

PB ABM-240

HELEN KELLER

INTERNATIONAL

PROJECT SEE ANNUAL REPORT
PROJECT SEE (SUSTAINABLE EFFICIENT EYE CARE)
OCTOBER 1994-SEPTEMBER 1995



Helen Keller's institutional partner in Mexico is DIF
Desarrollo Integral de la Familia
A DIF worker learns to assemble ChildSightSM pair of instant eyeglasses

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A world leader in blindness prevention and rehabilitation since 1915.

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PROJECT SEE ANNUAL REPORT

PROJECT SEE (Sustainable, Efficient, Eye Care)

OCTOBER 1994-SEPTEMBER 1995

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**PROJECT SEE
ANNUAL REPORT
OCTOBER 1994 - SEPTEMBER 1995**

Executive Summary

This report examines Helen Keller International's Project SEE (Sustainable, Efficient, Eye Care) during its second year of operation. The overall goal of Project SEE is to help institutionalize eye care within the national health systems of four countries (Mexico, Philippines, Morocco and Tanzania); and, to increase the capacity of those systems through locally trained personnel so that eye care becomes accessible to more people. This three year program funding, ending in September 1996, builds on progress attained through previous Matching Grant programs.

In each country, goals set for 1995 were achieved and in various cases surpassed. For instance, in *Morocco*, HKI's program has been hailed by the Permanent Secretary of Health as "text book model of how an NGO should work as a catalyst to introduce eye care in a developing country. The program was designed for success. The fatalism about blindness that was once a Moroccan's life experience has been reversed. The HKI-instigated program is integrated and will be sustained by the Moroccan Government." Highlights from Project SEE countries include:

- **HKI/ Mexico.** In the State of Chihuahua, four blindness prevention committees have been established in major towns to harness local medical, political, and business resources in an effort to prevent blindness and visual impairment among the state's most poor. In late August 1995, ChildSightSM enabled the screening of 11-14 year old students in underserved schools in Ciudad Juarez. Cataract campaigns and training of trainers in primary eye care occur on a regular basis.
- **HKI/Morocco.** To add to the achievement mentioned above, HKI Morocco has provided logistical assistance that enabled the MOH to obtain funds from private corporations and local governments for cataract campaigns that restored sight in thousands of people in Fez, Kenitra, and Tangiers. Since January, the Childhood Blindness initiative has made possible the sight-restoration of 59 children who suffered from congenital cataract. HKI's role in this endeavor included donation of ophthalmic equipment and the creation of a referral system which place parents in touch with doctors who can restore their children's sight and provide follow-up.
- **HKI/ Philippines.** Over 15,000 persons have been screened for cataract in Regions 5 (Bicol) and 6 (Panay); approximately 900 patients have been operated on by MRTP graduates and trainees. Over 500 children have been screened for congenital cataracts and over 30 operated on at the Pediatric Ophthalmology Center, established with HKI assistance in the Philippines General Hospital. Over the past two years, 11 MRTP residents have completed their basic course in ophthalmology and are now on rotation in base hospitals in the six most medically underserved regions.
- **HKI/ Tanzania.** At the Kongwa Eye Care Clinic, over 1,000 people were provided with free surgery for trichiasis, the blinding complication of trachoma. Established by HKI in cooperation with the Ministry of Health and the Central Eye Health Foundation, this clinic serves the 300,000 residents of Kongwa with basic eye care, and makes cataract surgery available to the approximately one million inhabitants of the region.

I. HEADQUARTERS

HKI New York has been very active in supporting, monitoring and evaluating program activities in each Project SEE country. Headquarters has leveraged matching funds from Chase Manhattan Bank, Reuters for Mexico, Het Schild for the Philippines, Edna McConnell Clark for Tanzania, and funds from the French and Belgian governments for Morocco.

A retreat was held in March to review the status of the project thus far, and to discuss and develop the themes for the submission of a new Matching Grant--Project SEE II to be submitted in the Fall of 1995. Some themes emanating from the retreat were: 1) to decentralize decision-making to HKI regional offices; 2) focus on sustainability through use of local government units to ensure that blindness prevention filters down to the local level; 3) bring people and administration into dialogue to assure that services planned by the administration take into consideration the people's needs; 4) enhance public relations to describe the dramatic effect that eye care and prevention of blindness has in developing countries.

The following is a list of Year Two headquarters achievements:

- Headquarters monitoring and evaluation visits by Dr. Virginia Turner to Tanzania, Meredith Tilp, John Palmer, Dr. Louis Pizzarello, Dr Susan Burger to Mexico, Dr Richard Robb and Meredith Tilp to Philippines, and Meredith Tilp to Morocco
- USAID Consultant Dr. James Sprague, HKI Director of Eye Care Meredith Tilp, HKI Country Director Mme Fatima Akalay, and Chief of Blindness Prevention Dr. Youssef Chami evaluated Project SEE in Morocco
- A Program Officer, Marc Cassidy, was hired to monitor, evaluate and assist the Director of Eye Care to administer the program
- USAID Consultant, Dr. Maynard Wheeler, HKI Director of Eye Care Meredith Tilp, and HKI Country Director for Mexico Dr Joaquin Tovar Diaz evaluated Project SEE in Mexico
- Budgets prepared for October 1995-September 1996 (See Appendix II)
- Gifts-in-Kind of ophthalmologic supplies totalling \$514,904.92 were sent to field from 10/1/94 to 9/7/95 (See Appendix III)
- HKI Mexico Country Director, Dr Joaquin Tovar Diaz, visits HQ; receives training in Project SEE activities in other countries as well as in country specific directives
- Fax Facts, a quarterly newsletter providing timely feedback to issue raised in all program countries
- Proposal and budget written for Project SEE II

II. MEXICO

Summary of Program Status:

Because the previous annual report covered the period of October 1994 to March 1995, this narrative covers the period of April 1995 to September 1995. HKI Country Director, Dr. Joaquin Tovar Diaz began his duties in January of 1995. Thanks to the efforts of ICHISAL, DIF and Dr Tovar, Project SEE activities are on schedule.

The thrust of Project SEE activities in Chihuahua consist of primary eye care training workshops, cataract campaigns, establishment committees to prevent blindness, and public awareness strategies promoting the importance of eye health. A program in two hospitals in Mexico City to operate on indigent children with congenital cataracts has been established. ChildSightSM, a pilot program to provide vision screening and instant eye glasses was launched in Ciudad Juarez this past August resulting in nearly 1,500, 11-14 year old students being screened and over 300 receiving eye glasses.

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

- HKI Executive Director, John Palmer, presented final results of eye care survey to Governor Barrios of the State of Chihuahua, DIF Executive Director, Señora Hortensia Olivas de Barrio, Director of Social Development, Lic. Maria Eugenia Galvan, and ICHISAL Director, Dr Rodolfo Chavez Chavez
- Jointly sponsored HKI/Proctor & Gamble, Micronutrient award presented in Mexico City in January 1995
- Micronutrient proposal submitted to US Ambassador's fund in March, 1995
- HKI consultant, Cindy Goodale, and HKI Country Director, Dr Joaquin Tovar Diaz, conducted training in primary eyecare for 132 teachers, health assistants, social workers, and nurses in C. Juarez
- 1000 copies of HKI Primary Eyecare Manual printed and paid for by ICHISAL and DIF (See Appendix IV)
- ICHISAL and DIF assisted HKI by providing use of vehicles, fax machine, accounting services, statistical analysis, epidemiological studies, use of government hospital operating rooms
- 155 cataract surgeries completed; 25 pterygium and 7 strabismus surgeries accomplished with cooperation of the Lions Clubs in Chihuahua and C. Juarez
- Four committees to prevent blindness were established in C. Juarez, C.Chihuahua, Ojinaga and Camargo
- ChildSightSM launched in Ciudad Juarez in late August resulting in 1,500 students screened and approximately 300 given glasses
- Donation of equipment valued at \$7,000 by a group of businessmen from Camargo city to the Lions Club Eye Clinic
- Local Lions Club covering all costs of campaigns except for IOLs, sutures and BSS
- Gifts in-kind totalling approximately \$48,000 were sent to Chihuahua
- Evaluation of Project SEE, by USAID consultant, Dr. Maynard Wheeler, and HKI Director of Eye Care, Meredith Tilp (See Appendix V)

**CHART II PROBLEMS/CHALLENGES AND THEIR RESOLUTION
PROJECT SEE, MEXICO - OCTOBER 1994 - SEPTEMBER 1995**

DIP ACTIVITY	DATE ACCOMPLISHED	PROBLEM/ CHALLENGE	RESOLUTION
Headquarters Visit	1,2. February 1995 3. March 1995 4. June 1995	1,2. Visited new HKI C.D. and to discuss Sierra drought & Micro Nutrient Deficiency 3. John Palmer to meet with Governor of Chihuahua 4. CD Mexico visits HKI HQ NYC	1. Proposal submitted to US Ambassador's fund. 2. Proctor & Gamble funded feasibility study. 3. Met with Governor and renewed agreements with all health institutions. 4. CD becomes familiar with HQ procedures, programs, and personnel
Establishment of Blindness Prevention Committees throughout State of Chihuahua	1. January through June 1995	1. Organizing relevant authorities (Political, Health, Business) Chihuahua, Ojinaga, Juarez and Camargo to regularly attend meetings	1. Committees started in Juarez, Camargo, Ojinaga, and Chihuahua
Training Workshops	1. March 1995 2. June 1995	1, 2. To train relevant persons in Primary Eye Care and referral and follow-up procedure	1. Trained 132 school teachers, DIF community workers, nurses, and social workers in PEC and referral and follow-up procedures 2. Trained 11 social workers and vocational counselors in PEC at SEECH

PROJECT SEE MEXICO, OCT. 94 TO SEPT. 95			
DIP ACTIVITY	DATE ACCOMPLISHED	PROBLEM/ CHALLENGE	RESOLUTION
Campaigns: Cataract, Pterygium & Community Clinics	1. March through September 1995	1. To follow up on survey which showed that cataract and pterygia cause 41% of blindness in the state	1. Total of 155 cataract operations and 25 pterygia and 7 strabismus operations completed
Supervisory, technical assistance and evaluation visits	1. March 1995 2. March 1995 3. August 1995 4. September 1995	1. To reorganize program management 2. To establish host country relationship established with DIF and ICHISAL 3. To establish training of trainers program in Chihuahua 4. To initiate ChildSight SM program in Juarez 5. To evaluate Project SEE	1. Visit by HKI Director of Eye Care, Meredith Tilp and Consultant William Winkley resulting in the appointment of a new HKI Country Director, Dr. J. Tovar Diaz 2. Visit by HKI Executive Director, John Palmer, to meet with Governor of Chihuahua resulting in signed agreements with ICHISAL and DIF. 3. Visit by Public Health Specialist, Cathy Goodale, to develop and implement training strategy. 4. Visit by Marc Cassidy, Program Officer, Eye Care to monitor and evaluate ChildSight SM implementation in Juarez. 5. Visit by Dr. Maynard Wheeler, USAID, and Meredith Tilp to evaluate program progress

MEXICO



**Dr. Joaquin Tovar Diaz, HKI/CD &
Dr. Maynard Wheeler, HKI- Consultant
in front of the USAID Mission
9/95**



Group Photo - HKI's staff with lions club's staff

MEXICO



**HKI & LIONS CLUB in Ojinaga on September
Where 400 Persons were screened**



MEXICO



**Dr. Manuel Rodriguez Almaraz, examines
head & eye surgery child, at
Children Hospital - Mexico City,
future site of children's surgery**

MEXICO



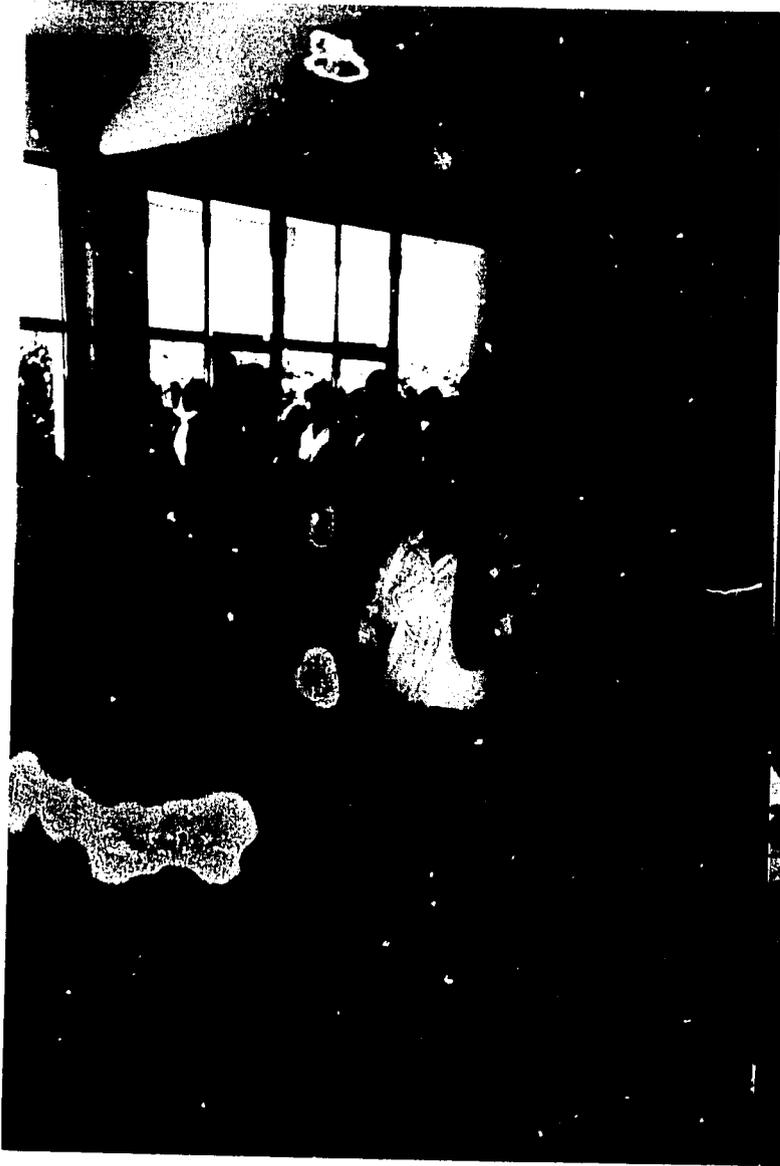
DIF Nurse assembling CHILDSIGHTSM glasses as student waits



**Student receives ChildsightSM glasses from HKI Country Director,
Dr. Joaquin Tovar Diaz (new Mexico Project)**

MEXICO

Student taking
Visual acuity test
before receiving
ChildsightSM glasses
at Escuela Tecnica # 56
in C. Juarez, Mexico



Student taking
Visual acuity test
after receiving
ChildsightSM glasses
at Escuela Tecnica # 56
in C. Juarez, Mexico



III. MOROCCO

Summary of Program Status:

Year Two of Project SEE in Morocco has proved to be highly successful in terms of expansion of program activities into four new provinces and integration of the program into the national health care system. This year's achievements include the expansion of secondary ophthalmic services, the realization of intensive cataract campaigns, provision of surgery for children with congenital cataracts, and the training of primary eye care workers. The Moroccan Ministry of Health has instituted HKI's programs in half the country's provinces and, if the current pace is continued, the entire country is expected to be served by 1999.

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

- In January 1995, two one day meetings were held in Rabat for the chiefs of the ophthalmological services in 20 provinces. These sessions were led by two professors from each hospital as well as by the HKI director, the chief of the PNPC and a geneticist. The guidelines for congenital cataract surgery and for data management system were reviewed and are being used
- Evaluation team led by USAID consultant, Dr James Sprague, and HKI Eye Care Director, Meredith Tilp, reviewed Project SEE in May. Met Permanent Secretary of Health, USAID representatives, and US Ambassador (See Appendix VI
- Visit by US Ambassador to Tangier and Rabat Childhood Blindness Centers to review feasibility of assistance
- 142 doctors and 302 nurses were trained in primary eye care in five provinces
- Cataract campaigns throughout the country realized a total of 7,643 operations, 3549 with intracapsular lenses, 4086 extracapsular lenses
- In the first six months of 1995, approximately 75,000 primary eye care consultations were carried out in 18 provinces
- Childhood Blindness Centers were established in Rabat and Casablanca. Fifty-nine children were operated on, and data from their cases is being analyzed. In an effort to decentralize, ophthalmic regional centers were established at Agadir, Tangier, Marakesh and Fez
- Primary eye care was extended to provinces of Benni Mella, Azilal, El KalaaSrhana, Taza, Oujda
- Gifts-in-kind worth \$260,000 were donated to the Morocco program
- A vitrectomy machine was purchased for the Hospital in Rabat
- HKI's efforts have enabled the Moroccan government to leverage over \$270,000 from French and Belgian governments for equipment, salaries and training
- \$1,145,000 is budgeted at the national level and paid by the Moroccan Government for salaries of doctors and nurses in order to sustain the program

**CHART III PROBLEMS/CHALLENGES AND THEIR RESOLUTION-PROJECT SEE
MOROCCO, OCTOBER 1994 - SEPTEMBER 1995**

ACTIVITY	DATE ACCOMPLISHED	PROBLEM/ CHALLENGE	RESOLUTION
<p>Training in PEC</p> <p><u>Taza</u> -# of doctors 24 -# of nurses 83</p> <p><u>Oujda</u> -# of doctors 30 -# of nurses 87</p> <p><u>Azilal</u> -# of doctors 12 -# of nurses 34</p> <p>Training in childhood blindness protocol # ophthalmologists and medical directors 40</p>	<p>June and September 1995</p>	<p>Success in numbers trained</p>	<p>No problem</p> <p>Dr Chami of MOH is following up.</p>
<p>Materials Developed: Trachoma poster for health workers Cataract poster for the public Cataract brochure for health professionals</p>	<p>On hold</p>	<p>Mock-up is complete; awaiting funds</p>	<p>Will be printed by end of 1995</p>
<p>Equipment</p>	<p>Vitrectomy machine</p>	<p>None</p>	<p>Regular supply</p>

PROJECT SEE MOROCCO OCT.94 TO SEPT. 95			
DIP ACTIVITY	DATE ACCOMPLISHED	PROBLEM/ CHALLENGE	RESOLUTION
Medicines	See GIK list in Appendix II	None	Regular supply
Cataract operations intracapsular lenses extracapsular Childhood Blindness, Congenital Cataract operations	1995: 7,643 3,549 4,086 59 children operated on from Jan-June 1995	None 59 dossiers completed and data being analyzed Establishing center dedicated solely to children	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 Anaesthetic and equipment surgery supplies of operating room

MOROCCO



3. Rabat, Dr. Berraho-Hamani with boy recovering from traumatic cataract surgery



**15. Agadir Hospital
Young man recovering from traumatic
Cataract (poked in the eye by a bush)**

MOROCCO



Dr. Youssef Chami with PEC supplies provided by HKI

MOROCCO



Left to right

**Dr. James Sprague, HKI Consultant - Meredith Tilp, HKI staff
Mme Fatima Akalay, HKI CD - Marc Ginsberg, US Ambassador
Michael Farbman, USAID Mission Director**

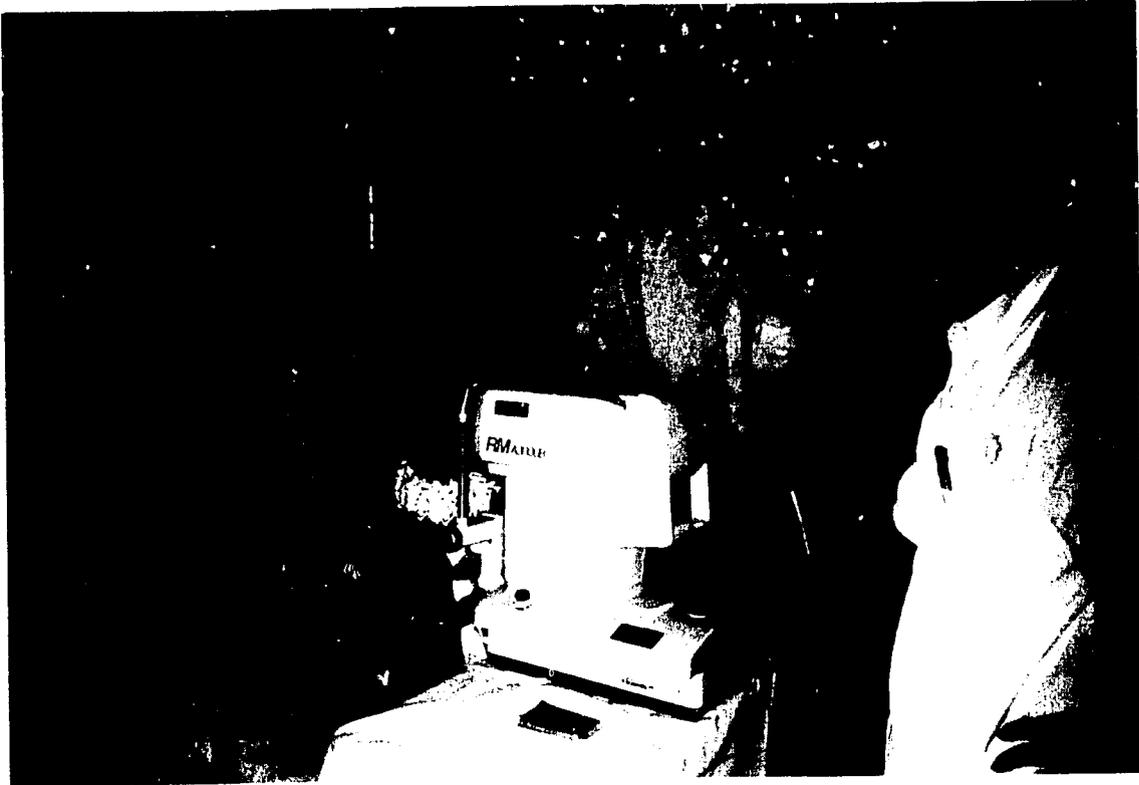
MOROCCO



Left to right

Dr. James Sprague, HKI Consultant
Meredith Tilp, HKI staff
Mme Fatima Akalay, HKI CD
Dr. Abderrahman Zahi, Secretary of Health

MOROCCO



Autorefractor used in Tanger

IV. THE PHILIPPINES

The main objectives of Year Two of Project SEE in the Philippines were to field the ophthalmologists in the Modified Resident Training Program to the six underserved base hospitals located in rural regions of the country. The second objective is to continue surgical campaigns for congenital and senile cataracts. Communications programs (cataract detection cards, billboards, posters, radio plugs) were launched to increase the number of cataract patients presenting for surgery.

A Childhood Blindness Center established at the Philippine General Hospital (PGH) provides surgery for children with congenital cataracts. This center will relieve the backlog of children whose parents are unable to pay for the services. HKI partly funded a research assistant in the Institute of Ophthalmology to follow up children who were identified as needing surgery, but who fail to receive it.

In 1994 two strategies are being employed to increase utilization of eye care services. In region VI (Panay) four trained health workers in three villages (two in the province of Iloilo and one on the province of Antique) did screening, referral and followup of cases. School children (level 6 elementary education) screen cataract patients in their respective households or neighborhood. If found effective, these strategies will be implemented on a regular basis to reduce the costs of information, education and communications strategies.

Summary of Program Status:

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

- Dr. Richard Robb (pediatric ophthalmologist consultant) was a guest lecturer and consultant in various activities of UP-PGH Dept of Ophthalmology and the Philippines Society of Ophthalmology
- Meredith Tilp, HKI Director of Eyecare, visited Project SEE's cataract free pilot program in Alimodian, Iloilo
- 11 residents in their second year of residency have undergone a training of trainers in addition to their ophthalmologic studies and have been assigned to base hospitals
- MRTTP residents participated in Second National Survey of Blindness and they attended the annual convention of the Philippine Society of Ophthalmology and the annual workshop of the Prevention of Blindness Program of the Department of Health
- A part-time research assistant was recruited for Childhood Blindness Project
- Primary Eye Care Training Manual was reproduced and disseminated to the trainers of the Department of Health
- HKI-Iloilo received a plaque from the Provincial Government of Region VI for its support of the nutrition and immunization program in Oplan Sagip Mata and cataract program
- A total of 42 consultant trips for resident's training took place
- 31 cataract missions were conducted by the MRTTP, serving a total of 15,671 patients resulting in 863 cataract surgeries, 178 with IOLs
- 30 children were operated on as part of the childhood blindness prevention program
- IOLs and Timoptic value at \$117,905.28, and Cylcolgyl and Atropine valued at \$1,953.00 donated to the Philippines office.

**CHART XI PROBLEMS/CHALLENGES AND THEIR RESOLUTION PROJECT SEE
PHILIPPINES OCTOBER 1994-DECEMBER 1995**

DIP ACTIVITY	DATE ACCOMPLISHED	PROBLEM/ CHALLENGE	RESOLUTION
<p><u>Service delivery:</u> Cataract services</p> <p>Childhood blindness</p>	<p>In two project areas (Regions 5 and 6) the project has accomplished the following: # screened 15,671 # identified 1,547 # operated 863 with IOL 178 No. of cataract missions = 31</p> <p>At the Phil. General Hospital: # screened 473 # identified 47 # operated 30</p>	<p>-Three year target for regions is 3,000 operations -Other NGOs are actively doing cataract surgeries in same area -Lack of cataract glasses post-op</p> <p>-ECCE with IOL becoming surgery of choice by residents</p> <p>-Target for the Project is 100 congenital cataract surgeries. -Follow-up of patients in remote areas is difficult -Effective indigency screening not in place</p>	<p>-Intensification of cataract screening -Definition of areas for services by respective NGOs/ collaboration -Making available low-cost cataract glasses and IOLs -Provision of operating microscope in training hospitals</p> <p>-Identification and equipping of 2 satellite hospitals for pediatric surgery in the Visayas and Mindanao areas</p>
<p>Social marketing</p>	<p>Use of multimedia in Region 5</p>	<p>-Message strategy needs to be centered on need to overcome resistance points/blocks to cataract surgery</p>	<p>-Designing appropriate materials -Piloting of other strategies such as the use of school children to screen cataract patients</p>

PROJECT SEE PHILIPPINES - OCT. 94 - SEPT. 95			
DIP ACTIVITY	DATE ACCOMPLISHED	PROBLEM/ CHALLENGE	RESOLUTION
MRTP Training/capacity building	13 HKI sponsored trainees, 11 will graduate in December 1996 and 2 in December 1998	-Keep training standards at par with regular training programs	-Frequent evaluation tests given to trainees -One-on-one supervision of slow learners -Committed and knowledgeable consultants combine didactic with skills training of trainees
Consultant visits	42 in 1995		
Training of other health personnel	-100 MHOs and PHN were trained in PEC and cataract detection in Region 5	-Utilization of trained personnel to actively detect cataract patients	-Frequent reminders from the health and government officers about cataract problem in the regions
Training of other cataract screeners	-4 VHWs were trained to screen and refer cataract patients in region 6 -Grade 6 students of 2 village schools were used to pre-test use of school children as screeners of cataract patients	-Number of cataract surgeries is small compared to number identified and referred -Clamor for use of all schools which the program is not prepared for	-VHWs need to be trained on how to motivate patients to undergo surgery -DECs to eventually take over the project

**CHART XI PROBLEMS/CHALLENGES AND THEIR RESOLUTION PROJECT SEE
PHILIPPINES, OCTOBER 1994 - SEPTEMBER 1995**

DIP ACTIVITY	DATE ACCOMPLISHED	PROBLEM/ CHALLENGE	RESOLUTION
Equipping of hospitals	-8 cataract sets were given to base hospitals as of September 1994	-Need to provide hospitals with other ophthalmic equipment	-Tap DOH and other NGOs -Fund raising
IEC Materials	-Cataract detection cards cataract letters billboard posters radio plugs	-Pretested and currently being used but needs close monitoring and evaluation to determine effectiveness and cost	-Monitoring and evaluation schemes identified and in place



Left to Right: Meredith Tilp -- HKI; Dr. Richard Robb - Consultant; Board Members of the Philippines Society of Ophthalmology



Dr. Eva Santos, HKI Project S.E.E. Director (left), evaluates a pediatric case with Dr. Robb. The six-month-old infant was diagnosed with congenital cataract.



Province of Iloilo -- "Cataract Free Zone" in Alimodian



Doctors in the Modified Residency Training Program evaluate a Case

V. TANZANIA

The majority of work in Year Two of Project SEE has been devoted to the expansion of primary eye care services to all Districts in the Dodoma Region. In Tanzania, primary eye care consists of eye clinics, school eye health, trachoma screening and cataract screening. Approximately 30% of all villages in Dodoma Region have benefited from the HKI comprehensive primary eye care program. In addition, this program has expanded into five villages in the Singida Region.

Throughout the year over 100 village health workers, eye nurses, nurse midwives, medical assistants, and assistant medical officers received training on topics ranging from primary eye care to Billamellar Tarsal Rotation Procedures (BTRP) or lid rotation surgery. Cataract screening, identification and surgeries took place throughout the year, but the number of surgeries was less than anticipated due to the lack of water at the rural health centers, deficiency of escorts and bus fare for the patients. A community based approach to trichiasis surgery was utilized and approximately 2,500 children were screened for congenital cataracts and other eye diseases which affect children. Community-based rehabilitation continued at Ibwaga for seven blind clients. Apart from receiving training on orientation, mobility skills, and activities for daily living (ADL), these persons cultivated a garden and banked the proceeds from sales. They are expecting a harvest of groundnut in November.

HKI Tanzania's Project SEE has achieved many of its targeted objectives in the past year with the major accomplishments listed below:

- 4,001 eye patients attended by VHWs at village level
- Tshs 165,000/= (US\$ 330.00) donation by the Mpwapwa District Council to the Central Eye Health Foundation
- School eye health care program included trachoma screening
- Visit by HKI's TTF coordinator, Dr. Virginia Turner to Project SEE program areas
- Study completed on improving maternal Vitamin A intake in Dodoma region by HKI Country Director
- Community farm project yields groundnut and puts proceeds in local bank
- Trachoma grading workshop for assistant medical officers completed
- Construction of a seminar hall at Kongwa
- BRTP training for six paramedics
- Seminar for village health workers completed
- Kwamtoro eye camp done with success
- Workshop for nurses in Dondoma region completed
- Trachoma screening done in three primary schools
- Harvesting and storage of groundnut at CBR farm
- Planting of trees in 10 of the 15 program villages
- GIK worth \$3,375 sent to program

**CHART V PROBLEMS/CHALLENGES AND THEIR RESOLUTION PROJECT SEE
TANZANIA, OCTOBER 1994 - SEPTEMBER 1995**

DIP ACTIVITY	ACTIVITY ACCOMPLISHED	RESOLUTION
<u>Training:</u> -Trachoma grading seminar for assistant medical officers -Seminar for VHWs -On-the-job training for VHWs & 2 nurses auxil. -BTRP for eye nurses -PEC for nurses midwives/nuns -Trachoma grading for medical ast/RMAs -TRIM for nurses and interviewers	11 persons trained 25 " 15 " 9 " 31 " 12 " 15 "	Rainy season disrupted certain sessions Disrupted sessions were re-scheduled
-corrective eyelid surgery at Kongwa	358 minor operations performed	# is low because of outbreak of bacillary dysentery in area around Kongwa
Cataract # persons screened #identified # operated % IOL	5,947 278 106 --	Exceeded targets of 3,500 screened, 150 identified, and 75 operated on
Child Surgery # children screened # identified # operated	NONE	
Vitamin A # VACs distributed	580	Mainly given to lactating mothers and malnourished children
Trachoma # persons screened # identified # operated # active cases treated	7,650 483 1,013	Exceeded targets of 6,000 screened, 200 identified, 200 operated on, and 800 active cases treated
Oncho # ivermectim distributed	nil	No oncho cases found

TANZANIA



**Dr. V. Turner, HKI/NY given
Dr. Mmbaga, CD - HKI/Tanzania,
a shirt made with eyeballs as a
present after the Iringa field test
for the Trachoma manual**



Hippos on the road to Iringa

TANZANIA



**HKI/Dodoma Office Staff:
Mr. Benjamin Molohan,
Dr. B. O. Mmbaga,
Mrs. Menna Francis**

Kongwa Eye Clinic

APPENDIX I

LIST OF ACRONYMS AND THEIR EXPLANATIONS

HKI--Helen Keller International
MRTP--Modified Resident Training Program
ICHISAL--Instituto Chihuahuasense de Salud
DIF--Desarrollo Integral Familiar
IOL--Intraocular lense
BSS--Basic Salt Solution
CD--Country Director
HQ--Headquarters
PEC--Primary Eye Care
SEECH--Servicios Educativos del Estado de Chihuahua
MOH--Ministry of Health
NGO--Non-Governmental Organization
VHW--Voluntary Health Worker
DOH--Department of Health
BRTP--Billamelar Tarsal Rotation Procedures
TTF--Trachoma Task Force
CBR--Community-Based Rehabilitation

APPENDIX-II

Project SEE Procurement and Donations October 1994 - September 1995

Country Item	Procured Value	Donation/ Match	Donor
Mexico:			
IOLs, Timoptic, Photocopier		\$ 48,112	Merck/HKI
Morocco:			
IOLs, Sutures		\$ 143,845	Ethicon/Allergan/HKI
Timoptic		\$ 114,801	Merck/HKI
Site/TXRO Microsurgical Machine (Vitreotomy)	\$ 21,136		HKI/USAID
IOLAB Disposable 20 GA. Guillotin (12)	\$ 1,500		HKI/USAID
The Philippines:			
Timoptic, IOLs		\$ 117,905	Ethicon/Merck/HKI
Cyclogyl, Atropine		\$ 1,953	Merck/HKI
Tolentino Vitrectomy Lens	\$ 385		HKI/USAID
Tanzania:			
Vitamin A		\$ 3,375.10	Leiner Health products
2 - # 80006 Electrolysis Machines	\$ 70		EMCF/HKI
5,000 Tubes of Tetracycline	\$ 1,859		HKI/USAID
TOTAL	\$ 24,950	\$ 429,991.10	

Appendix III

**Project S.E.E.
Financial Pipeline
Cooperative Agreement #
FAO-0518-A-00-3077-00
Federal Share of Funds**

	Approved Budget	HKI/FY94 10/93-6/94	HKI/FY95 7/94-6/95	HKI/FY96 YTD 7/95-9/95	Total Expenses 9/93-9/95	Balance Remaining
Personnel	965,700	158,419	395,947	98,987	653,353	312,347
Training	249,590	31,907	37,012	9,253	78,172	171,418
Other Direct/Project Costs	508,754	142,197	169,069	42,267	353,533	155,221
Travel	249,640	29,814	41,228	10,307	81,349	168,291
Subtotal, Direct Costs	1,973,684	362,337	643,256	160,814	1,166,407	807,277
Indirect Costs	426,316	94,570	167,247	41,812	303,629	122,687
TOTAL	2,400,000	456,907	810,503	202,626	1,470,036	929,964

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**Para Trabajadores
Comunitarios de la Salud**

HELEN KELLER
INTERNATIONAL

16 Sept 1995

USAID CONSULTANT REPORT: Maynard B. Wheeler, MD
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HKI MEXICO PROJECT SEE

Review of Project Goals

A. General Goal: To limit unnecessary human and economic toll of blindness through cost-effective, integrated and sustainable eye care using strategies of training and implementation aimed at preventing and treating blindness. Blindness is used in the broad sense of any visual disability which significantly affects an individual's performance.

B. Specific Goals:

1. Baseline eye survey and socioeconomic family profile.
2. Assessment of micronutrient deficiency in remote indigenous people (La Sierra).
3. Establish a Committee to Prevent Blindness.
4. Implement ChildSightSM - a program to screen, refract and provide glasses to students age 11 - 14 years.
5. Appoint HKI Country Director and establish HKI office.
6. Translate HKI's Simple Eye Care manual into Spanish and train primary health care workers, doctors, nurses, teachers and others.
7. Carry out cataract and pterygium surgery campaigns.
8. Implement childhood blindness program in Mexico City.

Scope of Activity of Consultant: (Sept 10 - 15, 1995)

(All carried out in the company of HKI Country Director, Dr. Joaquin Tovar Diaz, and HKI Director of Eye Care Programs, Meredith C. Tilp.)

*Areas omitted: City of Camargo; La Sierra micronutrient deficiency program - dietary assessment already recommended.

JUAREZ:

1. Meet with local Committee to Prevent Blindness
Chairman: Dr. Sanchez Brito
2. Attend ceremony of certification for 35 of 140
trained health personnel.
3. Observe delivery of glasses to students at School
#56 as part of ChildSightSM program.
4. Discuss ChildSightSM Program with Mr. Michael Stott,
Agent for Reuters Mexico (Matching Funds).
5. Visit School for the Blind "Luis Braille".
6. Meet with medical administrators of IMSS and ISSSTE.

Scope of Activity (cont.)

CHIHUAHUA:

1. Meet with State Committee to Prevent Blindness
Moderator: Dr. Rodolfo Chavez Chavez from ICHISAL.
2. Meet with medical administrators of IMSS and ISSSTE.
3. Meet with 10 members of the College of Ophthalmology
President: Dr. Flavio Garcia Fernandez.

OJINAGA:

1. Attend screening of 400-500 persons sponsored by the Lions Club and local health authorities.
2. Review plans for future interventions.
3. Meet with local program coordinator, President of Lions Club: Eng. Miguel Torres

MEXICO CITY:

1. Meet with childhood blindness participants:
 - A. Dr. Everardo Barojas Weber, Director of Hospital Dr. Luis Sanchez Bulnes (Eye Hospital) and APEC (Assoc. Para Evitar Ceguera).
 - B. Dr. Manuel Rodriguez Almaraz, Director of the Ophthalmology Service at the Children's Hosp.
2. Debrief USAID Mission with Mr. Arthur Danart and Sarah Donnelly.

Assessment of Project Implementation.

Two key factors enhancing implementation are:

1. Identification of a strong Country Director and
2. Development of a Committee to Prevent Blindness.

Dr. Tovar brings to the leadership position most importantly an history of commitment to delivering eye care to underserved people. This appears to be a rare attribute among local ophthalmologists. His many years of service to the Lions Club (including one as President) gives him credibility with this all-important group of voluntary eye care workers. Also, his 30 years of employment within the government health care system (both in IMSS and ISSSTE) give him intimate understanding of how to integrate these systems into Project SEE.

The Committee to Prevent Blindness from its inception is composed of representatives from all the important governmental and private groups: ICHISAL, DIF, IMSS, ISSSTE, Departments of Health and Education, Lions Club and Rotary Club, College of Ophthalmology, representatives of the blind community and prominent members of the business community. The Treasurer is the head of a cement firm. He has the responsibility of developing financial support from within the community for future sustainability of the Project.

Assessment of Project Implementation (cont)

Other factors enhancing implementation are:

1. The quality and commitment of the directors of ICHISAL and DIF, Sras. Eugenia Galvan and Aubregon, with strong connections to the Governor's office.
2. The resources of ICHISAL and DIF.
3. Initial financial support from Reuters and Chase Manhattan Bank.

Factors which could limit implementation include:

1. The capitated governmental health care system which may not encourage increased use of their facilities (IMSS, ISSSTE, SSA, etc)
2. The motivation of local ophthalmologists to assist the Project. (They have an understandable skepticism based on past experience with USA groups of eye surgeons who come to conduct surgery and leave little behind other than their surgical complications. A law has been passed in the last year to prevent this throughout Mexico.) Attitudes appear to be improving after the meeting with the College of Ophthalmology where there was an opportunity to further explain Project SEE. (This group expressed a strong desire and need for an educational program for diabetic retinopathy.)
3. Impediments to importation of supplies and equipment due to difficulties of passing through customs.

Main Achievements of the Project.

1. Baseline eye survey indicating cataract, pterygium and refractive error as the most significant eye care needs.
2. Training of primary eye care personnel including, doctors, nurses, teachers and others. (Four communities)
3. Translation of HKI's Simple Eye Care Manual into Spanish and its publication and distribution. Now in its second printing.
4. Screening for adult blindness with follow-up surgery for cataracts and pterygia. (Four communities; 7 surgical visits)
5. Screening and delivery of instant glasses to students aged 11 - 14 years (1400 screened in 4 schools; 300 glasses prescribed).

Lessons Learned and Corrections Needed.

1. Training: a plan to evaluate the effect of the primary eye care training needs to be considered. A subgroup of trainees might keep a journal of eye care interventions which would be inspected periodically to identify their use of the training, need for refresher training and the level of need of the community for primary eye care.

Lessons Learned and Corrections Needed (cont)

2. Screening for Surgery: trained personnel should be integrated into the screening and post-operative follow-up process to improve efficiency.

3. Ophthalmological Involvement: additional ophthalmologists should be integrated into the training and patient care aspects of Project SEE to ensure sustainability.

4. Coordination: the HKI office should have a local coordinator with knowledge of the whole project to help maintain continuity, flow of supplies and relieve the HKI Country Director of routine administrative tasks. In this way, he can concentrate on developing community support and other activities which will lead toward sustainability.

5. ChildSightSM Program: A. need to verify the quality of the program by evaluating final glasses at the time of delivery with a lensometer (compare lens power with prescription). Spot checking in Juarez indicated that this was a problem. B. develop a follow-up and maintenance program by appointing someone in each school to evaluate quarterly the use of the glasses, need for repair or replacement, and effect on the individual's school performance, and C. plan to rescreen annually, at least the incoming class, if not all children from 11 to 14 years old since refractive error changes with age until about age 14. Sustainability could be supported by plans for local businesses and service club. (Lions and Rotary) to "adopt a school" with funding for screening and provision of glasses at about \$10.00 per pair.

{The current approach accepts a certain unknown rate of inaccuracy since a cycloplegic refraction (drops to relax focusing) and a subjective refraction (in which the patient refines the final measurement) are not carried out. Nevertheless, the final visual acuity with the glasses may be sufficient proof in this situation that they are helping.}

Specific Assessment Questions.

1. Outreach to high risk groups: Students in need of glasses and adults in need of cataract/pterygium surgery are being reached effectively in appropriate numbers for this point in the Project.

2. Data are being collected and shared monthly with the Committee. They are being used to track the progress of the program and plan future activities. The professional support for this by ICHISAL through the services of Dr. Raul Hernandez, a physician with a degree in public health, has been top quality.

Specific Assessment Questions (cont)

3. Community education has been carried out through training of persons involved with screening and primary health care. Radio, TV and promotional fliers have been used to reach out. It is suggested that questionnaires be used to monitor the type of material that is most effective in educating the public who access eye care under the Project to better focus future approaches.
4. ICHISAL and DIF understand Project SEE both through being regular members of the Committee at leadership levels and through involvement of personnel and materials. Nurses handle the delivery of student glasses, vehicles are supplied and data support is very adequate.
5. HKI trained personnel are intimately involved in the screening aspects of the Project. They need to be more thoroughly integrated into surgical campaigns and patient follow-up. An evaluation of the effects of training on their ability to assist in eye care case detection and delivery needs to be developed.
6. Patient follow-up will become part of the data collection and reporting process.
7. Supplies, materials and equipment have been adequate to date. Improvements in this area would include:
 - A) Visual acuity charts modified for the target population.
 - 1) E charts for illiterate persons (few)
 - 2) Charts that stop at 20/20. People become confused when they cannot read below 20/20. They do not understand that they have reached the normal level.
 - B) Forms for follow-up need to be adapted from HKI's Cataract Free Zones.
 - C) Healon for cataract surgery has become unavailable but is being replaced by an affordable local material which will help with the issue of local sustainability.
 - D) Affordable glasses for adult refractive problems (by far the largest problem of vision) could be addressed.
8. Supervision and monitoring of the recent trained nurses and physicians will be developed in the near future.

Specific Assessment Questions (cont)

9.+ 10. The administrative and technical support by HKI appears to have been more than adequate. Chihuahua has been visited by:

- A) John Palmer, Executive Director, HKI
 - B) Louis Pizzarello, MD, MPH, Medical Director, HKI
 - C) Meredith Tilp, Director of Eye Care Programs, HKI
 - D) Cindy Goodale, Training Consultant, HKI
 - E) Marc Cassidy, Project SEE Monitoring and Evaluation Officer and ChildSightSM Program Officer, HKI
 - F) William Winkley, Program Development Consultant
 - G) Susan Berger, PhD, MHS, Director of Nutrition
- In addition, Country Director, Dr. Tovar, has been to HKI headquarters in New York for a one week orientation.

Additional assistance would be:

- (1) Rehabilitation training to reach out to untreatable blind people detected in screening campaigns.
- (2) Ophthalmological consultant involvement with pediatric cataract surgery technique and follow-up. It would be useful to observe first hand the outcome of these patients with their high risk of complications.

11. Project SEE's chief counterparts are both ICHISAL and DIF. The relationship with them appears to be at a very high level of cooperation with excellent interpersonal relationships. (See 4 above).

12. Project SEE's expenditures appear to be adequate and on schedule. No shortages are anticipated to meet the goals of the Project. Community support has been significant. Funding for the printing of the Manual (translated by Dr. Tovar), donation of radio promotional time, use of Lions Club facilities, and use of DIF vehicles have all been given.

Summary & Conclusions:

In the nine months since Dr. Tovar became the HKI Project SEE Director in Mexico, there appears to be a fundamental transformation in the approach of the community to development. With ocular health or blindness as the rallying point, all the significant governmental and community elements have come together for what I believe is the first time on such a comprehensive scale to work together cooperatively toward a common goal. Already, at this early stage, people are asking what more, aside from eye care, can be accomplished by this community synergy. I was specifically asked by a reporter if there was something more HKI could do in Chihuahua to help its people.

The committee forum allows all to hear and be heard in public as each organization adds its particular support to Project SEE with a will to further the objectives. They are a

Summary & Conclusions (cont)

justly proud people of their State of Chihuahua and are well aware that they could serve as a model for all Mexico. This consultant also planted the idea that they should aim at presenting their results at the Pan American level by participating in the Prevention of Blindness meeting that accompanies each meeting of the Pan American Association of Ophthalmology. The next opportunity will be in Cancun, Mexico in the spring of 1997.

Considering the substantial human and material resources of Chihuahua, Project SEE has a strong likelihood of becoming self-sustaining. Great credit must be given to HKI for its facilitating approach to the development of eye health care and the utilization of appropriate technology. The economy of supplies such as eye glasses and intraocular lenses has a great deal to do with making these programs possible. Funding by USAID BHR/PVC should continue from 1996 - 99 to achieve the goal of sustainability.

Action Plan Suggestions:

A. NEAR FUTURE: (next 6 months)

1. Increase administrative assistance (coordinator) for HKI office in Chihuahua in direct support of Dr. Tovar.
2. Increase the involvement of local ophthalmologists in training, screening, refraction, surgery and follow-up.
3. Evaluate the reliability, refine prescription parameters and develop follow-up methods for the ChildSightSM program.
4. Integrate primary eye care trained personnel into the cataract/pterygium campaigns.
5. Evaluate effectiveness of the various community education approaches (radio messages, fliers and posters).
6. Evaluate the childhood blindness program in Mexico City at two hospitals in March 1996 after six months of patient accrual. A pediatric ophthalmologist consultant should be contracted.
7. Add rehabilitation training in orientation and mobility and daily living skills to the adult vision screening program to care for those with untreatable blindness.

Action Plan Suggestions (cont)

B. FUTURE BEYOND SIX MONTHS:

1. Continue to obtain catalytic USAID funds for three years, through 1999, to facilitate the full development of Project SEE to secure its successful sustainability.

2. Create budget and local funding to support ChildSightSM, adult refractive services, cataract and pterygium surgery, and rehabilitation services.

3. Encourage and assist College of Ophthalmology in developing their own Diabetic Retinopathy project.

4. Extend ChildSightSM Program and Cataract/Pterygium campaign to new populations with the goal of having some area supported solely by local resources to demonstrate the potential for sustainability.

5. Prepare formal presentations about the successes of the various parts of Project SEE to be given at local, national and international conferences on prevention of blindness and delivery of primary eye care.

Respectfully submitted,

Maynard B. Wheeler, MD.

Maynard B. Wheeler, MD
USAID Consultant

APPENDIX VI

**EVALUATION OF USAID (BHR/PVC)* GRANT #3077 TO
HELEN KELLER INTERNATIONAL
FOR EYE CARE IN MOROCCO
TRIP REPORT**

**May 22 - June 2, 1995
James B. Sprague, M.D.**

**EVALUATION OF USAID (BHR/PVC)* GRANT #3077 TO
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**May 22 - June 2, 1995
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SUMMARY

BACKGROUND

PROGRAM OVERVIEW

PROGRAM COMPONENTS

- Primary Eye Care
- Childhood Blindness Program
- Provincial Hospital Services
- Regional Ophthalmic Centers
- Cataract Campaigns
- Public Education
- Blindness Survey

CONCLUSIONS

RECOMMENDATIONS

TABLES

INTERVIEWS COMPLETED

ABBREVIATIONS AND GLOSSARY

***United States Agency for International Development, Bureau of Humanitarian Resources, Private Voluntary Cooperation**

SUMMARY

Helen Keller International (HKI) used funding from the United States Agency for International Development (USAID) to develop a program of primary eye care in Morocco. This evolved into a major part of the national blindness prevention program, which now includes expanded secondary and tertiary ophthalmology services, intensive cataract surgical campaigns and public education efforts. In addition, a blindness survey was conducted in 1992. These other program elements have been "leveraged" by the Ministry of Health (MOH) from the initial HKI effort with funding from France, from USAID, from other international donors and from private sources within the country. The HKI program is now well institutionalized within the MOH and has been replicated in half the provinces. The MOH considers the eye care program a model of development practice and plans to sustain it.

The primary eye care training supported by HKI is included in the training of basic health care personnel. Retraining is done appropriately; donated equipment is in place and is being used; a referral system is in place. Continued HKI support should be offered to complete primary eye care in provinces not yet covered and to consolidate the program in the provinces covered to date.

The current HKI grant also includes funding for ophthalmic surgical services for children. HKI helped two referral centers develop this expertise using the MOH program already in place to generate patients. This program started in 1994 and will be expanded to four regional eye centers. Immediate post operative care is provided but long term care needs to be developed. Specifically, the clinical skills of indirect ophthalmoscopy and retinoscopy should be taught at the post graduate level and introduced into the resident curriculum.

Patient statistics are kept in Rabat and need to be collated for use by HKI in New York.

Physician and patient education materials have been designed and should be published.

A follow up survey should be anticipated.

BACKGROUND

In 1984, the Moroccan Ministry of Health (MOH) and Helen Keller International (HKI) began a primary eye care program that evolved into a national blindness prevention program, *Programme National de Lutte contre la Cécité* (PNLC). HKI received support from the United States Agency for International Development (USAID BHR/PVC) with matching grants in 1984, 1986, 1989 and 1993, as well as direct mission support in 1991 and 1992. The first two grants supported the pilot program in Ouarzazate province, in the southeastern desert. The third, called PREYECARE (program for primary eye care), ran from 1989 to 1992, expanded the initial pilot program into other provinces and widened its curriculum. During this period, USAID - Morocco directly supported the expansion of the primary eye model in the northern part of the country and funded a blindness survey in 1992.

The current USAID matching grant to HKI (#3077), runs from 1993 to 1996. It is designed to duplicate the model in northern provinces and to provide surgical services to children, primarily for cataract. HKI calls this program Project SEE, "Sustainable, Efficient Eye Care.

In the spring of 1995, USAID - Washington requested an evaluation of HKI's support of primary eye care and children's surgical services in Morocco. The evaluation team was led by James B. Sprague, M.D. who had conducted the initial planning visits in Ouarzazate in 1985, but who has not been involved with the program since then. The team included Ms. Meredith Tilp, Director of Eye Care HKI - New York; Mme Fatima Akalay, Ph.D., HKI country director in Morocco; and Youssef Chami, M.D. chief of the MOH service for eye and ear diseases. This report is based on interviews with the following: the director of epidemiology; ophthalmologists in the two tertiary hospital centers in Rabat and Casablanca; the administrative and ophthalmic staff at the provincial level in Larache, Tangier, Tétouan, Chefchaouen and Fès; officials at USAID-Rabat; the permanent secretary of the MOH; and the American ambassador to Morocco.

Northern sites were chosen for this trip since the program was recently started in this area and USAID - Washington was interested in the questions of replicability and sustainability in a new area; the sites were chosen by Dr. Chami.

PROGRAM OVERVIEW AND DESIGN OF THIS REPORT

The blindness prevention program is organized within the Division of Epidemiology in the MOH and has a full time physician director; MOH direct costs are now over \$1.5 million. Although HKI's current grant is for primary eye care and childhood blindness, these activities are institutionalized into the overall MOH program. This program currently has seven *de facto* interrelated components:

1. Primary eye care
2. Childhood blindness initiative
3. Ophthalmic surgical services in provincial hospitals
4. Regional ophthalmic centers
5. Provincial cataract campaigns
6. Public education
7. Blindness survey (1992).

To understand the HKI contribution and to simplify this report, I will review each component separately. However, my conclusions and recommendations are directed to the HKI goals outlined in the detailed implementation program and to the questions set out in the scope of work for this evaluation.

PROGRAM COMPONENTS

Primary eye care (soins oculaires primaires)

In 1986, HKI proposed adding primary eye care material to the basic curriculum of primary health care doctors and nurses. Training started in the south in 1987, and a program was organized within the MOH in 1988. A national conference on primary eye care was held in 1990 for 60 *animateurs* (nurses with administrative responsibilities for the program) and 60 *médecins chefs* (provincial hospital physician administrators). The first primary eye care training in the provinces we visited was done in Tangier and Larache in 1991, in Chefchaouen in 1993 and in Fès in 1994.

This training has now evolved into a 5-day eye care course given by an ophthalmologist with assistance from an *animateur*. Although the training was initially funded entirely by HKI, HKI now provides only *per diem* for attendees and consultants, instruction manuals and basic instruments. The MOH organizes the sessions, pays the transport and the room and board for the participants as well as indirect costs. Program development has been gradual, expanding to meet the demand created, rather than imposing a final infrastructure from the beginning. The incremental growth of the program in Tangier is illustrative and is shown in Table 1.

We evaluated the extent of primary eye care training in terms of numbers trained (Table 2) and equipment distributed (Table 3). We looked at impact of the training by the use of the donated instruments; by the quality of referrals to the hospitals; by the use of "re-referral" forms (sent by the consultant to the primary care giver); and by the number of patients referred.

The *animateur* is responsible for implementing the training at the provincial level. In each province we visited, the *animateur* knew who had been trained, who had been missed, who was new or who otherwise needed to be retrained. This retraining is included as a part of continuing education and is well institutionalized in the system.

The equipment provided by HKI consists of a manual, a binocular loupe, a visual acuity chart, a scissors, a fine forceps and a foreign body spud. One hundred twenty-three sets have been distributed since 10/93, one to each health center which participated in the primary eye care training (Table 3). We found the instruments in use and properly cared for in each of the three primary centers we visited.

Patients presenting to a peripheral health care facility receive a form to take to the hospital-based ophthalmologist. The latter fills out the bottom of the form which the patient returns to the referring physician. There was general agreement from all levels that this system works fairly well. The exception was in Chefchaouen where Chinese physicians have been stationed; they have not taken part in the training.

The overall number of referrals increased dramatically at the primary, secondary and tertiary

levels since the program started. For example, visits to the Tangier ophthalmologists were 8245 in 1992, 13,249 in 1993 and 21,482 in 1994. Nationally, a total of 206,924 primary eye visits was recorded in 1994. Anecdotally, there has been a "vertiginous" increase in the number of patients referred from the primary care system to teaching service in Casablanca. The eye service is the largest financial producer in this hospital, even though only 15% of the patients pay for their care. Last year the Casablanca service did about 5,500 operations, of which 2,500 were cataracts.

The MOH view of primary eye care was provided by the chief of the division of epidemiology and by the permanent secretary of the MOH. Both feel the eye program to be one of the most successful activities in the health care portfolio. They acknowledge that they were sensitized to the need for eye care by the blindness survey and by the success of the cataract campaigns. For example, the permanent secretary recounted a story of a post-operative patient who looked at his hands in wonder, saying he had not seen them for years. Both noted that the program grew gradually from the primary care system, and that HKI assistance was well integrated from the beginning. This was in specific contrast to foreign programs that emphasized equipment without support, and that used experts who were rarely seen.

Childhood Blindness Program

In the current grant, HKI received funding to provide surgical care for blind children with operable conditions, such as congenital cataract. In the past, surgery for blind children was offered on a limited basis because of poor anesthesia services, inadequate equipment and poor surgical training. Nonetheless, 204 congenital cataracts and 260 traumatic cataracts were operated in 1994 in children less than 15 years old. In the same time period, there were 116 cases of congenital glaucoma, 27 cases of retinoblastoma and 26 cases of rhabdomyosarcoma.

In March 1994, HKI developed guidelines for case selection, surgical technique, patient follow up, clinical records and surgical equipment; these recommendations were modified in April, 1995. In October 1994, a children's surgery program was started in the two teaching hospitals in Rabat and Casablanca. In January, 1995, two one-day meetings were held in Rabat for the chiefs of the ophthalmology services in 20 provinces. These sessions were led by two professors from each hospital as well as by the HKI director, the chief of the *PNLC* and a geneticist. The guidelines for congenital cataract surgery and for the data management system were reviewed. The following recommendations were made:

1. Increase case detection by including eye examinations in post natal care.
2. Create registers of afflicted families.
3. Use the HKI data collection forms.
4. Refer all children possible under the age of 2 to Rabat or Casablanca for their surgical care. Conduct follow up care at either the tertiary hospital or at the provincial hospital. Operate children with cataract over the age of 2 at the provincial level.
5. Provide glasses prescriptions for all operated children.

The surgical guidelines include posterior capsulectomy and anterior vitrectomy. Initially, only the hospital at Casablanca had a functioning vitrectomy unit. HKI provided a vitrectomy machine for the hospital in Rabat, and both hospitals now receive patients from their respective referral areas. Even well staffed facilities - such as Tangier - refer their youngest patients. However, the American ambassador offered to help fund a vitrectomy machine for Tangier so that this regional center will be able to operate congenital cataracts primarily. Patients whose families are unwilling or unable to come to the cities continue to be operated at the provincial level with a planned extracapsular procedure.

The following information is a summary of interviews with Professors Amraoui and Berraho-Hamani, the chiefs of service at Casablanca and Rabat respectively. Most children with cataract are seen after a year of age, and most have nystagmus. Many have other congenital deformities, and many have consanguineous parents. In addition, there are many with rubella. A pediatric anesthesia specialist is available at Casablanca. In Rabat, there is no one specifically designated, although there have been no anesthesia problems. In Casablanca, there are dedicated operating rooms and children are added to the schedule without difficulty. In Rabat, the operating room is shared with other surgeons, and there is difficulty finding operating room time.

I scrubbed on two pediatric cases with Professor Berraho-Hamani and the following summarizes her comments. Extracapsular surgery is done with either an anterior or a pars plana approach. If a small posterior capsulotomy can be done at the end of procedure without vitreous loss, a vitrectomy is avoided. Instrument sets are cleaned with alcohol on the Mayo stand and reused without being autoclaved. The Alcon vitrector purchased by HKI uses disposable tubing and handpieces. These are reused in the same day and gas sterilized for repeat use; a re-used handpiece failed on one case. The wounds are large enough to allow the use of capsular forceps and are closed with 3 10-0 nylon sutures. Sub-conjunctival antibiotic is used. The children are kept in the hospital for 48 hours.

About 80% of the children are seen for their initial postoperative care; few are seen after 6 months either at the central hospital or at a provincial hospital. Hospital care does not include medications or optical correction; 95% are given prescriptions to fill privately. The other 5% are given glasses and topical medications. This system works in part because the very poor probably do not come for any care at this time.

Refractions are supposed to be updated every 6 months; very few are done. Very little long term care is provided and very little amblyopia therapy is attempted. Indirect ophthalmoscopy and streak retinoscopy are rarely done, particularly outside the teaching hospitals. We only saw two indirect ophthalmoscopes, one in its case and the other broken; we also saw two non functioning streak retinoscopes. Retinoscopy with a flat mirror and a wall mounted lamp is occasionally done on adults.

The childhood blindness program has just started and no outcome data are available other than the number of patients operated. Although Dr. Berraho Hamani has completed the HKI

dossiers on 59 pediatric cataract cases, the data accumulated have not yet been analyzed. The data collection system will need to be reviewed for its usefulness.

The program has the important function of providing a path of referral for these patients and encourages the primary health workers to identify them. With no previous effort to treat congenital cataracts and with a large number of consanguineous marriages, there should be a significant number of patients currently unrecognized by the health care system. These patients will have better vision with a clear visual axis than with a totally opaque lens. However, late detection, poor optical correction, poor follow up and lack of amblyopia therapy argues against good post operative vision for most of these children.

Performing congenital cataract surgery at the four regional centers should improve access for patients and improve follow up care. This will require equipping each with a vitrectomy machine and will require a budget for service and for replacement of disposable parts. The surgical guidelines represent current American practice and will probably need to be modified with time to reflect local practice realities.

Congenital glaucoma patients are also referred to the two teaching centers. They represent about 60% of the population in the blind schools and frequently come from consanguineous marriages. They are diagnosed late and usually present with corneal opacity. The usual procedure is a trabeculectomy; mitomycin is not used. At least a third require more than one procedure. They rarely are followed for more than a few months, and success is defined by a clear cornea.

Provincial Hospital Services

The success of primary eye care training is shown by increased patient visits at the primary level and by increased demand for referral ophthalmic services at the secondary and tertiary levels. All 30 provincial hospitals have had ophthalmic equipment supplied and ophthalmic surgeons assigned. Most hospitals in populous areas have two ophthalmologists. Provincial hospitals that do not yet have surgical microscopes are budgeted to receive them.

We visited three strictly provincial hospitals, Larache, Tétouen and Chefchaouen, plus the provincial hospitals attached to the regional centers in Tangier and Fès. Each had different problems implementing the eye care program. For example, in Larache, surgical volume was limited by inadequate operating room space and anesthesia services. The *Médecin Chef* was not able to make operating room space available in the afternoons. In Chefchaouen, the Chinese ophthalmologist did little surgery, would not follow patients operated elsewhere and was ignorant of the Moroccan primary care referral system.

Regional Ophthalmic Centers

The development of secondary ophthalmic services in the provincial hospitals generated a referral population for the teaching services in Rabat and Casablanca. There is now a larger

need for referral services than exists and three regional centers are being developed based on the model of the center in Agadir. These are in Tangier, Fès and Marrakesh. The MOH secured funding from the French government in 1992 to equip them with diagnostic equipment such as angiography cameras, Goldman perimeters, YAG and argon lasers, autorefractors and extra slit lamps. Four ophthalmologists are posted to each and they are envisioned as providing a wide range of tertiary referral services. They still can refer to Rabat or to Casablanca.

Cataract Campaigns

Cataract campaigns bring one of the university ophthalmology teams to a provincial hospital for a week to operate 200 - 300 cataracts. About a third are with intraocular lenses (IOL) and about a third are intracapsular lens extractions (ICLE) done with loupes. The IOL, Healon (a lubricant that facilitates placement of the IOL) and suture are provided, rather than sourced by the patient. Outside of the campaigns, patients may have the surgery done by government ophthalmologists, but they must provide these materials. Local teams identify the patients in advance and follow them postoperatively. These campaigns were originally conceived to reduce the cataract backlog and to provide training. They have been universally popular, and in urban areas such as Fès, attract competing groups willing to support them. Community support now is estimated to provide about 60% of the total cost and is not seen in other government programs. After campaigns, patients continue to come in, both to the MOH hospitals and to private ophthalmologists as well. In Fès, where campaigns have been repeated, they had 400 surgical patients for the 300 procedures planned for the June effort.

The campaigns are now seen as a publicity effort conducted in addition to the regular cataract surgery. They are not seen as a short or medium term technique to reduce the cataract backlog, and are not expected to be continued. However, for the time being, they are part of the reason for the increased utilization of ophthalmology services.

Public Education

The provision of eye services at the primary level and the cataract campaigns are a major part of the current public education effort. In addition, there are posters encouraging the public to have cataract surgery. We saw publishers layouts for a booklet on cataracts and a poster on trachoma directed at the non-specialist physician and nurse. These await funding. At present, the demand for services generally exceeds supply so propaganda is not a pressing issue.

Blindness Survey

In 1992, the MOH undertook a point prevalence survey of the causes of blindness, use of glasses and the use of eye care facilities. Blindness was found in 0.76%, bilateral poor vision in 2.27% and unilateral visual loss in 2.8%. The most important causes of blindness were cataract (45%), glaucoma (14%) and corneal opacities (10%). Trachoma was present 1.4% overall, mostly in the south and only 40 % estimated to need glasses had them. Cataract extraction had been performed in 0.8% and "couching" had been done in additional 0.1%. The

backlog of unoperated bilateral cataract patients was estimated at 287,000.

This survey was done as a planning tool for the PNLC after the program started and the need for a survey was evident. This is in contrast to doing it in advance of starting a program. There is currently no plan to repeat a survey without additional funds.

CONCLUSIONS

This project is a model of development practice, both in my opinion and in that of the two highest government officials we met. It started as a small USAID grant to a private American voluntary agency to do primary eye care training in a remote area of rural Morocco. Initially, it provided care at the primary level and generated demand for more care and for more sophisticated care. As the MOH recognized the importance of eye care to the public occurred, a survey was conducted to identify the ocular problems in the country. The program presently includes primary eye care in half the provinces, secondary ophthalmic medical and surgical care at provincial hospitals around the country, speciality eye services in four cities and two teaching tertiary services. It is now a Moroccan government program supported by Ministry funds leveraged with other sources of outside aid, and only in small part by USAID.

Primary eye care worked well in the facilities we visited. Personnel had been trained, retraining covered personnel deaths and transfers, and health care workers seemed comfortable with the clinical responsibilities they were assigned. Donated equipment was in place and was used. The personnel understood the referral and counter referral system. Expansion of this training to the remainder of the country should be straightforward.

The children's surgical program has just started. Anecdotally, more children are coming in for care, but numbers are not yet available for 2 successive years. All the provincial hospital ophthalmologists understood the chain of referral; the regional eye centers were also referring their pediatric cataract patients. Surgical care and access can be improved if children are operated at the regional centers. This will require purchase of vitrectomy machines. The surgical guidelines have not yet been reviewed in Morocco and the use of the HKI dossiers is not widespread.

Lack of follow up is a major problem which has not been addressed. Follow up issues include glasses supply, postoperative vision checks, glaucoma and repeated refractions. Post operative management would be improved if the doctors used indirect ophthalmoscopy and streak retinoscopy.

Increasing services for children will increase congenital glaucoma referrals.

Ophthalmic surgical services at the provincial level were staffed and equipped, although the staffing was uneven. There were widely differing problems in running these services, which should respond to administrative management since the MOH is committed to keeping ophthalmologists in these hospitals.

The regional eye centers we visited in Fès and Tangier had received sophisticated diagnostic and therapeutic equipment. These centers eventually will have to treat the complications of the increased cataract surgery that is envisioned as well as congenital cataracts that come from their local referral areas. These complications include enophthalmitis and retinal detachment and their

management would be greatly facilitated by vitrectomy and indirect ophthalmoscopy. The only vitrectomy machines in the country are in the two teaching hospitals.

The cataract campaigns have sensitized the public, private benefactors and government decision makers to the potential benefits of eye surgery. They are not seen as a replacement for routine hospital based care and they are expected to be phased out in the next few years.

The public education activity has been limited to wall charts directed at patients. Since patient demand for ophthalmic services currently outstrips supply, there is no great priority to correct this problem.

The first blindness prevalence survey was successful in documenting the extent of visual problems in Morocco and in sensitizing the MOH to the problem.

The MOH appears committed to continuing the eye care project. However, it is possible that priorities will change if the present drought continues.

The following questions are included in the scope of work for this evaluation. Some of them are answered in the text.

1. (Especially for children) Are the targeted high risk groups being reached now? If not, what are the constraints to meet reaching these groups? What is HKI doing to alleviate these constraints?

The targeted high risk children with cataracts are being reached in increasing numbers. The infrastructure to identify them and bring them in for treatment is just being developed. Until now, there has been no specific program to find them and treat them. HKI has set up a treatment model which it is now attempting to replicate.

2. What data and how often is it being collected for the project? How is the data being used after it is collected? With whom and how is the data being shared?

Dr. Chami receives monthly statistics on number of trainings, outpatient visits, adult cataracts operated, children operated. These data are forwarded to Mme Akalay and by her to New York. HKI-New York does not currently collate these numbers in a useable manner.

3. Assess the IEC component of the project at the community level (Printed material, television\radio, etc.)

Word of mouth alone has generated patient demand in excess of supply for many eye services. The children's surgical program has not been running long enough to determine if extensive publicity will be necessary.

4. Assess the MOH's understanding of the project (At the district, regional and national level). Do they know the objectives of the project?

The HKI program is integrated into the MOH and is appreciated by the MOH. We may have interviewed a selected group, but they were knowledgeable about the aims of the project.

5. Assess the quality of the HKI trained doctors, primary nurses, school teachers, community volunteers and leaders to screen and treat eye patients.

Moroccan medical personnel are no longer trained by HKI *per se*, but rather by the MOH. This is a good example of how well the HKI model has been institutionalized into the MOH bureaucracy. The system relies on the *animateur* who is also responsible for other non ophthalmic training. He is also responsible for retraining. The personnel we met appeared to be well trained.

6. Assess the follow-up system for referred patients. Does the nurse know how a referred patient went on in the system and the treatment the patient received?

Most nurses said that they used the system. There is no system of recording referrals. Ophthalmologists said that they returned the referral forms.

7. Assess the flow of necessary materials, supplies, and equipment to carry out proper treatment.

HKI has supplied materials as noted in the discussion of primary eye care and in Table 3.

8. Appraise the nature of supervision and monitoring that goes on after the training of nurses and physicians. Is it adequate for assuring quality of services?

Even assuming that we interviewed the best of the *animateurs*, I was impressed how competent they seemed on questions of training and on the minutia of the program. The program director chose some of the *animateurs* and they know their individual project personnel. Retraining was done for new staff and for staff that missed the initial training.

9. Assess the administrative support and technical support the project has received from HKI New York office. Has it been adequate thus far during the life of the Project?

HKI - New York has been able to respond quickly and appropriately to requests from HKI - Rabat. Since the HKI assistance is part of the overall MOH program, HKI has had MOH administrative support as needed.

10. What, if any, technical assistance has the project received to date? What are the technical assistance needs of the Project?

HKI has provided administrative and training support. The childhood surgery initiative currently provides guidelines and equipment. The ophthalmologists will need to be taught additional skills to provide clinical follow up. They do not know how to do indirect ophthalmoscopy or streak retinoscopy, techniques that are difficult to learn from a book. In addition, the MOH will need to develop the ability to recall post operative patients.

11. What is the nature of the relationship between the project and its chief counterpart? Has there been any exchange of money, materials, or human resources between the project and this counterpart?

HKI is integrated into the MOH program and supplies it with *per diem* for trainees and basic equipment sets. HKI does not provide any stipend or consideration for MOH employees.

12. Assess the rate of project expenditures appropriate considering the project's inputs. Are expenditures over or under projected expenditures?

HKI - New York is reviewing the budgets. The primary eye care budget should be simple. The needs of the children's blindness initiative need to be clarified.

13. Assess the prospects of sustainability. How will training continue after the projects end? What reassurances does the project have that materials currently being supplied by the PVO will be available after the project has ended?

Most of the costs are presently in the MOH budget, so the project should be continued. The MOH has been able to find funding from Moroccan private groups and from the French and Belgian governments once the program was started. Like everything else in Morocco at this time, this project may be effected by the continuing drought and the government's ability to provide services. Most of the materials supplied are simple and should not require expensive replacements. It should be remembered that the project for primary eye care has only covered half the country. If the remaining training is not funded by HKI, the government will have to find additional funding.

RECOMMENDATIONS

Continue primary eye care training until all provinces have been covered. This will require continued HKI funding if the current momentum is to be maintained. Without the primary care system, the secondary and tertiary systems do not function properly.

Improve access and quality of surgical care for children.

Decentralize surgical care to the four regional centers. This is a natural outgrowth of the initial success of the children's surgical program. However, it will require vitrectomy machines for each center if the current surgical guidelines are to be followed.

Review the surgical guidelines.

Develop training for congenital glaucoma surgery.

Improve the follow up of children operated for congenital cataract

Develop the infrastructure to find patients post operatively.

Teach ophthalmologists the medical clinical skills necessary, particularly indirect ophthalmoscopy and streak retinoscopy. This will require hands on teaching by Francophone ophthalmologists since these skills are not taught in Morocco and are difficult to learn from a book.

Review the use of the data collection forms for the children's blindness program.

Publish the teaching materials on cataract and trachoma that are prepared.

Anticipate the need for another blindness prevalence survey.

Use the American Academy of Ophthalmology's Committee on International Ophthalmology:

to find French speaking American ophthalmologists;

to request teaching materials (albeit in English) on retinoscopy and indirect ophthalmoscopy;

to request surplus books for the regional hospital libraries;

to consult on appropriate surgical technology and teaching strategies.

Include the current American ambassador in planning for the immediate future.

TABLES

Table 1. Primary Eye Care (PEC) Activities in Tangier Province

Table 2. Personnel Trained in Primary Eye Care, 1987-94

Table 3. Procurement Requests and Distributions

Project SEE-10/94-9/95

Table 1. Primary Eye Care (PEC) Activities in Tangier Province

Date	Activity	Doctors	Nurses
11/90	1 day PEC	7	24
3/91	same	6	14
12/91	5 day PEC	6	17
same	same	7	16
2/92	1 day neonatal ophthalmia	10	35
12/92	4 day trauma	30	
12/92-1/94	1 month rotations on eye service for generalist doctors	24	

Table 2. Personnel Trained in Primary Eye Care, 1987-94

Year	Province	Doctors	Nurses	Totals
1987	Ouarzazate		2	2
1988	Ouarzazate		13	13
1990	Ouarzazate		36	36
	Errachidia		42	42
	Taroudant	2	1	3
	Agadir	14	129	143
1991	Taroudant	1	58	59
	Tata	7	47	54
	Tétouan	15	27	42
	Tangier	13	33	46
	Larache	10	25	35
1992	Ouarzazate	13	12	25
	Taroudant	13	2	15
1993	Chefchouen	10	36	46
	Al Hoceima	7	34	41
	Sidi Kacem	10	20	30
1994	Wilaya de Fès	56	67	123
	Figuiç	6	21	27
	Nador	20	41	61
	Taounate	16	40	56
1995 June planned	Beni Mellal	15	37	52
	Azilal	7	35	42
	El Kalaa	6	35	41
	Srahna			
	Taza	9	38	47
	Oujda	15	42	57
1996 Planned	Assa-Zag	3	18	21
	Guelmin	3	20	23
	Tantan	4	12	16
	Tiznit	9	33	42
Totals		284	956	1,240

Table 3. Procurement Requests and Distributions
Project SEE-10/94-9/95

Item	Date sent	Quantity	Request	Value	Project	Source
Cataract boxes	7/14/94	2	2	\$3,456	Figuig Nador Taounate Fès	Procurement
Foreign body boxes	same	123	99	\$3,149	same	same
Loupes	same	356	238	\$8,245	same	same
Vision charts	same	356	238	\$3,329	same	same
IOL	9/28/94	215	1,000	\$24,580	Taroudant Agadir	gift in kind
IOL	10/14/94	500	500	\$58,230	Sale, Meknes, Kinitra, Fès	same
Suture	same	240	200	\$1936	same	same
Healon	same	2,500	2,500	\$125,000	Agidir	same
Timolol	7/1/94	10,080	4,320	\$95,357	national	same
Timolol	9/1/94	4,320	4,320	\$43,070	same	same
Vitrector	1/20/95	1	1	\$20,000	Rabat	Procurement
Shipping				\$2,883		
Total				\$389,235		

INTERVIEWS COMPLETED

US State Department

Marc C. Ginsberg, Ambassador
Michael Farbman - USAID mission chief
Nancy Nolan - USAID Technical Advisor, AIDS and Child Survival
Donald Lauro, USAID

Kingdom of Morocco, Ministry of Public Health

Dr. Zahi Abderahmane, Permanent Secretary
Dr. Jaouad Mahjour, Ministry of Public Health, Epidemiology Division, Director
Dr. Youssef Chami Khazraji, Ministry of Public Health, Epidemiology Division, Chief of the service for ophthalmic and otolaryngologic diseases.
Dr. Mohammed Aouragh, Médecin Chef , Larache
Dr. Abdelkrim Jaafar, delegate of the MOH at Tangier
Dr. Md. Bekkali, chief at the Al Kortobi hospital, Tangier
Dr. Md. El Hannach, adjoint to the Médecin-chef at Tetouan
Dr. Mibarek Bagho, delegate of the MOH in Chechaouen
Dr. Md Bousfiha, chief of the SIAAP
Mr. Md Amallah, nurse head of the SIAAP
Dr. Fouad Bouchareb, delegate of the MOH at Fès-Medina
Dr. Abdellah, Médecin Chef for Omar Drissi hospital, Fès
Mrs. zhon Benzeroual, nurse in charge of the eye service at the civil hospital, Larache
Mr. Md. Achou, *animateur* for Tetouan
Mr. Abdelaziz Boumaaz, *animateur* for Chechaouen
Mr. Md.Senhaje, *animateur* for Fès
Dr. Lazaar, Medecin Chef of SIAAP for Fès-Ville Nouvelle
Mr. Haj Zeriou, Major of SIAAP, Fès

Ophthalmologists

Dr. Abdelwahed Amraoui Professor and Chairman, Dept of Opht Hopital 20 Aout
Dr. Amina Berraho Hamani, Professor of Ophthalmology, CHU Ibn Sina, Rabat
Professor Khalid Zaghloul, Professeur Agregé d'Ophtalmology, Hopital 20 Aout
Dr. Najia Batel and Dr. Abdelatof Mait, Hospital Lalla Merlem, Larache
Drs. Omar Derraz, Hassan Mouhcine, Abdellah Benchikh and Adil Kheirdine, Tanger
Dr. Allal Douhat, Tétouan
Dr. Chakib Touzani, chief of the ophthalmology service for Omar Drissi hospital

ABBREVIATIONS AND GLOSSARY

- angiography - method of showing abnormal vessels in the retina (\$15,000)
- animateur* - nurse responsible for training, usually at the provincial level
- argon laser - instrument to treat blood vessel anomalies in the retina (\$20,000 - \$30,000)
- autorefractor - instrument that figures out glasses prescriptions (\$10,000)
- boxes - in this context, the instruments necessary to do a procedure, ie a *boîte de cataract*
- cataract - opacity in the lens of the eye, preventing good vision
- couching - a "traditional" method of cataract treatment, done by pushing the lens out of the way rather than by removing it
- ECLE - extracapsular lens extraction. Removes the lens material inside the capsule, and then deals with the capsule. Needs a surgical microscope, but can be done through a small incision
- glaucoma - increased pressure inside the eye, leads to blindness if not treated
- Healon - a viscoelastic that greatly facilitates the placement of an IOL
- HKI - Helen Keller International
- ICLE - intracapsular lens extraction. A technique of removing a cataract with its surrounding capsule intact. Requires a large incision, but can be done quickly and without a surgical microscope
- IOL - intraocular lens. Plastic replacement for the cataract. Otherwise, the patient requires thick glasses.
- Indirect ophthalmoscope - instrument used to examine the retina binocularly. It greatly facilitates examination of infants and is required to examine the retinal periphery
- Major* - senior nurse with top administrative responsibilities
- Médecin chef* - physician with top administrative responsibilities in a hospital, health department or province
- MOH - ministry of health
- PEC - primary eye care. A system of teaching basic health care personnel simple eye care skills and providing a system of referral
- Perimeter - instrument used to measure visual field, usually for glaucoma patients (\$5,000)
- PNLC - Programme National de Lutte Contre la Cécité*. National program to prevent blindness.
- PREYECARE - HKI's program for primary eye care
- PROJECT SEE - HKI's program for sustainable, efficient eye care
- SIAAP - Service d'Infrastructure d'Action Ambulatoire Provincial slit lamp - instrument used to examine the eye binocularly with magnification (\$7,000)
- streak retinoscope - instrument used to estimate glasses prescriptions, virtually indispensable in dealing with children
- Timolol - topical drug used for glaucoma control
- USAID - United States Agency for International Development
- vitrector - instrument used to remove tissue, blood, cataract, etc. from inside the eye. (\$20,000-\$60,000)
- YAG - a laser used inside the eye to remove tissue



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APPENDIX VII

-II-

**BILAN DES REALISATIONS DE CHIRURGIE DE LA CATARACTE
ANNEE : 1995**

Provinces	Cataractes opérées	Type d'intervention		Implants mis en place		Campagne
		Intra-capsulaire	Extra-capsulaire	Chambre antérieure	Chambre postérieure	
Agadir	790	184	606	01	152	469
Aïn. Sebâa / Hay Mohammadi	09	06	03	00	01	
Ben Msik/ Sidi Othman	334	297	37	15	12	
Béni Mellal	812	518	294	00	197	585
Casa Anfa	NEANT					
Chefchaouen	56	56				
El Jadida	136	06	130	00	03	
Errachidia	198	197	01			
Fès Médina	650	350	292	00	152	385
Kénitra	126	69	57	04	01	
Khémisset	55	55				
Khénifra	53	48	05			
Khouribga	140	33	107	06		
Laâyoune	127	19	108		34	
Larache	161	21	140		09	
Marrakech Médina	715	548	167	10	87	
Meknès El Menzeh	555	414	141	75	00	217
Nador	102	37	65	00	15	
Ouarzazate	596	59	537		23	113
Oujda Angad	116	01	115	02	19	
Sidi Kacem	33	00	33		03	
Safi	292	00	292	00	06	
Settat	35	29	06		06	
Tanger	516	179	337	07	197	201
Taza	33	25	08			
Tétouan	166	33	133	00	19	
CHU casa	404	115	289	16	216	
Rabat	433	250	1853		125	223 Salé
TOTAL	7643	3549	4086	136	1317	2193

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-III-

**MISSION DE SUPERVISION / EVALUATION
EFFECTUEES DE
JUILLET 94 A JUIN 95**

Provinces visitées	Période	Objet de la mission
Taroudant	Juillet 94	Soins Oculaires primaires. Campagne cataracte. Mécanisme de référence
Agadir	Juillet 94, avril 95 et juin 95	Soins Oculaires primaires. Chirurgie Pédiatrique. Campagne cataracte. Mécanisme de référence
Essaouira	Juillet 94	Lancement du service d'ophtalmologie.
El Jadida	Septembre 94	Activités de chirurgie. Mécanisme de référence
Settat	Septembre 94	Lancement des activités de chirurgie
Ouarzazate Errachidia	Octobre 94, avril 95	Chirurgie du trichiasis. Campagne de lutte contre le trachome. Chirurgie pédiatrique
Kénitra et Khémisset	Novembre 94	Chirurgie cataracte. Campagne cataracte. Mécanisme de référence
Tanger, Tétouan, Larache, Chefchaouen	Décembre 94, janvier et mai 95	Campagne cataracte. Chirurgie pédiatrique, Soins oculaires primaires et mécanisme de référence
Azilal, Béni-Mellal	Février et mars 95	Campagne cataracte, chirurgie pédiatrique, Référence.
Fès	Décembre 94, février 95, avril 95 juin 95	Activités de chirurgie oculaire, chirurgie pédiatrique, Soins oculaires primaires, référence et campagne cataracte
Meknès	Novembre 94, mai 95 et juin 95	Chirurgie pédiatrique, campagne de cataracte, mécanisme de référence
Casablanca	une fois par mois	Restructuration du système de soins de santé oculaire dans la Wilaya du grand Casablanca. Concertation avec le Pr. A. Amraoui