye Problems and Their Management
  Injury
  Refractive Errors
  Glaucoma
  Diabetic Retinopathy (Retinal Diseases)
  Cataract
  Vitamin A Deficiency
  Trachoma
  Onchocerciasis
Eye Problems in Children
Definition of "Child"
How to Examine the Visual Acuity of a Child (who cannot read)
Signs and Symptoms of Visual Problems in a Child
Common Eye Problems/Diseases Among Children and Their Management
What Can Be Done for a Blind Child?
   Educating the Parents
   Visual Rehabilitation

Appendices
   Glossary
   Bibliography
   Designing Training materials and teaching aids for PEC
   Basic PEC materials, medicines, supplies
APPENDIX V

SUMMARY OF EYE DISEASE
CHIHUAHUA STATE, MEXICO
MARCH 1995

NUMBER OF PEOPLE SURVEYED – 2354
RATE OF BLINDNESS (Worse than 20/200) 2.1%
Rate of blindness due to refractive error 1.4%
Rate of blindness due to other causes 0.7%

STATISTICS OF THOSE WITH NON REFRACTIVE BLINDNESS
Rate of blindness in entire population 0.7%
Rate of blindness in those over 65 years 4.7%
Rate of blindness in those 45-64 years 1.2%
No blind found under 45 years of age

LEADING CAUSES OF BLINDNESS

CATARACT
DIABETIC RETINOPATHY
MACULAR DEGENERATION
GLAUCOMA

CATARACT ACCOUNTS FOR ONE-HALF OF NON REFRACTIVE BLINDNESS
MORE THAN 3/4 OF THE BLINDNESS TREATABLE OR PREVENTABLE WITH PROVEN COST EFFECTIVE METHODS
# Morocco Surgical Outcome Details

All Cataracts operated in Agadir/Hassan II Hospital through September 1994

<table>
<thead>
<tr>
<th>Type of Surgery</th>
<th>Number of cases operated</th>
<th>Type of Intervention</th>
<th>Implantation</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Intracapsular</td>
<td>Extracapsular</td>
</tr>
<tr>
<td>Congenital Cataract*</td>
<td>21</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>Traumatic Cataract*</td>
<td>37</td>
<td>0</td>
<td>37</td>
</tr>
<tr>
<td>Senile Cataract</td>
<td>510</td>
<td>7</td>
<td>503</td>
</tr>
</tbody>
</table>

*6mos-18 years

### Surgical Complications in Agadir 1994:

<table>
<thead>
<tr>
<th>Complication</th>
<th># of cases observed</th>
<th>Percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitreous Loss</td>
<td>183</td>
<td>14.1</td>
<td>14.1</td>
</tr>
<tr>
<td>Capsule Rupture</td>
<td>37</td>
<td>2.9</td>
<td>17.0</td>
</tr>
<tr>
<td>Difficulty in inserting iol</td>
<td>3</td>
<td>0.2</td>
<td>17.2</td>
</tr>
<tr>
<td>Others</td>
<td>163</td>
<td>12.6</td>
<td>29.8</td>
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<tr>
<td>No Complications</td>
<td>908</td>
<td>70.2</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>1,294</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
MODIFIED RESIDENCY TRAINING IN OPHTHALMOLOGY

REVISED CURRICULUM, 1995

A. JAN TO JUNE 1995  First Year Residency
   Venue: Base Hospitals (Regional Training Hospitals)
   1. Western Visayas Medical Center, Iloilo
   2. Eastern Visayas medical Center, Tacloban
   3. Bicol Regional Hospital, Naga
   4. Northern Mindanao Regional Training Hospital
      Cagayan de Oro
   5. Zamboanga Provincial Hospital, Zamboanga

THRUSTS

1. Introduction to OUT-PATIENT procedures
2. Training in Minor Surgical Skills
3. Training in Major Surgery Assistive Skills

OBJECTIVES

At the end of this period, the trainee should be competent in doing the following procedures as well as understand the basics of procedures:

A. At the OPD

1. Take/record/present a patient’s ocular history.
2. Take and record a patient’s visual acuity including pinhole test.
3. Examine a patient using the various OPD diagnostic equipment. This includes the direct ophthalmoscope, transilluminator/penlight, Schiotz tonometer, loupe, slit-lamp, indirect / ophthalmoscope, prisms.
4. Refract using the trial lenses and check eyeglasses using lensometer.
5. Recommend course of action for diagnosis of a particular patient.
6. Recommend work-up of a patient for major surgery.

B. At the OR

1. Recognize and name the various surgical instruments and surgical linens for ophthalmic surgery.
2. Prepare surgical instruments prior to surgery (clean, sterilize, arrange them on the instrument tray).
3. Prepare himself and a patient for major surgery (surgical scrub, drape, etc).
4. Perform minor surgery (incision and curettage, removal of superficial corneal foreign body, suture eyelid, wound, dacryocystectomy, ptterygium, excision of eyelid cysts, enucleation).
5. Assist at major eye surgery.
6. Record a surgical procedure step by step.
B. JULY TO DECEMBER 1995

First Year Residency

Venue: 1. Base training hospital (Regional Hospital)
      2. District hospitals
      3. Accessible provincial hospitals

THRUSTS

1. Introduction to major surgery
3. Out-reach clinics
4. Training of ophthalmic surgical nurse assistant

OBJECTIVES

At the end of this period, the trainee should be competent to do the following:

1. Perform the following surgical procedures as first surgeon with consultant as assistant:
   - Intracapsular cataract surgery, glaucoma surgery (peripheral iridectomy/trabeculectomy), muscle surgery, corneal and lid margin wound suturing.
2. Assist at other major surgical cases like retina surgery, corneal transplantation, plastic surgery.
3. Write major surgical procedures step by step.
4. Organize/prepare for an out-reach clinic.
5. Train ophthalmic surgical nurse assistants.
6. Recommend course of action for the management of non-surgical ophthalmic in-patients.
7. Advise on contact lens use.

Venue: Respective Provincial Hospital

THRUSTS

1. Assessment of his hospital for ophthalmic services
2. Assessment of eye problems in his province
3. Conduct of PEC training

OBJECTIVES

At the end of this period, the trainee is expected to

1. Report on the ophthalmic facilities, equipment, manpower, supplies that are available in his provincial hospital.
2. Have conducted at least 1 PEC training.
3. Have conducted a survey of eye problems in at least two villages of his province.
APPENDIX VII

C. JANUARY TO JUNE 1996 - Second Year Residency
Venue: 1. Philippine General Hospital
       2. Institute of Ophthalmology
       3. Eye Referral Center
       4. Helen Keller International (Peace Corps Training Cter)

THRUSTS

1. Basic Course in Ophthalmology
2. Introduction to Public Health and Preventive Ophthalmology
3. Management of Eye Programs
4. Research and Laboratory Methods
5. Introduction to High-tech ophthalmic procedures
6. Training of trainors

OBJECTIVES

At the end of this period, the trainee should be able to:

1. Prepare and deliver a lecture on relevant ophthalmology topics like: Anatomy and Physiology of the eye; Ocular Infections, Ocular pathology, refraction, etc.
2. Interpret scientific reports
3. Prepare a (a) project protocol/action plan/research proposal and (b) a survey form
4. Do and interpret simple laboratory procedures (Giemsa staining, taking culture samples, etc)
5. Recognize and familiarize himself with the use of the equipment like the following: Perimeters, Scanners, Keratometer, Laser, Operating microscope, etc.
6. Conduct/participate in a PEC training and a training of trainors for health workers either as a trainor or as a resource person.
APPENDIX VII

D. JULY TO DECEMBER 1996   Second year Residency

Venue: Base Hospitals

THRUSTS

1. Honing of surgical skills
2. Disposal of out-patients
3. Training younger ophthalmology residents

OBJECTIVES

At the end of this period, the trainee is expected to be competent in the following:

1. Perform the following major surgical procedures with a younger resident as assistant: intracapsular lens extraction, glaucoma surgery, cornea surgery, muscle surgery.
2. Perform the following as first surgeon with the consultant as assistant: extracapsular lens extraction, corneal transplantation, exenteration, etc.
3. Dispose out-patient cases after younger residents have seen them. Decide which cases are to be referred to consultants for management.
4. Train younger residents on OPD instrumentation and procedures.
APPENDIX VII

E. JANUARY TO DECEMBER 1997 Third Year Residency
Venue: 1. Respective Provincial Hospitals.
2. Institute of Ophthalmology
3. Philippine General Hospital

THRUSTS
1. Refining clinical and surgical skills and judgment
2. Social marketing of his services
3. Review for the ophthalmology board

OBJECTIVES
At the end of this period, the trainee is expected to have done the following satisfactorily:

1. Conducted OPD clinic in his own hospital
2. Performed at least 50 minor surgeries/emergency surgeries
3. Performed at least 50 cataract surgeries under supervision
4. Performed at least 10 other major surgeries under supervision
5. Trained an assistant for ophthalmic clinic and for the O.R.
6. Prepared himself for the written examinations of the PBO

COURSE ON MEDICAL AND SURGICAL UPDATES IN OPHTHALMOLOGY

F. DECEMBER 1997 GRADUATION FROM THE TRAINING PROGRAM
G. JULY 1998 Written examinations, Philippine Board of Ophthalmology, Manila
H. OCTOBER 1998 Oral examinations, PBO. (To be taken only by those who pass the written examinations)
### APPENDIX VIII

#### ACTUAL (October 93 - June 94) 

<table>
<thead>
<tr>
<th>Rollup</th>
<th>Total</th>
<th>Headquarters 500</th>
<th>Headquarters 50E</th>
<th>Mexico 12B</th>
<th>Mexico 12C</th>
<th>Morocco 55G</th>
<th>Morocco 55H</th>
<th>Philippines 54V</th>
<th>Philippines 54W</th>
<th>Tanzania 53F</th>
</tr>
</thead>
<tbody>
<tr>
<td>A) Personnel</td>
<td>155,419</td>
<td>55,151</td>
<td>55,300</td>
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<td>0</td>
<td>14,601</td>
<td>1,158</td>
<td>15,022</td>
<td>12,575</td>
<td>1,013</td>
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<tr>
<td>B) Training</td>
<td>31,007</td>
<td>5,959</td>
<td>6,876</td>
<td>0</td>
<td>0</td>
<td>19,131</td>
<td>0</td>
<td>539</td>
<td>0</td>
<td>0</td>
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<td>C) C.D.G.</td>
<td>142,197</td>
<td>41,210</td>
<td>29,735</td>
<td>18,061</td>
<td>1,755</td>
<td>32,742</td>
<td>4,511</td>
<td>1,499</td>
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<td>D) Travel</td>
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<td>11,958</td>
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<td>4,315</td>
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<td>1,568</td>
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<td>FY94 Direct Total</td>
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<td>114,044</td>
<td>103,683</td>
<td>19,851</td>
<td>2,355</td>
<td>70,789</td>
<td>5,668</td>
<td>19,196</td>
<td>23,377</td>
<td>3,155</td>
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<tr>
<td>FY94 OH @ 26.1%</td>
<td>94,670</td>
<td>20,771</td>
<td>27,113</td>
<td>5,181</td>
<td>615</td>
<td>16,476</td>
<td>1,479</td>
<td>5,010</td>
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<td>FY94 Total</td>
<td>457,208</td>
<td>143,814</td>
<td>130,806</td>
<td>25,032</td>
<td>2,989</td>
<td>87,265</td>
<td>7,148</td>
<td>24,208</td>
<td>29,476</td>
<td>3,679</td>
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#### ACTUAL (July 94 - September 94) 

<table>
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<th>Headquarters 50E</th>
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<th>Mexico 12C</th>
<th>Morocco 55G</th>
<th>Morocco 55H</th>
<th>Philippines 54V</th>
<th>Philippines 54W</th>
<th>Tanzania 53F</th>
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<tbody>
<tr>
<td>50D</td>
<td>38,000</td>
<td>27,119</td>
<td>27,119</td>
<td>41,621</td>
<td>8,157</td>
<td>20,832</td>
<td>9,705</td>
<td>24,278</td>
<td>53,530</td>
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<tr>
<td>50E</td>
<td>35,190</td>
<td>11,143</td>
<td>7,751</td>
<td>10,211</td>
<td>1,803</td>
<td>5,013</td>
<td>2,847</td>
<td>6,312</td>
<td>30,790</td>
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<tr>
<td>55G</td>
<td>9,898</td>
<td>7,051</td>
<td>7,051</td>
<td>10,211</td>
<td>1,803</td>
<td>5,013</td>
<td>2,847</td>
<td>6,312</td>
<td>30,790</td>
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<tr>
<td>54V</td>
<td>1,149</td>
<td>9,898</td>
<td>7,051</td>
<td>10,211</td>
<td>1,803</td>
<td>5,013</td>
<td>2,847</td>
<td>6,312</td>
<td>30,790</td>
<td>30,790</td>
</tr>
<tr>
<td>55H</td>
<td>7,770</td>
<td>34,170</td>
<td>34,170</td>
<td>52,442</td>
<td>7,770</td>
<td>25,998</td>
<td>12,343</td>
<td>30,590</td>
<td>53,530</td>
<td>53,530</td>
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#### TOTAL PROJECT SEE @ 9/30/94: 

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<th>Headquarters 50E</th>
<th>Mexico 12B</th>
<th>Mexico 12C</th>
<th>Morocco 55G</th>
<th>Morales 55H</th>
<th>Philippines 54V</th>
<th>Philippines 54W</th>
<th>Tanzania 53F</th>
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<tbody>
<tr>
<td>50D</td>
<td>$744,685</td>
<td>191,700</td>
<td>125,385</td>
<td>59,292</td>
<td>37,139</td>
<td>141,707</td>
<td>14,918</td>
<td>50,202</td>
<td>41,021</td>
<td>34,530</td>
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<td>50E</td>
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*BEST AVAILABLE COPY*
## APPENDIX VIII

### ACTUAL

(October 93 – June 94)

<table>
<thead>
<tr>
<th>#3077 Rollup</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.) Personnel</td>
<td>158,419</td>
</tr>
<tr>
<td>B.) Training</td>
<td>31,907</td>
</tr>
<tr>
<td>C.) O.D.C.</td>
<td>142,197</td>
</tr>
<tr>
<td>D.) Travel</td>
<td>29,814</td>
</tr>
<tr>
<td>FY94 Direct Total</td>
<td>362,338</td>
</tr>
<tr>
<td>FY94 OH @ 26.1%</td>
<td>94,570</td>
</tr>
<tr>
<td>FY94 Total</td>
<td>456,908</td>
</tr>
</tbody>
</table>

### ACTUAL

(July 94 – September 94)

| FY95 Total         | 289,777|

### TOTAL PROJECT SEE @ 9/30/94:

$746,685