

# Aravind Eye Hospital



Annual Report 1988



Dr. G.Venkataswamy  
Director, Aravind Eye Hospital

*Because thou hast obeyed my timeless will,  
Because thou hast chosen to share earth's struggle and fate  
And leaned in pity over earth-bound men  
And turned aside to help and yearned to save  
I bind by thy heart's passion thy heart to mine  
And lay my splendid yoke upon thy soul  
Now will I do in Thee my marvellous works*

*from  
'Savitri' - Sri Aurobindo*

## Aravind Facilities

### Aravind Eye Hospitals

#### Madurai

Paying Section - 290 beds  
Free Section - 400 beds

#### Tirunelveli

Paying Section - 200 beds  
Free Section - 200 beds

#### Theni

Paying Section - 40 beds  
Free Section - 60 beds

#### Eye Camps

500 Screening Camps &  
12 Surgery Camps (ave. per year)

### Aravind Child Care Programs

- Aravind Children's Hospital
- Nutrition Rehabilitation Centre
- Rural Outreach Program
- Urban Slum Program
- Prenatal Care

### Aravind Medical Research Foundation

- Vitamin A Project
- Vanadium Stainless Steel Sutures
- Clinical Research - Eales' Disease
- Operations Research
- Conjunctival Impression Cytology
- Rapid Survey Techniques for Ophthalmic Health Planning and Monitoring
- Low Cost Suture Production



Through compassionate patient care, comprehensive teaching programs and basic and applied research, Aravind is advancing both the science and the art of healing. Hospitalized patients receive comprehensive care from skilled physicians, nurses and other specialists whose work is enhanced by sophisticated diagnostic and treatment tools.

### Aravind Statistics 1988

	Out-patient Visits	Operations
<b>Paying</b>		
Madurai	1,21,155	10,658
Theni	23,947	665
Tirunelveli	37,172	1,379
<b>Free</b>		
Madurai	79,766	16,092
Theni	3,165	1,215
Tirunelveli	31,939	4,736
Eye Camps	1,17,968	1,592
<b>Total</b>	<b>4,15,112</b>	<b>36,337</b>

**Note:**

In most camps, patients needing surgery are transported to the hospital and operated.



### Problem of Blindness:

Worldwide it is estimated that 42 million suffer from blindness. Over 80% of this blindness is preventable or curable.

Cataract accounts for over 50% of the blindness. Xerophthalmia, caused by Vitamin A deficiency, robs upto 500,000 children of their sight every year.

In India alone 21 million suffer from cataract, of which 6 million are blind in both eyes. Corneal disease afflicts 2.5 million. Over 40,000 children go blind each year from lack of Vitamin A.

### Surgery statistics - 1988

Types of Surgery		Paying	Free	Total
1.	Cataract & other lens removal procedures (excl. IOL)	5,146	20,302	25,448
2.	Intra Ocular Lens (IOL)	3,617	891	4,508
3.	Trabeculectomy	278	251	529
4.	Retinal Detachment	295	25	320
5.	Vitreous Surgery	145	9	154
6.	Laser & Xenon photocoagulation	935	-	935
7.	Membranectomy	88	17	105
8.	Keratoplasty & Therapeutic grafting	97	16	113
9.	Squint correction	115	2	117
10.	Ptosis & Plastic surgery	8	-	8
11.	Pterygium	273	563	836
12.	DCR, DCT & other septic operations	369	1,559	1,928
13.	Others	1,336	-	1,336
<b>Total</b>		<b>12,702</b>	<b>23,635</b>	<b>36,337</b>



## Camps:

Aravind organizes a fully integrated community outreach program in the form of eye camps. The camps are the vital link to the rural masses to whom access to health services is a major constraint.

### Free eye camps conducted in 1988

	Name of the Agency	No. of Camps	No. of Cases	No. of Surgery		
				Cataract	Others	Total
1.	Bhagavan Sri Sathya Sai Seva Organisation	29	13,063	2,163	33	2,196
2.	Lions Club	56	20,134	2,729	23	2,752
3.	Rotary Club	26	6,770	810	6	816
4.	Vivekanandha Kendra	63	11,924	1,398	87	1,485
5.	Jaycees	9	2,436	270	1	271
6.	Banks	45	8,205	706	12	718
7.	Mills & Factories	17	5,861	801	14	815
8.	Trusts	8	4,521	890	14	904
9.	ASSEFA	10	1,210	120	-	120
10.	Helen Keller Society	12	1,263	151	3	154
11.	Schools & Colleges	73	11,309	762	20	782
12.	Hospitals (including OR & BOSTID Projects)	25	4,289	695	26	721
13.	Other Agencies	170	26,979	2,315	96	2,411
<b>Total</b>		<b>543</b>	<b>1,17,964</b>	<b>13,810</b>	<b>335</b>	<b>14,145</b>

## Aravind Children's Hospital



Apart from the out-patient and in-patient care, the children's hospital is involved in many child care activities.

As a felt need of the out-reach programmes, antenatal clinics have been started at the hospital. There is a proposal to start post-natal clinics also, as the women have been coming with their children for follow up. The antenatal clinic will be integrated into the Aravind Children's Hospital activities. The out-reach programmes are slowly developing but have not been expanded beyond 10 villages as it was decided to consolidate the work in the 10 villages before taking on more.

Gail Rhodes, Frances Grange and Sarah Kember were at Aravind in 1988 through the UK based voluntary organization 'Action Health 2000'. They helped in the different child care projects of Aravind.

Ms. Phillipa Young, Co-ordinator - 'Action Health 2000' visited Aravind to co-ordinate the activities of their volunteers here.

Ms. Katherine Hooper, medical student from UK, volunteered at Aravind children's hospital.

### Statistics 1988

Free	- 19,800
Paying	- 7,395
Total no. of camps	- 56
No. of patients seen in camps	- 3,893



Sarah Kember examining a pregnant woman



Shahnavaz talking about nutrition to village women

## Major Developments - 1988



### Inauguration of the Satellite Hospital at Tirunelveli:

On 1st, February 1988, Aravind inaugurated its second satellite eye hospital at Tirunelveli. This 400 bed eye hospital brings eye care services to five million people, most of whom live in rural areas.

In 1988, 6,115 people received surgery and 69,111 out-patient visits were handled. This hospital is progressing steadily and contributes to the national programme for control of blindness through an extensive rural out-reach program to reach the poor and provision of services.

### Construction of the new Out-Patient Facility:

Aravind's growth is well reflected in its changing out-patient facilities. A new building is under construction at the rear of the existing main hospital. This building will have five floors and a partial basement. Two entire floors with a total floor space of 20,000 square feet will house the out-patient facilities which will be more than twice the existing out-patient area.

The new out-patient department will be able to handle 1000 patients a day and will also house Aravind's training programs, administrative offices and staff quarters. Much growth has occurred since Aravind began in scarcely more than a room in a rented house in 1976.



### Computers in research work:

Computers were first introduced in the hospital in 1983. Initially workload was equally divided between administrative work and research. The research applications then consisted primarily of analysing small databases to assist in scientific publications and papers for conferences. As larger field-based research projects were initiated, more powerful computers were added in 1986. Since then the research work has been expanding steadily and so have been the number of computers used in various research projects. Currently eight computers are dedicated entirely to research.



Mr. Srinivasan, amidst the new construction



A portable computer being used for data entry in the field

In a large research project, which looks at the relationship between Vitamin-A and morbidity in about 15,000 children on a weekly basis, there is a need for enormous data entry. To ensure that there is no back log of work and also to improve the data accuracy, 3 portable computers are in use in the field itself in a very rural environment. Local people have been trained to use the computers. This novel use of computers seem to be working out well and has removed the myth that surrounds computers.

At the main computer centre, a super mini computer with multi-tasking capabilities has several advanced features like electronic mail, electronic conference and statistical packages like SPSS. This computer is used to process large amounts of research data.

A desk top publishing system consisting of a Macintosh Plus computer and Laser Printer has been recently installed. This is used in publication of books, health education materials, etc. It will also play a vital role in disseminating research findings through its desk-top publishing capabilities. This is also used in making teaching slides for presentations at conferences.

## Education:

The education of ophthalmologists and ophthalmic technical personnel is one of Aravind's major continuing contributions to the advancement of eye care.

In addition to the Diploma in Ophthalmology (D.O) course, Aravind offers Fellowship programs in the fields of IOL & Anterior segment surgery, Retina & vitreous services, Cornea and Paediatric ophthalmology.

### D.O - Diploma in Ophthalmology

Dr. Shashikala  
Dr. Fathimath Didi  
Dr. R. Kumarasamy  
Dr. Dipankar Dutta  
Dr. R. Mohan  
Dr. K. Ravikumar  
Dr. V. Narasingha Rao  
Dr. R. Krishnadas

### M.S - Masters in Surgery

Dr. P. Vijayalakshmi  
Dr. Tara Prasad Das  
Dr. N. Nagappan  
Dr. R. Ravichandran

### Senior House Surgeons:

Dr. V. Muralidharan  
Dr. L. Suriyababu  
Dr. Selvi Selvakumar  
Dr. S. Srinivasan  
Dr. Sushilpani  
Dr. K. Hemalatha  
Dr. V. Chittibabu  
Dr. M. T. Ramesh  
Dr. S. Ponnambala Namasivayam

### Fellowship in Retina and Vitreous

Dr. S. S. Premchand  
Dr. Avinash R. Kelkar  
Dr. S. Harikrishnan

### Fellowship in Intraocular Lens:

Dr. Sudhakar  
Dr. Kadambari Dandekar  
Dr. Arun Sethi

Ophthalmologists and physicians from other institutions frequently come to work with faculty members to improve or learn new diagnostic and surgical skills.

### Training ophthalmic personnel from other countries:

Senior ophthalmologists, residents and fellows from a number of U.S. training programs spend time at Aravind training or getting trained. The following were at Aravind during 1988:

### Illinois Eye & Ear Infirmary,

Chicago  
Dr. Jeffery Robins  
Dr. Teddy Y. F. Tong  
Dr. Marc J. Safran  
Dr. Tom Jennings  
Dr. John A. Vukich  
Dr. David Lubeck  
Dr. Colby Kraff

### Mass Eye & Ear Infirmary, Boston

Dr. Oliver Schein  
Dr. Dale Oates  
Dr. Peter Hersh  
Dr. Ronald Frenkel  
Dr. Mariana Dieste

Aravind doctors with visiting residents from the USA





## Education (contd.)

St. Vincents Hospital, New York  
Dr. Mark Fromer  
Dr. Russell M. Wolfe

Cornell Med.Centre, New York  
Dr. Patrick Farrell

Wills Eye Hospital, Philadelphia,  
Dr. Gilbert H. Kliman  
Dr. Courtland M. Schmidt

Brookdale Hospital Medical  
Center, New York  
Dr. George Hyman  
Dr. Debbie Silberman

Dr. Marvin Lubeck, Ophthalmologist  
from Denver, USA and Dr. Anna  
Maria Antonelli from Italy

Apart from the above, medical stu-  
dents from other countries come to  
Aravind for various research activi-  
ties.

Sanjay Shah from John Hopkins  
School of Medicine did a research  
study on 'Detection of changes in  
vitamin-A status by Impression  
Cytology in a clinically normal  
population'.

Rama Thiruvengadam, medical  
student from Tulane University  
School of Medicine studied the  
'Impact of cataract surgery on the  
quality of life'.

### Seva sponsored training pro- grams:

Dr. Beena Shrestha - Ophthalmol-  
ogy and  
Mr. Sharma - Administration

The following from Lumbini Eye  
hospital, Nepal were given Ophthal-  
mic assistant training:  
Chudamani Pokhrel  
Ragabendra Prasad Yadav  
Parshuram Neupane  
Meghraj Bhatta  
Umesh Chandra Dhaub Hadel  
Krishna Prasad Choudhary  
Narayan Singh V. K.  
Ramkrishna Shrestha



Jordan Kassalow explaining to the refractionists in training

### Norwegian Church Aid (Nepal)

Ophthalmic assistant training:  
Hemant Gurung  
Hukkum Pokkral

The World Health Organization  
(WHO) recognizes Aravind as a  
training center for eye health  
professionals from other countries.

The following were sponsored by  
WHO in 1988:

WHO fellowships - Srilanka  
Dr. C. R. Seimon  
Dr. J.L.Mallikaarachchi  
Dr. U.H. Bhoila  
Dr. N.R.Mansinghe  
Dr. D.A. De silva

Mrs. Prema Gunasena  
Mrs. Soma Wimaladasa  
Mrs. R.Dharmawardhana  
Mrs. V.M.N.Dheeraseskera  
Mr. W.V.Seneviratne  
Mrs. M.D.K.Gunaratne

The WHO fellows from Sri Lanka in the Retina clinic



Nurses from Burma:  
Mrs. Mas khin Maya  
Mrs. Daw khin Theni

### Ophthalmic Nursing Training:

Girls with a minimum of high  
school education are recruited for  
training in ophthalmic nursing. The  
major emphasis is on strengthening  
the training and orientation of  
the nursing staff towards better  
patient care.

Jordan Kassalow, Optometrist  
from USA, helped Aravind to  
reinforce our training program for  
refractionists. He introduced the  
recent developments in refraction  
to the existing refraction staff and  
conducted regular theory and  
practical classes to the refraction-  
ists in training.

## Supporting organisations:

Towards the common goal of eradicating needless blindness, many national and international agencies have very generously extended their support and guidance. This support comes partly as financial aid, but mostly as gifts of ophthalmic equipments, supplies and volunteers.

### Seva:

Since 1980, the Seva Foundation has joined hands with Aravind in the fight to end needless blindness.



David Green, Outreach Co-ordinator of Seva Foundation, visited Aravind in January 1988, to see the work here, and identify Aravind's future needs.

Seva Board member Jahanara Romney also visited Aravind in January 1988 along with her son Jordan to identify additional avenues through which Seva could contribute to Aravind's objective of ending avoidable blindness.

Dr. William Hawks and Mrs. Beverly Hawks from Seva, USA and Dr. Martin Spencer from Seva Service Society, Canada visited Aravind in February 1988.

Apart from the above support, Seva also sends volunteers who are specialised in specific fields of

ophthalmology and child care to share their knowledge and expertise with the staff of Aravind.

### Seva co-ordinated volunteers:

Dr. Howard Abrams and his wife Dr. Pauline Priser, Board members, Seva Service Society, Canada volunteered their services at Aravind for six weeks with CESO sponsorship.

Maria Mangini and her husband Stanislaus from Seva foundation, California were at Aravind for twelve weeks. Maria conducted classes in basic nursing to the trainees and demonstrated first aid to all the nursing staff. She also helped in the different child care projects.

Dr. Kris Kealey from Stanford Medical Center, California and Ms. Nolyn Blanchette from Connecticut helped Aravind develop brochures for patient awareness; to motivate cataract patients to come forward for surgery and to have the patients get involved in Aravind's fight against blindness.

Dr. John Roarty from USA helped Aravind in setting up the Ocular Pathology department.

Dr. Martha Wright from Kellogg Eye Center, University of Michigan spent a month working with the medical staff at Aravind.

Anna Schmitz from Seva, Nepal spent two weeks at Aravind, helping in developing health education materials for patient information and nutrition education.

Dr. John Roarty and Dr. Savitri Sharma in the new Ocular Pathology laboratory



## Supporting Organisations (cont'd):

### The Royal Commonwealth Society for the Blind (RCSB) U.K.:

RCSB continues to support Aravind's free service to the poor by subsidising the cost of surgery.

The following from RCSB visited Aravind in 1988:

Mr. James Beale, RCSB, U.K.

Mr. Nagarajan, Field Director, RCSB, India

Ms. Margret Cattani, Overseas Administrator, RCSB, U.K.

Mr. Kishorilal Shah, Asian Community Co-ordinator, RCSB, U.K.

RCSB sponsored Mr. Richard Johnson and Ms. Joanne Marsden, medical students from U.K. to volunteer at Aravind.

Direct Relief International in Santa Barbara, California has provided donations of medical supplies and have helped in shipping and customs passage.

Helen Keller International, New York

HKI has recognised that good management is an integral part of efficient eye care delivery. To formalise this process HKI is supporting the development of a hospital administration training program at Aravind. Prof. Fred Munson from University of Michigan and his wife Mary spent a month at Aravind in 1988. Prof. Munson who shares the same commitment to developing a health management system worked with the faculty of Madurai-Kamaraj University and Aravind staff developing the curriculum for the proposed two years course in Hospital Management.

## Continuing Education Program:

Annual post-graduate seminars and meetings covering specialized ophthalmological subjects are conducted for practicing ophthalmologists. These gatherings which have attained a reputation for excellence are attended by physicians from around the world.

### Courses conducted at Aravind in 1988:

#### 1. Intraocular lens workshop

2nd & 3rd January 1988

Dr. G. Natchiar

Dr. P. Namperumalsamy

Dr. P. Vijayalakshmi

Dr. R. D. Ravindran

Dr. J. Sudhakar

#### 2. Instruction course on enucleation and storage of donor eyes

28th February 1988

Dr. M. Srinivasan

#### 3. Course on Intraocular lens

11th & 12th August 1988

Dr. Manus C Kraff, University of Illinois, U.S.A. and Ophthalmologists at Aravind Eye Hospital.



Dr. Manus Kraff at the Intraocular lens course

#### 4. Refresher course in 'Ophthalmology for general practitioners' at Aravind Eye Hospital, Tirunelveli

on 16th October 88

Dr. R.D. Ravindran

Dr. G.Venkatasamy

Dr. P.Namperumalsamy

Dr. G. Natchiar



Doctors attending the course at Aravind, Tirunelveli

## Conferences:

Facilities are provided for our staff to improve their clinical acumen and build professional contacts by encouraging them to attend various medical conferences.

1. **All India Ophthalmology Conference** at Bombay in January 1988.
  - a. Dr. P. Namperumalsamy
    - Invited faculty in Instruction courses on Parsplana surgery of posterior segment and Parsplana surgery of anterior segment
    - Panel member in "Against and For" programme.
  - b. Dr. G. Natchiar
    - Invited faculty in Intraocular lens workshop
  - c. Dr. M. Srinivasan
    - Invited faculty in Instruction course on Microsurgery and current status programme on Laboratory diagnosis of Bacterial corneal ulcers.
    - Prognosis of keratoplasty in stromal dystrophies of cornea.
  - d. Dr. P. Vijayalakshmi
    - Faculty member in Instruction course on "Investigation of squint"
    - Faculty member in current status programme on "Surgery of concomitant squint"
    - Presented paper on "35 cases of Intraocular Lenses in children - a followup study".
  - e. Dr. Taraprasad Das
    - Presented paper on "Ultrasonic characterization and classification of proliferative vitreoretinopathy".
  - f. Dr. Savitri Sharma
    - Presented paper on "Clinical and laboratory diagnosis of Dematiaceous Fungal Keratitis".
    - Presented Scientific exhibit on "Acanthamoeba castellanii keratitis: First culture proved case in India".
2. **Schepens International Alumni Meeting and Scientific Programme**, at Paris - May 1988  
Dr. P. Namperumalsamy and Dr. G. Natchiar participated.  
Dr. P. Namperumalsamy discussed about the study on 'Eales' Disease'.
3. **Alumni Meeting and Scientific Programme of University of Illinois**, at Chicago, May 1988  
Dr. P. Namperumalsamy and Dr. G. Natchiar participated.
4. **First World Congress on Allied Health** at Denmark, June 1988  
Mr. R. D. Thulasiraj
  - Allied Health Personnel in a Massive Eye Care Program in South India
5. **The Annual Grantees Co-ordination Meeting of BOSTID**, at Jamaica, July 1988  
Mr. R. D. Thulasiraj
  - A report on "Epidemiological assessment of curable cataract blindness for planning eye health services"
6. **The Eye Bank Seminar** organised by Red Cross Society at Ahmedabad July 1988.  
Dr. M. Srinivasan
  - a guest lecture on "Effect of time, temperature, cause of death and age on donor material"

*I always leave Madurai taking more than I give - Dr. Venkataswamy is truly my guru - ophthalmologically, ethically and spiritually. I always feel uplifted in his presence; he stimulates me to do better.*

— Manus C. Kraff, M. D.  
Ophthalmologist

7. Workshop on "Laser, fluorescein angiography and ultrasonography" at Sri Ravi Sati Eye Hospital, Amaravathy - Sept. 1988

Dr. P. Namperumalsamy was an invited faculty.

8. The 36th Annual Conference of Madras State Ophthalmic Association at Tiruchirapalli from 7th to 9th September 1988.

The following papers were presented by the faculty from Aravind at the conference.

a. Dr. P. Namperumalsamy

- Chairman, Symposium on "Endophthalmitis" and spoke on "Vitreotomy in Endophthalmitis".

b. Dr. G. Natchiar

- Chairman, Symposium on "Management of Aphakia"

- Faculty member in IOL Workshop of Continued Medical Education Programme.

- Presented a paper on "Anterior Capsulotomy in Extracapsular Cataract Surgery"

c. Dr. M. Srinivasan

- Relationship of Donor Age and corneal graft clarity

- Topographical variations of fungal corneal ulcers

d. Dr. Savitri Sharma

- Impression Cytology of the conjunctiva by Transfer Method

- Infrequent aetiological agents of corneal ulcers

e. Dr. A. R. Muralidharan

- Significance of conjunctival smear examination in chronic conjunctivitis

- Argon laser trabeculoplasty - an analysis

f. Dr. R. Ramakrishnan

- Traumatic Glaucoma - an analysis

g. Dr. S. Manohar

- Malignant Melanoma of choroid - case reports

9. Dr. Venkataswamy attended the Regional Meeting on Recent Advances in Control of Vitamin-A Deficiency and its Impact on Health held at Jakarta, from 3rd to 5th Nov, 1988.

10. XII National Congress of Indian Association of Medical Microbiologists at Trivandrum, 18th to 20th Nov, 1988.

Dr. Savitri Sharma

- The current status of Fusarium species in keratomycosis

11. Clinical Ophthalmological Symposium at Hongkong from 2nd to 4th, Dec. 1988.

Dr. P. Namperumalsamy

- Intraocular Cysticercosis

Dr. G. Natchiar

- Complications of 2500 Intraocular lenses in our experience

12. Kerala State Ophthalmological Society Meeting at Palghat on 11th Dec. 1988.

Dr. M. Srinivasan

- a guest lecture on "Management of corneal ulcers"

### Publications - Books:

1. Ocular Microbiology - Dr. Savitri Sharma

2. Anatomy of the eye - Dr. S. P. Banumathy & Dr. G. Natchiar

Dr. Natchiar at the MSOA Conference



## Publications - Journal articles:

1. **Neuro-ophthalmological manifestations of brain tumours in children**  
- Dr. G.Natchiar  
Journal of Madras State Ophthalmic Association, Vol.xxv, Commemorative issue - I.
2. **Serum immunoglobulins in mycotic keratitis - an interim report**  
- Dr. M. Srinivasan  
Proceedings of 45th conference of AIOS, Hyderabad.
3. **Differential diagnosis of echoes behind the lens in children**  
- Dr. Taraprasad Das and Dr. P. Namperumalsamy.  
Journal of Madras State Ophthalmic Association. 25: 5-12, 1988.
4. **Combined photocoagulation and cryotherapy in treatment of Eales' retinopathy**  
- Dr. Taraprasad Das and Dr. P. Namperumalsamy ✓  
Proceedings of 45th conference of AIOS, Hyderabad.
5. **Wedge scleral buckling in prevention of Fishmouth phenomenon in retinal detachment surgery**  
- Dr. Taraprasad Das and Dr. P. Namperumalsamy ✓  
Proceedings of 45th conference of AIOS, Hyderabad.
6. **Keratitis due to Acanthamoeba Castellani**  
- Dr. Savitri Sharma, Dr. M. Srinivasan and Miss Celine George  
Afr Asian Journal of Ophthalmology, December, 1988.
7. **Primary donor failure and donor cornea**  
- Dr. M. Srinivasan  
Journal of Madras State Ophthalmic Association. Vol. xxv, commemorative issue-I.

## Awards:

1. Dr. P. Namperumalsamy was awarded the 'C.S.Reshmi award for best video film presentation' at the 46th AIOS conference, Bombay, Jan 1988, for his film on "Intraocular cysticercosis".
  2. Dr. G. Venkataswamy was awarded the "WHO award for Health For All (HFA)" in Sep. 88.
  3. "For the sake of Honour Award" was presented to Dr. G.Venkataswamy by the Rotary club of Madurai in Oct. 88.
- Dr. Venkataswamy at the 'Regional Meeting on Vitamin-A' held at Jakarta



## Research Projects

### Operations Research Project to Reduce Barriers to Cataract Surgery:

Aravind collaborated with the University of Michigan and the National Eye Institute on this project.

The objectives were:

1. To find out the barriers to cataract surgery
2. To ascertain which of the following interventions was most cost effective in motivating patients to come for cataract surgery.

#### Aphakic Motivator:

This is the "Satisfied Customer Approach". Persons who were blind due to cataract and have had their sight restored by surgery are trained for a week, to identify and motivate other people in their village who are still blind due to cataract to come for surgery.

#### Basic eye health worker:

This uses the village level health worker concept. These health workers were young men with high school education and 6 weeks of training to detect and motivate cataract patients. They work in the villages by going from house to house.

#### Screening van:

This is the traditional eye camp approach. In a selected village publicity is done for a few days preceding the camp. During the camp all the patients attending are examined for all eye diseases and those with operable cataracts are offered free surgery.

#### Market media:

It is still traditional in the rural areas to have weekly markets for selling agricultural produce. Ten such markets were selected. Each selected market was visited for four consecutive weeks by an audio visual van which screened two video films to educate the people on cataract blindness. Trained eye health workers also



Dr. Tilden and Dr. Lepkowski looking at computer data

accompanied them to examine and motivate persons with cataract.

(Each of the above intervention was implemented by itself as well as combined with the additional economic incentive of free food and transport.)

3. To find out the role played by the additional incentive of free transport from their village to the hospital & back and also free food during their hospital stay besides free surgery & glasses.

The area of operation was 80 villages in five districts of Tamil Nadu around Madurai - 20 villages for each of the four methods. In half the number of villages free food and transport were provided. There were also an additional 10 villages used for control. All the 90 villages were randomly selected. The project which commenced in September '85 was completed in June '88. The report is being finalised at the University of Michigan, Ann Arbor. The preliminary findings indicate that the 'Aphakic Motivator' was the best intervention, with free food & transport playing a significant role.

Dr. James Lepkowski, Statistician, Univ. of Michigan,  
Dr. Robert Tilden, Public health Consultant from Univ. of Michigan and  
Dr. Jeanne Kuo, Computer Consultant - were here in 1988 to work on the project.

### Eales' Disease Study

Eales' Disease Study (EDS) was a four and half year old project to gain insight into the causes and treatment of the blinding Eales' Disease which is found to affect the young otherwise healthy individuals particularly in the South Eastern Asian Countries. The project spanned from April 1984 to October 1988, carried out in collaboration with the School of Biological Sciences, Madurai Kamaraj University, with grants from ICMR, New Delhi and National Eye Institute, USA.

One hundred and twenty patients were recruited into the study and were treated as per the protocol designed at the beginning of the study. The final results are now being analysed and the findings will be published in a few months.

### Production of Low cost Sutures:

Seva Service Society of Canada and CIDA are supporting research and development in the production of low-cost suture. This will be done by manufacturing or purchasing surgical needles and attaching conventional suture material (silk and nylon). Such sutures will be tested for safety and efficacy. The results of these projects will help eye care programs worldwide to reduce the cost of cataract surgery.

### **Vitamin 'A' Project:**

In collaboration with the Ford Foundation, Aravind Eye Hospital is carrying a study to determine the effects of a moderate increased intake of vitamin-A on the morbidity and mortality trends among children 6 to 60 months of age. The study involves administering weekly doses of vitamin-A (10,000 IUs) to one group and a placebo to the other and recording information on morbidity and mortality. The weekly doses will be given for a period of 52 weeks.

This study is being carried out in Aravakurichi, Kadavur and Krishnarayapuram panchayat unions of Trichy District.

The preparatory phase and 26 weeks of intervention have been completed. The mid term eye examination will start in February '89. The dietary survey as per IVACG guidelines have been completed and intake of vitamin-A classified. The serum of the same children has also been analysed to estimate their vitamin-A levels. The final evaluation and report are expected towards the end of 1989.

Dr. Barbara Underwood of National Eye Institute, USA has been actively collaborating in this study and visited the project in 1988.

Dr. Lakshmi and Dr. Barbara Underwood with the field supervisors



### **Conjunctival Impression Cytology Study:**

This project is being carried out by Aravind's department of Ocular Microbiology and Pathology with the technical assistance of National Eye Institute, Maryland, U.S.A. Two techniques of conjunctival impression cytology have been compared for their efficacy in field situation for the detection of subclinical vitamin A deficiency among children. The methods are being evaluated with respect to serum vitamin-A level and relative dose response to vitamin-A as detected by high performance liquid chromatography. The simple and atraumatic method of impression cytology, if equally reliable as blood tests, would be extremely useful in the fields in mass screening of children for the detection of subclinical vitamin-A deficiency.

### **Vanadium Stainless Steel Suture Project:**

Ophthalmic suture represents 30% of the total cost of cataract surgery. The World Health Organization is funding a study to evaluate the use of vanadium stainless steel (VSS) suture in cataract surgery to determine whether it is comparable to conventional suture in terms of safety and efficacy.

### **Rapid Survey Techniques for Ophthalmic Health Planning and Monitoring (Funded by BOSTID, USA):**

Main objectives:

1. To assess the diagnostic validity of non-professional ophthalmic staff in identifying cataract.
2. To assess the community acceptance and level of response to community ophthalmic assistants.

In this project, boys with high school education were selected and trained at Aravind for a period of 7 weeks - 6 weeks in basics of ophthalmology, with stress on diagnosis of cataract and one week in health education methods and maintenance of records. Such ophthalmic assistants were utilised at the eye camps in 25 villages. The patients coming to the camp were examined independently by two ophthalmic assistants and an ophthalmologist. The findings were matched and analysed using computers to establish the accuracy of diagnosing operable cataract:

- a) between the ophthalmologist and the ophthalmic assistant &
- b) between the ophthalmic assistants.

On analysis, it was found that the accuracy of diagnosis of operable cataract by ophthalmic assistants was more than 95% when compared to the ophthalmologists. Their acceptability by the public was also good as observed in the villages.

Based on this, we have started training volunteers from among social workers, implementing specific social programmes to identify and motivate operable cataract patients to undergo surgery. This is being done through Aravind Eye Hospitals at Madurai and Tirunelveli, covering areas in Trichy, Madurai, Ramanathapuram, Tirunelveli and Kanyakumari districts.







*In the end people are the catalyst for progress, as excellence comes only with the creativity and expertise of a caring and committed staff*





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