



ACTIVITY REPORT
Aravind Eye Care System **2006-07**

There are greatnesses hidden in our unseen parts
That wait their hour to step into life's front:
We feel an aid from deep indwelling Gods;
One speaks within, Light comes to us from above.
Our soul from its mysterious chamber acts;
Its influence pressing on our heart and mind
Pushes them to exceed their mortal selves.
It seeks for Good and Beauty and for God;
We see beyond self's walls our limitless self



Sri Aurobindo

'Savitri' Book VII, Canto II

ARAVIND EYE CARE SYSTEM

Mission

To eliminate needless blindness . . .

Aravind Eye Hospitals

. . by providing compassionate and high quality eye care

Community Outreach

. . through extending the reach of quality eye care to the poor and needy - through active community involvement, screening camps, and IT enabled Vision Centres in rural areas

Lions Aravind Institute of Community Ophthalmology (LAICO)

. . through teaching, training, capacity building, research, publications and advocacy to governments and voluntary agencies

Aravind Postgraduate Institute of Ophthalmology

. . through education and training programmes to develop ophthalmic human resources

Aravind Medical Research Foundation

. . by providing evidence through research and by translating existing evidence and knowledge into effective action

Aurolab

. . by making high quality ophthalmic products affordable and accessible to the vision impaired worldwide

Aravind Eye Banks

. . through eye banking: cornea retrieval, evaluation and distribution, training, research and public awareness programmes

Aravind Tele-Ophthalmology Network

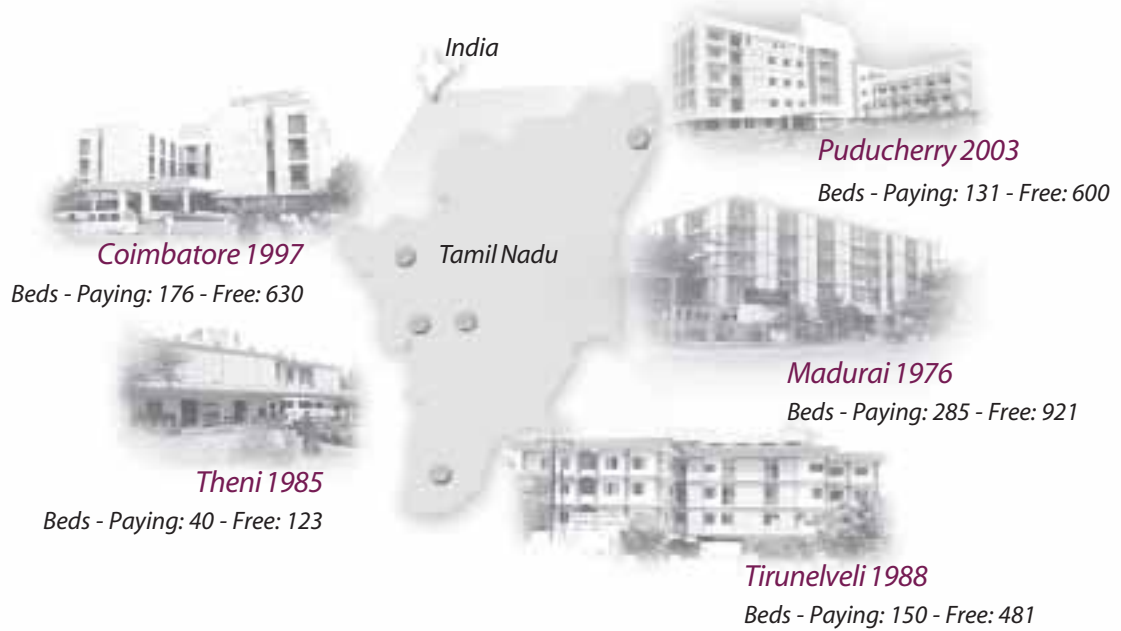
. . by employing IT to link ophthalmic specialists with patients in rural communities and getting geared to impart education and training in eye care with a global reach

Aravind Managed Eye Hospitals

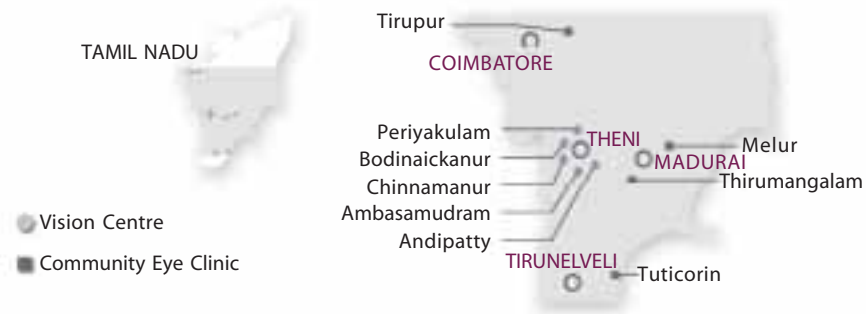
. . through working with partners in underserved areas of India and other developing countries

Aravind Eye Hospitals

The network of five Aravind Eye Hospitals and two Aravind Managed Eye Hospitals examined over 2.3 million patients and operated on over 270,000 in the last year. (April 2006 to March 2007)



Aravind Vision Centres & Community Eye Clinics



Aravind Managed Eye Hospitals

Management Contract Approach

– managing hospitals in underserved areas in India and other developing countries



Activity Report 2006 - 2007

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A Special Note to Readers

From this Activity Report onwards the period of reporting will be aligned with the financial year which is from April 1 to March 31 of the subsequent year. Since this is the year of transition, this report covers a period of 15 months from January 1, 2006 to March 31, 2007. Wherever it is of significance, the statistics have been shown separately for the period January 1, 2006 to March 31, 2006 and April 1, 2006 to March 31, 2007.

PHOTO CREDITS:

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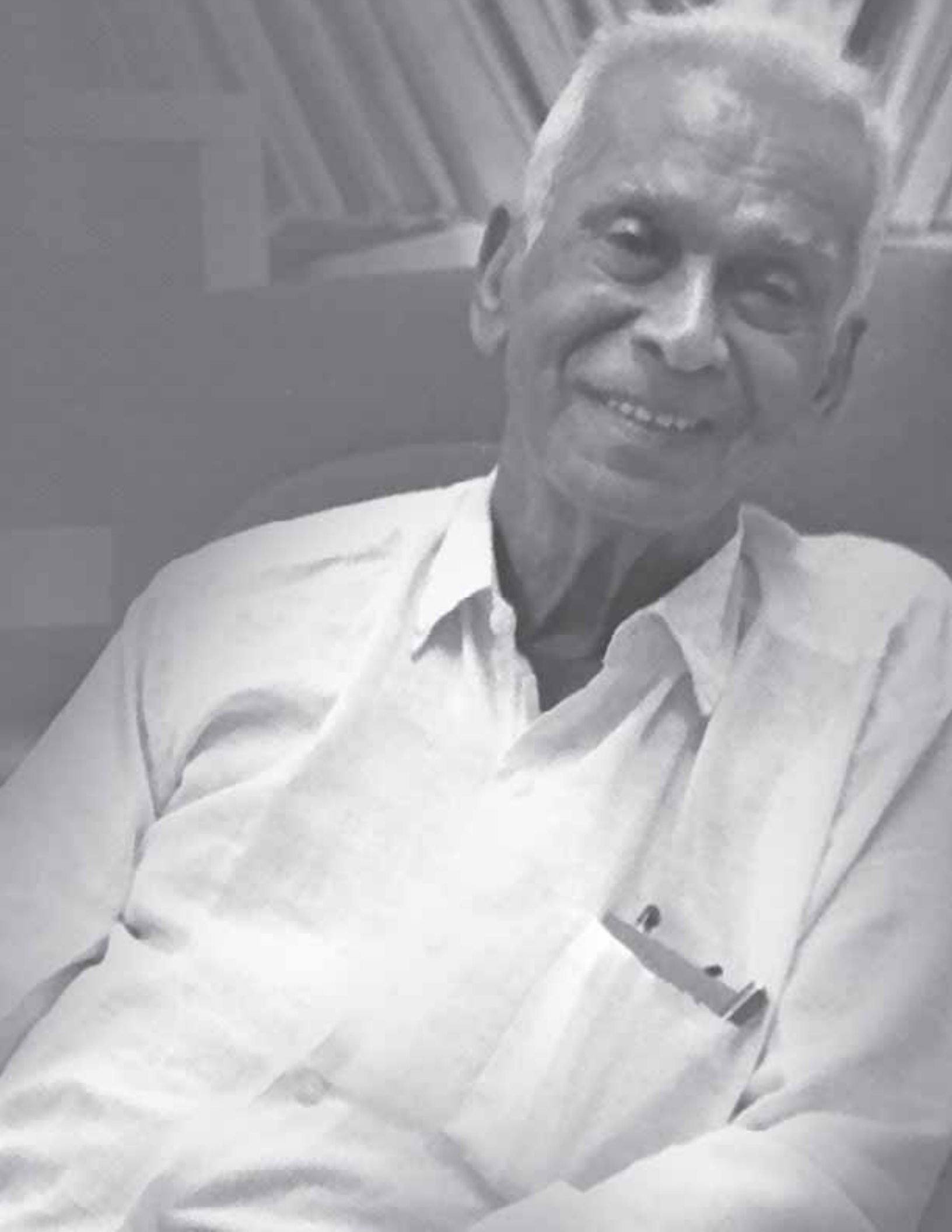
Rajkumar, Aravind-Madurai

Thirunavukkarasu, Madurai

The goal of life, Sri Aurobindo also taught, is not to escape from the world to some higher heaven, but to transform life on earth into a divine life. This process is accomplished, not by the mind, but by surrendering the mind and the vital life forces to the Divine-allowing the divine force to work on the body, the mind, and the life forces, and to transform them.

What I am really talking about is spiritualism. Spiritualism is a progressive awakening to the inner reality of our being, to a spirit, a self, a soul that is something other than our mind, body, and life. Spirit is an inner aspiration to know, to enter into contact and union with the greater reality beyond, a reality that also pervades the universe and dwells in us. As a result of that aspiration, contact, and union, there is a conversion, a turning, a birth into a new being.

- Dr. G. Venkataswamy



A Year of Loss and Renewal

Aravind Eye Care System will remember the year 2006 as the year it lost its Founder, the legendary Padma Shree Dr.G.Venkataswamy on July 7 . Dr V's life was a long dedication to serving the Divine through work in the field of eye care. His tireless vision, inspiring leadership as well as his selflessness and humility shaped Aravind into all that it is today. Following this loss came a paradoxical period for the institute of mourning his death, while celebrating the richness of his life and the immensity of his contribution to humanity. Hundreds of messages from around the world came pouring in from people touched by his life and work. The President of India himself made a personal visit to Madurai to pay homage to Dr.V, whom he has long regarded as "A Hero of Action". Dr V's passing made all members of the Aravind Eye Care System look within themselves and work even harder with renewed faith and the conviction towards the short-term goal of performing a million surgeries a year and as ever, its long term vision of eliminating needless blindness.



Leadership Retreat: To Realign

The year opened with a two-day Leadership Retreat attended by close to fifty hospital and departmental leaders within the Aravind Eye Care System including LAICO, Aurolab and Aravind Medical Research Foundation. This retreat served to realign a rapidly growing organisation with its higher purpose and to establish specific strategies to strengthen its work and effectiveness in a shifting environment.



The Leadership Retreat facilitated by Prof. Fred Munson and Ms. Cindy Harrison

Expanding Horizons: Infrastructure and Innovation

As in past years, significant additions to infrastructure continue to happen. The free inpatient wards and outpatient examination areas moved into a new and improved block at Aravind–Tirunelveli, thus also allowing for the release of much needed space for its paying section. At Aravind–Theni a whole new floor was added to provide larger areas for outpatient clinics,

operation theatre and teaching. Theni now has an independent residential campus to accommodate its staff, as well as a guest house for visitors. In Madurai, construction of the independent manufacturing facility for Aurolab is nearing completion. This facility is situated on the same grounds as Aurofarm. At Aravind–Puducherry, a state-of-the-art LASIK facility was added to address the demand for this service in the area.

In addition to accommodating the growth in routine activities, infrastructure was also added to facilitate innovations aimed at deepening the reach of eye care in

The Lasik-Zyoptix Centre for correction of refractive errors was inaugurated on December 15 by Dr. Subba Rao, Director – JIPMER at Aravind-Puducherry



the community. Today it is estimated that only one in ten of those in need of eye care actually gets it. Recognising the importance of addressing this problem, Aravind opened three more Vision Centres in the service area of Theni, at Chinnamanur, Bodinaickanur and Periyakulam. Community Eye Clinics were opened at Tirupur and Tuticorin, by Aravind–Coimbatore, and Aravind–Tirunelveli, respectively to provide comprehensive eye examinations in cities without ophthalmic services. With this the total number of Vision Centres and Community Eye



At the inauguration of the Community Eye Clinic at Tuticorin by Aravind-Tirunelveli on November 27



Aravind-Coimbatore inaugurated a Community Eye Clinic at Tirupur on December 6

Clinics now stands at five and four respectively. Together they are part of a larger plan to enhance access to eye care by having a permanent and distributed presence in the community. Through these initiatives Aravind plans to reach more people and enhance the quality of their lives. Aravind is grateful to International Eye Foundation for supporting this new initiative in the Theni area and to The Lavelle Fund for the Blind, USA for having generously agreed to support the establishment of another twenty vision centres. Most of these will be in place by the end of 2007.

Transcending Function: Technology and Innovation as New Core Strategy

Dr. V, during his three decades of leadership, encouraged his successors to constantly explore



The fourth Vision centre was inaugurated at Chinnamanur on March 20. This Vision Centre covers a population of about 90,000

new technologies and developments in other fields for furthering eye care to humanity. One such field was Information Technology. Over the years, IT for Aravind has transcended from being a tool for improving efficiency to becoming a core strategy for achieving its mission. All the five existing Vision Centres are interconnected with

Aravind - Theni through wireless broad band. This was possible thanks to the innovation and technical support of the IT team from University of Berkeley headed by Mr. Sonesh Surana under the leadership of Prof. Eric Brewer. IT is now being used at Aravind quite probably for the first time anywhere in the world to provide quality primary eye care. Projects are also underway to establish a Virtual University and web based distance learning programmes. The hospital management software developed in-house, has now become a tool for enhancing

efficiency and the year 2006 saw the installation of Aravind's Hospital Management Package across more hospitals in Bangladesh, Nepal and India.

Another milestone in Aravind's tele-medicine activities has been the designing and development of software for grading retinal images of patients with diabetes for diabetic retinopathy. This product named ADRES (Aravind Diabetic Retinopathy Evaluation Software), developed with financial support from Topcon, was formally launched in September.

Recognising that the services of a retina specialist are often not available locally, this software was created to make possible efficient grading of retinal images by trained Ophthalmic Technicians. This is already in use in remote rural eye camps, and quite soon its usage is expected to proliferate among diabetologists and secondary care eye hospitals across the developing world.

Aurolab, working in partnership with Project Impact, USA, developed the technology for hydrophobic foldable intraocular lens. After extensive trials following the product development guidelines, these lenses have now been released for regular use making Aurolab the first in the developing world to have this technology.



with the Topcon group at the 'ADRES' launch



The School of Optometry was launched at Madurai on April 12. At the inaugural address, Dr.G.Venkataswamy emphasised the impending need to provide good vision to rural public.

More Hands in Service: Training Developments at Aravind

On the education front, the year 2006 saw greater focus on management training. During the year, the first batch of seven fellows in Hospital Management, completed their training and are now providing administrative leadership to various departments across the system. For the first time, Continuing Education Programs were offered in the fields of Human Resource Management and in the application of Information

Technology in eye care. The latter was jointly conducted with Sankara Nethralaya under the aegis of VISION 2020 – The Right to Sight India. As is now customary, several national and international conferences in various clinical areas such as Uveitis and Neuro-Ophthalmology were hosted at Aravind. Recognising the need for strengthening its refraction services, a separate facility was established in Madurai with support from Essilor India Pvt. to house the “Aravind School of Optometry”. All training activities relating to refraction, optometry and optical dispensing have been brought under this

school. This school offers a 2 year Diploma in Optometry which is recognized by the Madurai Kamaraj University. It also offers other short term courses on optical related specializations.

Experimenting Elsewhere: Testimonials to Aravind's Replicability

In several parts of India and other developing countries, eye care services are struggling to deliver. With the gradual incremental growth that they have, the service levels will never catch up with the incidence of new cases resulting in an ever increasing backlog. In order to address this situation, two years ago Aravind embarked on a new strategy of partnering in developing and managing hospitals in such areas of need, as a strategy towards impacting the problem of blindness



Dr. Sunil Kumar, Mr. Vasanth and Dr. S. Aravind with Mr. Rahul Gandhi and Mrs. Sonia Gandhi at the first anniversary celebrations of Indira Gandhi Eye Hospital and Research Centre at Munshiganj

and achieving its goal of a million surgeries a year.

The opportunity came almost immediately leading to a partnership with Rajiv Gandhi Foundation. Through this partnership the Indira Gandhi Eye Hospital and Research Centre was established in Munshiganj, a small village near the town of Amethi in the state of Uttar Pradesh in North India. In 2006-07, the first full year of operation, the hospital performed

over 10,000 eye surgeries making it the largest provider of eye care in the entire state which has a population of 180 million. In spite of 70% paying a steeply subsidized rate, the hospital became financially viable from its third month of operation. This initial experiment in a rural village of Uttar Pradesh stands a strong testimony to the replication of the Aravind Model. It demon-



Mr. Suresh, Mr. Nagarajan, Dr. Suzanne Gilbert and Mr. David Green with Prof. Mohammed Yunus at Barisal in Bangladesh

strates the vital role that both the work systems and culture play a role far greater than that of mere name branding. It also demonstrates that even in an economically very poor and under developed area it is possible to offer high quality eye care to all in a financially sustainable manner. Armed with this experience and confidence, a blue print for further expansion in Uttar Pradesh, in the cities of Lucknow and Allahabad, has been developed.

Simultaneously the engagement with Grameen Bank in Bangladesh and Nobel Peace Laureate Mohammed Yunus has resulted in concrete plans for establishing two eye hospitals in Bangladesh at Barisal and Bogra. The staff members for these two hospitals were handpicked from Bangladesh and are undergoing training in Madurai both in the science of eye care and in the art of providing it with compassion. A similar project is underway in Amreli in Gujarat in collaboration with Nagardas Dhanji Sanghvi Trust.

Google Expertise for Aravind

Google Co-founder and President (Products), Larry Page, and Dr. Larry Brilliant, Google Foundation's Executive Director and friend of the Aravind family since inception, came to Aravind in August to pay tributes to Dr. V, see the work he left behind and explore how Google's expertise can help support Aravind's mission of eliminating needless blindness.

Mr. Larry Page with the Aravind IT team



Google Foundation's purpose is to leverage parent company Google's technical expertise for social causes. In this context several ideas were discussed for potential collaboration.

Laying the Foundation

On January 5, 2007 His Excellency Dr. A.P.J. Abdul Kalam, President of India laid the foundation stone for Dr. G. Venkataswamy Eye Research Institute at the site of the planned building, across the street from Aravind Eye Hospital-Madurai. Mr. Thangam Thennarasu, Hon. State Education Minister, Dr. T. Ramasamy, Secretary, Department of Science and Technology, Government of India, Dr. Lloyd Paul Aiello, Director, Beetham Eye Institute, Boston, USA, and Mr. Dilip Sanghvi, Managing Director, Sun Pharmaceuticals, Mumbai graced the occasion as guest-dignitaries.

Addressing the gathering of reputed scientists, doctors and citizens of Madurai, the President emphasised that complete vision is the mission that should be taken up by all those engaged in the task of eradicating needless blindness. It was indeed the lifetime mission of Dr. G. Venkataswamy, the President remarked. He said that the Institute will be a most fitting tribute for the noble soul who had relentlessly worked for giving light to the sightless people.

At the foundation stone laying ceremony



National Honour conferred

Dr. P. Namperumalsamy, Chairman of Aravind Eye Care System has been conferred with the Padma Shree Award for the year 2007. In recognition of his illustrious contribution to the cause of eliminating needless blindness, he was presented the award on March 23 at the Rashtrapathi Bhavan in New Delhi.

The award has cast on us an added responsibility to further enhance and extend our efforts to carry forward the mission set by Dr.V. This will infuse in us a new zeal and invigorate us to move ahead with unswerving determination for realizing Dr.V's vision of establishing a blind-free world"

-Dr. P. Namperumalsamy



That More May See: Growing Patient of Numbers

The core activities of patient care and training continue to grow. In the period covered by this report (January 2006-March 2007), including the work done in the Managed Eye Hospitals, a total of 2,870,682 outpatients were examined and 333,744 surgeries and laser procedures were performed. The training activities continue to expand with an increasing emphasis on development of eye care teams. During the year, several teams were trained to provide paediatric eye care and diabetic retinopathy services in addition to the ongoing activities and overall capacity building.

Several initiatives got underway during the year such as bringing out a series on "Management in Eye Care", web-based distance learning, and a new course on Project Management. In addition the routine activity of capacity building for hospitals and several management training courses were conducted.

In this time of exciting growth and intense activity, Aravind constantly faces new challenges and myriad opportunities to deepen its understanding of the pivotal roles it plays locally and globally. Standing on the extraordinary platform built over a lifetime by its beloved founder Dr V, it is poised to take on these challenges with reinforced strength, humility and gratitude for its partners in service around the world.

Performance: 2006-2007

Aravind Eye Hospitals

(includes Aravind Managed Eye Hospitals)*

April 2006 - March 2007

	Madurai	Theni	Tirunelveli	Coimbatore	Puducherry	Managed Eye Hospitals*	Total
HOSPITAL OUT-PATIENT VISITS							
Paying	426,561	55,641	196,045	284,763	177,754	80,031	1,220,795
Free Direct	154,754	23,498	69,859	104,734	52,484	-	405,329
OUTREACH							
Comprehensive Free Eye Camps	127,771	23,752	62,841	111,852	72,202	40,948	439,366
Diabetic Retinopathy Camps	19,199	3,740	10,717	13,297	24,040	-	70,993
Refraction Camps	9,119	5,191	5,577	2,716	3,506	7,880	33,989
School Eye Screening	29,484	2,805	9,610	24,811	12,521	6,203	85,434
Vision Centres	-	13,871	-	-	-	-	13,871
Community Eye clinics	31,291	-	7,816	4,514	-	-	43,621
TOTAL OUT-PATIENT VISITS	798,179	128,498	362,465	546,687	342,507	135,062	2,313,398
SURGERIES							
Paying	48,569	3,384	15,286	25,014	11,828	6,233	110,314
Free (Direct & Camp)	58,482	6,051	22,381	40,168	20,907	11,059	159,048
Special cataract surgery in Tripura	-	-	-	-	-	-	1,082
TOTAL SURGERIES	107,051	9,435	37,667	65,182	32,735	17,292	270,444

January 2006 - March 2006

HOSPITAL OUT-PATIENT VISITS							
Paying	84,531	13,920	42,822	57,450	35,604	16,934	251,261
Free Direct	34,166	5,283	14,169	21,593	12,666	-	87,877
OUTREACH							
Comprehensive Free Eye Camps	32,114	7,508	17,139	25,352	24,370	11,667	118,150
Diabetic Retinopathy Camps	9,149	329	14,558	638	13,655	-	38,329
Refraction	2,804	651	2,792	2,438	-	799	9,484
School Eye Screening	21,124	3,960	9,375	286	4,936	1,840	41,521
Vision Centres	-	2,846	-	-	-	-	2,846
Community Eye clinics	7,816	-	-	-	-	-	7,816
Total Outpatient visits	191,704	34,497	100,855	107,757	91,231	31,240	557,284
SURGERIES							
Paying	10,823	793	3,685	5,351	2,758	1,406	24,816
Free (Direct & Camp)	14,352	1,685	5,535	8,999	5,685	2,228	38,484
Total Surgeries	25,175	2,478	9,220	14,350	8,443	3,634	63,300

* Priyamvada Birla Aravind Eye Hospital, Kolkata ; Indira Gandhi Eye Hospital and Research Centre, Munshiganj, UP

SURGERY DETAILS:

April 2006 - March 2007

	Madurai	Theni	Tirunelveli	Coimbatore	Puducherry	Managed Eye Hospitals*	Total
Cataract Surgeries	72,360	7,572	26,615	45,389	24,385	14,895	191,216
Spl. Cat. Surgery Drive in Tripura							1,082
Trab. & Combined Procedures	2,341	156	998	1,456	515	407	5,873
Retina & Vitreous Surgery	2,770	5	506	3,078	668	20	7,047
Squint Correction	923	-	111	371	70	-	1,475
Keratoplasty	469	-	72	313	103	35	992
Pterygium	1,530	40	106	616	322	108	2,722
Ocular injuries	419	13	105	449	256	3	1,245
Lacrimal surgeries	2,791	121	825	901	745	50	5,433
Other orbit and							
Oculoplasty surgeries	3,870	148	664	1,252	596	-	6,530
Other Surgeries	1,909	97	584	1,341	1,096	195	5,222
Laser procedures	16,159	1,283	6,761	9,600	3,943	1,579	39,325
LASIK refractive surgery	1,510	-	320	416	36	-	2,282
TOTAL	107,051	9,435	37,667	65,182	32,735	17,292	270,444

January 2006 - March 2006

Cataract Surgeries	17,029	2,004	6,587	10,206	6,477	3,085	45,388
Trabeculectomy & Comb.procedure	564	40	244	299	104	152	1,403
Retina & Vitreous Surgery	655	-	119	774	160	-	1,708
Squint Correction	186	-	15	55	13	-	269
Keratoplasty	124	-	7	76	23	3	233
Pterygium	197	17	22	124	74	40	474
Ocular injuries	85	4	18	117	49	-	273
Lacrimal surgeries	642	28	167	219	157	20	1,233
Other orbit and							
Oculoplasty surgeries	832	48	145	302	158	-	1,485
Other Surgeries	496	42	102	284	253	59	1,236
Laser procedures	4,086	295	1,740	1,839	975	275	9,210
LASIK refractive surgery	279	-	54	55	-	-	388
TOTAL	25,175	2,478	9,220	14,350	8,443	3,634	63,300

* Priyamvada Birla Aravind Eye Hospital, Kolkata -; Indira Gandhi Eye Hospital and Research Centre, Amethi

Community Outreach

Community Outreach is an integral part of Aravind's efforts to eliminate needless blindness. Over 40% of the patients who undergo surgery at Aravind Eye Hospitals come through active outreach into the communities.

The year 2006-2007 witnessed a boost in Community Outreach activities that included opening of two more Vision Centres and two more Community Eye Clinics by Aravind Eye Care System in Tamil Nadu and the Women's Self Help Group workers (SHGs) in the field of eye care service through out the state.

At the Aundipatti Vision centre: Direct Consultancy with the Ophthalmologist through wireless networking



New Vision Centres and Community Eye Clinics

As a further step to increase uptake of eye care services in rural and remote areas Aravind is adapting the Comprehensive Primary Eye Care through Vision Centres

and Community Eye Clinics approach for the past three years. In 2006, two more vision centres were established in Chinnamanur and Periyakulam, bringing the total number to five. Community Eye Clinics were inaugurated in Tuticorin and Tirupur, bringing the total to four.

Comprehensive Eye camps

In 2006-2007 a total of 1793 comprehensive eye camps were conducted, screening 505,621 persons, of whom 112,825 underwent surgery.

Apart from the comprehensive eye camps, speciality camps for specific patient groups were also conducted.



Diabetic Retinopathy (DR) Screening Camps

From January 2006 to March 2007, through the DR camps 109,322 persons were screened, 24,321 identified as having diabetes and 4,304 afflicted with DR.

Eye Screening Camps for School Children

From January 2006 to March 2007, free eye examination was done to school children in 94 schools. Across the five Aravind Eye Hospitals, a total of 118,912 children were examined of which 8,068 were identified with eye disorders and advised further investigation and treatment.

Mr. Muthuramalingam explains the importance of refraction screening for school children at the teachers training programme



Dr. Natchiar with the SHG workers

rural population, Aravind Eye Hospitals offered training to identify common ocular defects and visual impairments in the rural population for referring to eye hospitals to the SHG workers of Hindustan Lever Limited. Since 2006 until now 171 SHG workers have received this training at Aravind Eye Hospital at Coimbatore, Madurai, Tirunelveli and Theni.



The Aravind team at the special cataract surgery drive in Tripura

of Tripura and performed 560 cataract surgeries at 4 centres. A total of 1527 such surgeries have been performed in all the three phases.

Refraction Camps

These are specially conducted for industrial workers. In 2006-07 a total of 162 camps were conducted where 34,794 employees were screened and 9,727 were found to have refractive errors and prescribed glasses.

Training Programmes in Eye Care

for School Teachers

In 2006-07 a total of 366 teachers were trained in identifying refractive errors, low vision and squint across all Aravind Eye Hospitals.

for Self Help Group (SHG) workers

As one more strategy to take eye care to the

Special Cataract Surgery drive in Tripura State

In continuation of the special project to clear the backlog of blindness in the North Eastern States, the third phase of the project was implemented in Tripura in October, 2006. A medical team from Aravind went to the state

OUTREACH PERFORMANCE

Aravind Eye Hospitals

January 2006 to March 2007

Sponsorwise Comprehensive Eye camps

Sponsor	Camps	Outpatients	Cataract	Other Surgeries	Total Surgeries
Lions Clubs	586	171,045	39,431	893	40,324
Rotary Clubs	89	29,267	7,128	212	7,340
Vivekananda Kendra	51	10,689	2,160	74	2,234
Sri Sathya Sai Orgns.	38	9,089	1,759	61	1,820
Religious-Spiritual organisations	127	34,415	2,709	237	8,347
Jaycees	5	1,727	316	11	327
Banks	16	5,516	707	16	723
Mills & Factories	89	34,710	6,930	188	7,118
DBCS	61	11,905	4,440	168	4,608
Educational Institutions	86	21,563	4,284	149	4,433
Hospitals	47	11,287	1,552	36	1,588
Trusts	128	39,200	8,084	208	8,292
Youth Welfare Association	34	11,277	1,934	57	1,991
Other Voluntary Organisations	211	48,033	10,164	190	10,354
Others	225	65,898	12,681	645	13,326
TOTAL	1,793	505,621	109,680	3,145	112,825

Eye Screening for School Children

	Madurai	Theni	Tirunelveli	Coimbatore	Puducherry	Total
Schools Covered	23	9	16	20	26	94
Teachers Trained	27	46	158	45	90	366
Students Screened	50,608	6,765	18,985	25,097	17,457	118,912
Students with Defects	3,159	405	1,503	1,647	1,354	8,068

Refraction Camps

	Madurai	Theni	Tirunelveli	Coimbatore	Puducherry	Total
No. of Refraction camps	49	39	31	26	17	162
Employees Screened	11,923	5,842	8,369	5,154	3,506	34,794
Glasses Prescribed	2,893	2,248	1,918	1,390	1,278	9,727
Glasses Ordered	2,374	2,096	1,761	1,263	931	8,425
On the Spot delivery	1,947	1,121	1,272	675	661	5,676

Diabetic Retinopathy Initiatives



Awareness Exhibition held at Aravind-Madurai

Awareness Seminars at Aravind-Coimbatore



Seminar for Paramedical Staff

According to WHO, a staggering 31.7 million people were affected by diabetes in India in the year 2000. This figure is estimated to rise to 79.4 million by 2030, the largest number in any nation worldwide. With the growing number of diabetics in India there is a simultaneous escalation in the number afflicted

with Diabetic Retinopathy. Timely intervention can prevent up to 60-70% of vision loss. With the support of World Diabetes Foundation (WDF) and Lions Clubs International, Aravind Eye Care System has engaged in various activities to reach out to the diabetics and has developed a model for screening and service delivery to control Diabetic Retinopathy. Understanding the urgency of the need and the inherent strength in this approach, the Sight Savers International has also joined with Aravind Eye Hospitals to tackle the problem of diabetic retinopathy in a systematic way.

Community Outreach

From January 2006 to March 2007, across all Aravind Eye Hospitals a total of 85 awareness seminars were conducted for 7,552 participants from various NGOs, and Primary Health Centres including, Medical Officers and twelve exhibitions were also conducted for general public.

Advancing Knowledge

As a Centre of Excellence in Diabetic Retinopathy under TIFAC-CORE (Technology Information, Forecasting and Assessment Council - Centre Of Relevance and Excellence) Aravind is becoming a world leader in

patient care, research and training related to Diabetic Retinopathy. Training and research initiatives since January 2006.

Clinical Studies

- 1) Prospective study to evaluate visual acuity, colour vision and contrast sensitivity in diabetic retinopathy patients pre and post PRP or focal or both.
- 2) PRP for PDR with diode and FD:YAG laser wavelengths : a case-control study

Ph.D. registration: One Research Fellow P. Murugeswari has registered for Ph.D programme titled “Molecular Mechanism of Diabetic Retinopathy” in affiliation with Madurai Kamaraj University, Madurai under the guidance of Dr.V.R. Muthukkaruppan, Faculty, TIFAC-CORE and Dr. P. Sundaresan, Senior Scientist.

Exchange Programme

- Dr. Olga Ceron, and Dr. Manvi Prakash, Research Fellows from Joslin Diabetes Centre, Beetham Eye Institute, Boston, USA as well as Dr. Haytham Salti, Lebanon were at the TIFAC-CORE centre for Training.
- TIFAC-CORE in Diabetic Retinopathy conducted the third International Symposium on “Diabetic Retinopathy and Age Related Macular Degeneration” from 5 to 7 January, 2007 with the objective to share the views on current developments and future trends in the field of Diabetic Retinopathy and ARMD.
- The TIFAC-CORE project has been extended for another two years specifically for research and training programmes in the field of “Proteomics and functional genomics of Diabetic Retinopathy”.

Remote Diagnosis

Remote evaluation of Diabetic Fundus through Tele-Ophthalmology approach:

ADRES

The software named Aravind Diabetic Retinopathy Evaluation Software (ADRES) was

developed by Aravind Eye Hospital’s TIFAC-CORE with the support of TOPCON South Asia Private Ltd, Singapore. This Diabetic Retinopathy Screening software, first of its kind in India was launched on September 27, 2006. This will be used at other eye hospitals where retina specialists are not available and diabetologists who, by using a fundus

camera, can send the retinal images of the diabetic patients to the reading centre at Aravind Eye Hospital for grading and further management.



Dr. P.Namperumalsamy hands over the first copy of 'ADRES' to Mr. Nakamura, Managing Director, Topcon South Asia Pvt. Ltd., Singapore

As a pilot, Aravind has installed in the M.V. Diabetes Centre at Madurai a non-mydratic fundus camera, software (ADRES) and a process for remote evaluation of fundus images of diabetic patients. The technician at M.V. Diabetes Centre trained at Aravind takes the fundus photographs of diabetics coming to them using a non-mydratic fundus camera and sends the images over the internet to the Reading and Grading Centre at Aravind Eye Hospital, Madurai using special software. The retina consultant at Aravind evaluates the images using specially designed grading software ADRES and sends the advice/opinion in a standardized report format to the diabetic centres again over the internet for further management of DR. This whole process could take as little as 20 minutes. This screening model was put in place on January 20, 2007. So far, fundus images of 189 patients from the Centre

were graded at Aravind and 40 patients were referred to Aravind Eye Hospital. This remote diagnosis approach using information technology is the first of its kind and holds immense possibility of reaching and saving the sight of the millions of diabetics all over the world.

In 2006, the Mobile Screening Unit with V-SAT connectivity travelled to 60 screening camps where a total of 21,063 outpatients were screened for general eye examination, of this 2,294 diabetic patients' fundus images were sent to the Reading and Grading Centre for expert opinion. Around 400 patients were found to have Diabetic Retinopathy.



World Diabetes Day Celebrations at Aravind-Coimbatore

World Diabetes Day 2006

In connection with the World Diabetes Day, several awareness activities and screening activities were carried out in all Aravind Eye Hospitals.

Training and HRD

Academic courses for Ophthalmologists

- o Fellowship in Diabetic Retinopathy & Medical Retina – One candidate trained
- o Certificate Course in Diabetic Retinopathy – 17 Candidates trained

Academic courses for Ophthalmic Technicians

- o Certificate Course in Fundus Fluorescein Angiography and Ultrasonography - 2 Candidates trained

Diabetic Retinopathy Camps

April 2006 - March 2007

WDF - Aravind Diabetic Retinopathy Project (through exclusive DR camps*, Regular camps and Awareness camps)

	Madurai*	Theni*	Tirunelveli	Coimbatore	Puducherry	TOTAL
Patients screened	19,199	3,740	10,717	13,297	24,040	70,993
Identified diabetics	3,584	1,071	3,591	5,468	4,370	18,084
Found to have DR	572	164	840	1,180	629	3,385

January - March 2006

Patients screened	9,149	329	14,558	13,655	24,040	38,329
Identified diabetics	1151	183	3185	310	1408	6,237
Found to have DR	198	25	467	42	187	919

*At Aravind-Madurai and Theni the DR screening eye camps, have continued after the completion of Lions Diabetic Retinopathy Project that ended by December 2004.

Education and Training Programmes

Aravind's mission to provide the highest quality of eye care to all people also means offering the finest training to those who provide eye care services. Educating providers requires the same attention to detail and striving for excellence that has governed the delivery of eye care at

Cornea Fellowship Programme



Lasers in Diabetic Retinopathy Management Course

Course in Fundus Fluorescein in Angiography and Ultrasonography



Candidates Trained from January 2006 - March 2007

OPHTHALMOLOGISTS

Courses offered	Duration	Trained
Postgraduate Training in Ophthalmology		
Diploma in Ophthalmology (DO)	2 years	8
MS in Ophthalmology (MS)	3 years	6
Diplomate of the National Board (Dip.NB)	3 years	10
Long Term - Ophthalmology Fellowship		
Retina - Vitreous	2 years	5
Cornea	18 months	6
Paediatric Ophthalmology and strabismus	18 months	7
Glaucoma	2 years	5
Ant. Segment/IOL Microsurgery	2 years	16
Uvea	18 months	-
Orbit and Oculoplasty	18 months	4
General Ophthalmology	18 months	6
Comprehensive General Ophthalmology	2 years	1
Short Term - Ophthalmology Fellowship (for Overseas students only)		
Paediatric Ophthalmology and strabismus	6 months	2
Orbit and Oculoplasty	6 months	1
Cornea	6 months	1
Short Term - Clinical Courses		
IOL Microsurgery	1 month	70
Manual Small Incision Cataract Surgery	1 month	95
Phacoemulsification	1 month	59
Lasers in Diabetic Retinopathy Management	2 months	53
Diagnosis and Management of Glaucoma	8 weeks	52
Training in Low vision	1 month	14
Orientation to Paediatric Ocular Anesthesia for Anesthetist	1 month	1
Certificate Course in Fundus Fluorescein Angiography and Ultrasonography	2 months	5



Dr. Prajna with ophthalmology residents from the US

Aravind since inception. The education and training at Aravind Eye Hospitals have redefined the role of ophthalmologists and the ophthalmic paramedical staff in the developing world.

Apart from the structured courses offered, requests to meet specific clinical training needs from collaborating organizations are also accommodated on a case to case basis.

Ophthalmology Residents from various universities in the US rotate through Aravind during the final year as part of their Residency in Ophthalmology. From January 2006 to March 2007, twenty such students rotated through Aravind Eye Hospitals.

Dr. Tiruvengada Krishnan along with Dr. Hutchinson and Dr. Bradford Shingleton

Internal Capacity Building-Speciality Training

USA, October 23 - November 20



Dr. K. Tiruvengada Krishnan, Consultant Cornea and Cataract surgeon from Aravind-Puducherry was in the US visiting various Ophthalmic Institutes to gain exposure in the field of corneal external diseases. In Boston, he worked with Dr. Bradford Shingleton, Consultant Cataract and Glaucoma surgeon and with Cornea and Refractive surgeons Dr. Michael Raizmann, Dr. Nicolette and Dr. Fynn Thompson. At John A Moran Eye Center at Salt Lake City, Utah, he observed the works of Dr. Geoff Tabin, an eminent corneal surgeon, Dr. Mashjid Moshifarr, Dr. Randell Olsen and Dr. Mark Mifflin. He was exposed to the latest DSAEK and the Refractive surgeries.



MLOP Training

Mid Level Ophthalmic Personnel Training

Aravind is built extensively on the support of paramedic staff-optometrists, counsellors, theatre nurses and patient-care administrators all of whom are trained in one of its five hospitals. Apart from this, the following courses are also offered.

Candidates Trained from January 2006 - March 2007

MID LEVEL OPHTHALMIC PERSONNEL

Courses offered	Duration	Candidates
Long Term Courses		
PG Diploma in Optometry	2 years	7
PG Diploma in Ophthalmic Assistance	2 years	4
Short Term Courses		
Course in Optical Dispensing	3 months	25
Training for Orthoptist	6 months	7
Training for Paediatric Nurses	3 months	10
Training for Paediatric Counsellors	2 months	10

PG Diploma in Optometry



Major Continuing Medical Education Programmes organised at Aravind

PHACO EXCEL 2006 - Learning and Mastering Manual SICS, PHACO and Microphaco

Aravind-Puducherry, January 27-29, 2006

PHACO Excel – 2006 comprised of several engrossing sessions encompassing lectures and live surgical demonstrations by accomplished surgeons, both by Aravind doctors and renowned guest faculty. In addition to these, there were wet lab sessions, where the participants had hands-on experience of the surgeries. A total of 174 candidates participated in this programme.



at the wet lab session

The guest faculty were Dr. Sanduk Ruit, Tilganga Eye Centre, Dr. Kevin from UCLA

School of Medicine, Dr. Abhay R. Vasavada, from Iladevi Cataract & IOL Research Centre, Ahmedabad, Dr. Steve Miller, USA, Dr. Mohan V, Bangalore.

Cornea, Refractive Surgery & Ocular Surface Disorders

Aravind-Madurai, October 14-15, 2006



*Dr. Rajesh Fogla,
Dr. M. Srinivasan, Dr. Virender S.
Sangwan, and Dr. G. Natchiar*

The symposium was held to meet the training needs of Ophthalmology residents, General Ophthalmology practitioners and those interested in the Cornea and Refractive Surgery Subspeciality. A total of 70 delegates from different parts of Southern India participated. Dr. Virender S. Sangwan from L.V. Prasad Eye Institute, Hyderabad, and Dr. Rajesh Fogla from Apollo Hospitals, Hyderabad were the Guest faculty.

Update in Neuro Ophthalmology

Aravind-Puducherry, December 9 -10, 2006

This Update was held to meet the needs of Ophthalmology residents, ophthalmology practitioners, neurologists and neurosurgeons. A total of 86 delegates participated in this conference.

*Dr. Sharon Tow through
teleconferencing from
Singapore National Eye
Centre*

The guest faculty were Dr. Sharon Tow through videoconferencing from Singapore National Eye Centre, Dr. V. Jayakumar, JK Institute of Neurology, Madurai, and Dr. Santhosh Joseph, Sri Ramachandra Medical College & Research Institute, Chennai.





*Dr. Philip Thomas,
Dr.M.Srinivasan,
Dr.H.N.Madhavan,
Dr.P.Namperumalsamy and
Dr.Savitri Sharma*

Dr. H.N. Madhavan from Sankara Nethralaya, Chennai, Dr. Savitri Sharma from Bhubaneswar Eye Institute, and Dr. Philip Thomas from Joseph Eye Hospital, Trichy were the Guest faculty.

CME on Ocular Microbiology

Aravind-Madurai, August 5, 2006

This CME was jointly organised by the Department of Microbiology, Madurai Medical College and Aravind Eye Hospital to create awareness among microbiologists and ophthalmologists about the common organisms causing eye infections.

International Symposium on Diabetic Retinopathy and Age Related Macular Degeneration

Aravind-Madurai, January 5-7, 2007

Aravind – TIFAC-CORE (Technology Information, Forecasting Assessment Council – Centre of Relevance and Excellence) in Diabetic Retinopathy conducted the third International Symposium on “Diabetic Retinopathy and Age Related Macular Degeneration” from January 5-6, 2007. The objective of the symposium was to share views on current developments and future trends in the field of Diabetic Retinopathy and ARMD. Around 150 people including ophthalmologists, postgraduates, consultants, diabetologists, postgraduates in genetic studies

from various hospitals and institutions from all over India participated in the symposium.

The international faculty were from the leading institutions in the US like Joslin Diabetes Center, Harvard Medical School, Boston, Bascom Palmer Eye Institute, Miami, Florida, Wilmer Eye Institute, Baltimore. Some of the interesting clinical and genetic lectures were telecast through video-conference from Joslin Diabetes Center, Boston, USA.



*Dr.P.Namperumalsamy
delivering the inaugural
address*

Sixth All India Uveitis Conference

LAICO, December 2-3, 2006

The conference provided concrete solutions and ready references for busy practitioners and

postgraduates to manage patients with blinding ocular inflammatory diseases. A total of 160 delegates from various parts of India participated in the conference. There were 7 international speakers from 6 different countries and 26 speakers from all over India. Dr. Narsing.A.Rao was the Chief guest of the programme.

*Dr.Narsing A.Rao delivering
the keynote address*



Major Conferences Attended Elsewhere

Sixth National Conference of the Society for Indian Human and Animal Mycology (SIHAM)

Hyderabad, January 19-22, 2006

DR. M. JAYAHAR BHARATHI

- *Spectrum of fungal keratitis in South India*
- *The role of corneal scraping smears (10% KOH wet mount preparation and Gram-stained smear) in the diagnosis of fungal keratitis*
- *"Procedures and Techniques in Mycology"*,
- *"Antifungal Chemotherapy from the Laboratory to the Bedside"*

DR. LALITHA

- *Antifungal susceptibility testing of filamentous fungi to newer azoles and Natamycin.*



Dr. M. Jayahar Bharathi with Professor D W Denning at SIHAM

National Workshop on Diabetic Retinopathy

Chaitanyapur, January 31–February 1, 2006

DR. P. NAMPERUMALSAMY

- *Setting up of DR services*

Dr. Manohar Babu at the Second Congress of Fuzhou Academy of ophthalmology



Dr. P. Vijayalakshmi, Dr. Usha and Dr. Rathinam at the World Ophthalmology Conference in Sao Paulo

World Ophthalmology Conference

Sao Paulo, Brazil, February 16-26, 2006

DR. P. VIJAYALAKSHMI

Participated as a chair person for the course Update on Congenital Cataract

- *Update on Congenital Cataract – A roadmap for curing paediatric cataract blindness in the developing and developed world*
- *How to Conduct training Programme in Surgical Management of Paediatric cataract*
- *Training in Paediatric Ophthalmology and Strabismus in India*

She also participated in the Tenth International Strabismological Association meeting and Latin American Council of Strabismus

DR. RATHINAM

- *Leptospirosis & Ocular complications*
- *Trematode Uveitis: Epidemiology, Diagnosis and Treatment*

DR. USHA KIM

- *Cost effective surgical technology and systems for high quality, large volume cataract surgery*
- *Role of Mid Level Ophthalmic Paramedical staff (MLOPS) in Developing countries*
- *Spectrum of Orbital Disorders in South India - Aravind Experience*
- *NPOs in the Development of Appropriate Technology in Eye Care - Aravind experience*

DR. SIDHARTHAN, DR. R. REVATHI, DR. CARLOS ARCE

POSTER PRESENTATION

Posterior corneal surface changes after uncomplicated myopic LASIK using ORBSCAN II Videokeratography.

Second Congress of Fuzhou Academy of Ophthalmology

Fuzhou, China

DR. MANOHAR BABU

- *Aravind Eye Care System*
- *High volume cataract surgery*
- *Community outreach*

WDF- Diabetes Summit 2006

Hanoi, Vietnam, February 21– 23, 2006

Dr. P. Namperumalsamy was invited to the Conference to speak and poster was also displayed on

- *Aravind-WDF Diabetic Retinopathy Project Management.*



Dr. P. Namperumalsamy at the WDF-Diabetes Summit 2006

The American Society of Cataract and Refractive Surgery ASOA 2006 Symposium & Congress

San Francisco, USA, March 17-22, 2006

DR. ARAVIND SRINIVASAN

- *Transition to Phaco – A structured training program to make the transition safe*
- *Comparing bimanual phaco and Micro coaxial Phaco with OZIL*

Investigators Meeting on Intravitreal Fluocinonide acetamide for Refractory Diabetic Macular edema (Phase III Human Trials)

Malaysia, April 14-16, 2006

Aravind Eye Care system involved in FAME study from India. Dr. V. Narendran, Dr. Rodney Morris, Dr. R.D. Ravindran, Dr. R. Ramakrishnan, Dr. Sandeep & Dr. Satheesh attended the meeting. Dr. Narendran and Dr. Rodney Morris paid a visit to Alexandra Hospital, Singapore and met Dr. Prof. Au Eong Kah Guan.

Allergan Uveitis Investigators Meet

France, April 22-23, 2006

Dr. S.R. Rathinam, Dr. K. Chandramohan and Dr. Manohar Babu attended the meeting.



Dr. S.R. Rathinam, Dr. K. Chandramohan and Dr. Manohar Babu at the Allergan Uveitis investigators meet in Paris, France

Association for Research in Vision and Ophthalmology (ARVO) 2006 Annual Meeting – Building International Collaborations

Fort Lauderdale, Florida, May 1-4, 2006

DR. N. VENKATESH PRAJNA

- Resources and Research Interest of the Indian Research Centres

Poster Presentation

- Safety and Efficacy of Gatifloxacin 0.3% as compared with Ciprofloxacin 0.3% for the Treatment of Acute Bacterial Corneal Ulcers
- Effect of Gatifloxacin 0.3% and Ciprofloxacin 0.3% on Acute Bacterial Corneal Ulcer Isolates

DR. PARAG K. SHAH

- Aggressive Diagnosis and Management of Aggressive Posterior Retinopathy of Prematurity

Colombo Ophthalmological Society

Colombo, May 19-21, 2006

DR. P. SATHYAN

- Recent advances in medical management
- Newer visual fields
- Target IOP

Asia Pacific Academy of Ophthalmology Meeting

Singapore, June 10-14, 2006

DR. N. V. PRAJNA was invited to speak on

- "Host responses to fungal Keratitis"

DR. ARAVIND SRINIVASAN

- Challenging Cataract surgeries using Ozil technology

Immunization Unit of the Pan American Health Organization (PAHO)

Washington, July 10-11, 2006

"Ad-hoc meeting of experts to establish best practices in congenital rubella syndrome (CRS) surveillance".

DR. P. VIJAYALAKSHMI

- Prospective population-based (active) surveillance for congenital rubella syndrome in South India

XI Congress & XXXII National meet of Indonesia Ophthalmologists Association

North Sumatra, August 2-5, 2006

DR. SHIVAKUMAR CHANDRASHEKARAN

- Small Incision Cataract Surgery and also performed SICS for live demonstration during the conference.

LVPEI Eye Bank

Hyderabad, August 7-21, 2006

Dr. M. Srinivasan visited LVPEI as external evaluator of the ORBIS-ESI-LVPEI International training and resource centre for eye banking and cornea fellowship project.

International Retina Congress – Scientific Programme

Bangalore, August 11 - 13, 2006

DR. R. KIM

- Session on Advances in Diagnostics "Multifocal ERG"
- Session on Diabetic retinopathy "Diabetic retinopathy Epidemiology in India and screening strategies"
- Session on Pneumatic Retinopathy "Update on PVR"

DR. SANGHAMITRA KANUNGO

Session on Debate by Fellows

- Eales' disease – Tuberculosis to be blamed

World ROP Meet

Srilanka, September 14-16, 2006

DR. NARENDRAN

- Lens Sparing Vitrectomy in ROP
- Vasculogenesis and risk factors
- Comparison of threshold ROP in Southern India and Southern California

DR. PARAG K. SHAH

- Presumptive oxygen induced toxicity presenting as unusual form of zone I aggressive posterior retinopathy of prematurity in bigger preterm infants.

VIII Ophthalmological Congress of SAARC Countries & XV Annual session of the College of Ophthalmologists

Sri Lanka, September 19-24, 2006

The Programme was on "Critical Review of the present scenario of community eye health in SAARC countries".

DR. P. NAMPERUMALSAMY,

Chairman, Aravind Eye Care System gave a keynote address

- Diabetic Retinopathy – An impending epidemic blindness in India

DR. S. ARAVIND

- Influence of fluidics while optimizing the energy delivery modalities

DR. HARIPRIYA ARAVIND

- New Surgical Horizons, Micro-Coaxial and Torsional Phaco

DR. KALPANA NARENDRAN

- IOL Monofocal Advances: Aspheric Optic IOL Technologies

DR. VASUMATHY VEDANTHAM was invited as a faculty

- New researches and studies in ROP

DR. NARENDRAN

- Vasculogenesis and risk factors

Dr. P. Vijayalakshmi with the immunization unit of the Pan American Health Organization (PAHO) conference in Washington



International Low Vision Workshop

Shroff Eye Hospital, New Delhi,
October 4 – 7, 2006

Dr. K. Ilango was invited as a guest faculty.

DR. K. ILANGO

- *The Overview of Low Vision in South Asian countries*
- *Challenges and models in Low Vision*
- *Low Vision optical and non optical aids*
- *Principles in Low Vision management*
- *Assessment of a person with Low Vision.*

Hospital Based Programme

People Eye Centre, Peking University,
Beijing, China, October 6-12, 2006

DR. P. VIJAYALAKSHMI

- *Dissociated Vertical Deviation*
- *Paralytic Strabismus*
- *Promotion of Paediatric Eye care*
- *Amblyopia Diagnosis and Management*

DR. NARENDRA

- *Effective Screening - When and how to perform*
- *Management of ROP.*

XVII th Annual Conference of the Oculoplastics Association of India

Lucknow, October 28-29, 2006

DR. USHA KIM

- *Eye Lid: Managing Congenital ptosis*
- *Orbital implantation technique*
- *Socket and Anesthetics: Indices in clinical assessment of anophthalmos. She also conducted a Quiz Programme.*

ISB - Health Care Summit 2006

Hyderabad, November 4, 2006

Dr. P. Namperumalsamy, Chairman of Aravind Eye Care System attended the meeting as a keynote speaker on "Innovations in rural health care delivery models in India".

Dr. Narendran and Dr. P. Vijayalakshmi with Peking University Eye Centre staff in Beijing



Dr. P. Namperumalsamy at the in ISB-Health care summit 2006 in Hyderabad

American Academy of Ophthalmology (AAO) and Asia Pacific Academy of Ophthalmology (AAPO) Joint Meeting

Las Vegas, November 11 - 14, 2006

DR. R. RAMAKRISHNAN AND DR. R. VENKATESH

CONDUCTED TWO INSTRUCTION COURSES

- *Instruction course on Manual Small Incision Cataract Surgery (SICS)*
- *Instruction course on Manual (SICS) Combined with Trabeculectomy.*

Both the courses were well attended by more than 50 delegates. In addition to Dr. R. Ramakrishnan and Dr. Venkatesh, Dr. Alan Robin from Baltimore, USA and Dr. Martin Spencer from Vancouver, Canada also spoke in the courses.

Dr. Thiruvengada Krishnan was the speaker at the Instruction course on Manual SICS – Aravind Technique and on Wound construction of Manual SICS conducted by Dr. R. Venkatesh. In addition, he also did the scientific poster presentation on Secondary Pseudomonas infection following contamination of Antifungal Agents.

Dr. R. Ramakrishnan, Dr. R. Venkatesh and Dr. Thiruvengada Krishnan at the AAO Meet at Las Vegas



Regional Workshop on Diabetic Retinopathy

Cairo, Egypt, November 20-22, 2006

Dr. R. Kim participated as WHO temporary Adviser and gave the presentations on

- *Early detection and efficient screening of diabetic retinopathy*
- *Technology issues in screening.*



Dr. R. Kim at the Regional Workshop on Diabetic Retinopathy in Cairo

Orbit and Oculoplasty

Al Noor Magrabi Eye Hospital,
November 20, 2006

DR. USHA KIM

- *Spectrum of orbital diseases in South India*
- *Surgical management of ptosis.*

DR. MURALIDHAR

- *Evaluation of Paralytic Strabismus*
- *Management of Paralytic strabismus*

Gujarat State Ophthalmology Conference

Ahmedabad, December 1, 2006

DR. HARIPRIYA ARAVIND

- *SICS in Challenging Situations*
- *Clinical Significance of SICS*
- *PCO: Aetiopathogenesis, Clinical Relevance and Evaluation*
- *Phacoemulsification in Subluxated Cataracts.*

DR. P. VIJAYALAKSHMI

- *Cataracts in children: Evaluation and management*
- *Visually impaired child. What next?*

Cataract Symposium Meeting

China, December 15-17, 2006

Dr. S. Aravind attended the High Volume, High Quality and Low Cost Cataract symposium. The meeting was attended by 70 delegates from different parts of China. Apart from lectures he performed live surgeries and participated in the wet lab sessions.

International Health Care Leadership Summit

Madras Medical Mission-Chennai,
January 12-13, 2007

DR. P. NAMPERUMALSAMY

- *Ethos and success of Aravind Eye Care system*

Articles Published in Peer Reviewed Journals

AMERICAN JOURNAL OF OPHTHALMOLOGY

VOL: 142 (5) 2006 NOV. P.880-883 Type: Report

VEDANTHAM, VASUMATHY VATS, MUKESH MOHAN;
KAKADE, SATHYA J; RAMASAMY, KIM
- *Diffuse Unilateral Subacute Neuroretinitis with Unusual Findings*

VOL: 141(3), P.498-507

SIVAKUMAR R. RATHINAM, NARSING A. RAO
- *Sympathetic Ophthalmia Following Postoperative Bacterial Endophthalmitis: A Clinicopathologic Study*

ARCHIVES OF OPHTHALMOLOGY

VOL: 124 (2) 2006 FEB. P.284 Type: Photo Essay

THAKKER, MANOJ M; USHA, KIM R
- *Orbital Foreign Body and Ruptured Globe from Needlefish Impalement*

VOL: 124 (2) 2006 FEB. P.287-288 Type: Letter

VEDANTHAM, VASUMATHY
- *Optical Coherence Tomography Findings in Macular Hole Due to Argon Laser Burn*
DR. P. SATHYAN
- *Dislocation of CTR and IOL in the bag*

ASIAN JOURNAL OF OPHTHALMOLOGY

VOL: 8 (3) 2006 P.102-104 Type: Reprint

JETHANI, JITENDRA DAGAR, ABHISHEK, VIJAYALAKSHMI PERUMALSAMY; KARTHIK PRAKASH
- *Vertical Misalignment and Its Comparison with Head Tilt in Patients with Peripheral Lateral Rectus Palsy*

VOL: 8 No: 6 DEC, 2006 232-235.

RAHI MEHATA, GEORGE PUTHURAN, RAMASAMI KRISHNADAS, RAJENDRA MAHALAKSHMI
- *Efficacy of Transscleral Diode Laser Cyclophotocoagulation for refractory Glaucomas in a South Indian Population*

ASIAN JOURNAL OF EXPERIMENTAL SCIENCES

VOL.20, Supplement 2006, 15-28.

SUGANTHALAKSHMI BALASUBBU, ANAND RAJENDRAN, KIM RAMASAMY, PERUMALSAMY NAMPERUMALSAMY AND PERIASAMY SUNDARESAN
- *Emerging Patterns of Possible Potential Candidate Gene Polymorphisms Associated with Diabetic Retinopathy - A Review*

BRITISH JOURNAL OF OPHTHALMOLOGY

VOL 90 April 2006: Pg 411-416

Y D SAPKOTA, G P POKHAREL, P K NIRMALAN, S D LULAL, I M MAHARJAN, AND K PRAKASH
- *Prevalence of blindness and cataract surgery in Gandaki Zone, Nepal*

VOL: 90 (7) 2006 JUL. P.847-851

GRITZ, D C SRINIVASAN, M; SMITH, S D; KIM, U; LIETMAN, T M; WILKINS, J H; PRIYADHARSHINI, B; JOHN, R K; ARAVIND, S; PRAJNA, N V; THULASIRAJ, R DURAISAMI; WHITCHER, J P
- *The Antioxidants in Prevention of Cataract Study: effects of Antioxidant supplements on cataract progression in South India*

VOL: 90 (8) 2006 AUG. P.968-970

MAUNG, N THANT, C C; SRINIVASAN, M; UPADHYAY, M P; PRIYADARSINI, B; MAHALAKSHMI, R; WHITCHER, J P
- *Corneal Ulceration in South East Asia II: a strategy for the Prevention of fungal keratitis at the village level in Burma*

VOL: 90 (9) 2006 SEP. P.1125-1127

MYINT, K SAHAY, R; MON, S; SARAVANAN, V R; NARENDRAN; DHILLON, B
- *Worm in the Eye: the rationale for treatment of DUSN in South India*

VOL: 90 (10) 2006 OCT. P.1271-1276

BHARATHI, M J RAMAKRISHNAN, R; MEENAKSHI, R; MITTAL, S; SHIVAKUMAR, C; SRINIVASAN, M
- *Microbiological Diagnosis of Infective Keratitis: Comparative evaluation of direct microscopy and culture results.*

VOL: 90 (12) 2006 DEC. P.1472-1475

SRINIVASAN, M UPADHYAY, M P; PRIYADARSINI, B; MAHALAKSHMI, R; WHITCHER, J P
- *Corneal Ulceration in South-East Asia III: prevention of fungal keratitis at the village level in south India using topical Antibiotics*

VOL: 90, 2006. Pg. 276-278

GETSHEN K, SRINIVASAN M, UPADHYAY M P, PRIYADARSINI B, MAHALAKSHMI R, AND WHITCHER J P
- *Corneal ulceration in South East Asia. I: A model for the prevention of bacterial ulcers at the village level in rural Bhutan*

VOL: 91 (3) 2007 MAR. P.279-281

VENKATESH, RENGARAJ TAN, COLIN S H; THIRUMALAI KUMAR, THANGAVEL; RAVINDRAN, RAVILLA D
- *Safety and Efficacy of Manual Small Incision Cataract Surgery for Phacolytic Glaucoma*

CATARACT REFRACT SURG TODAY

VOL: 6 (3) 2006 MAR. P.45-47 Type: Reprint

RAVINDRAN, R D; THULASIRAJ, R D
- *Aravind Eye Care System: developing sustainable eye care*

JOURNAL OF CATARACT & REFRACTIVE SURGERY

VOL: 32 (6) 2006 JUN. P.914-917

HARIPRIYA, ARAVIND; ARAVIND, SRINIVASAN; VADI, KAVITHA; NATCHIAR GOVINDAPPA
- *Bimanual microphaco for posterior polar cataracts*

VOL: 32 (9) 2006 SEP. P.1584-1585

SATHYAN, PARTHASARATHI; MYINT, KYAW; SIGH, G; SATHYAN, PADMA
- *Late green discoloration of Allergan SI-40NB silicone intraocular lens*

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SARAVANAN, VEERAPPAN RATHINASABAPATHY; SINGH, GURDEEP; NARENDRAN, VENKATAPATHY; SATHYAN, PARTHASARATHY
- *Managing the IOL-CTR-CB Complex*

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VOL: 19 (57) 2006 MAR. P.13 Type: Reprint

NAMPERUMALSAMY, P
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STEFANO BARABINO, ANITA RAGHAVAN, JAY LOEFFLER, AND REZA DANA
- *Mini-Review Radiotherapy –induced Ocular Surface Disease*

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LALITHA, PRAJNA; SRINIVASAN, MUTHAIAH AND PRAJNA, VENKATESH
- *Rhodococcus Ruber as a Cause of Keratitis*

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REVATHI RAJARAMAN, MS, DO; SACHIN MATHEW GEORGE, DIP NB, FRCS; ANITA RAGHAVAN, DO, FRCS
- *Ocular Indigo Dye Injury*

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PRAJNA LALITHA, MD; MAMTA TIWARI, MD; NAMPERUMALSAMY VENKATESH PRAJNA, DNB, FRCOPTH; CHRISTOPHER GILPIN, PHD; KARTHIK PRAKASH, MSc; MUTHAIAH SRINIVASAN, MD
- *Nocardia Keratitis: Species, Drug Sensitivities, and Clinical Correlation.*

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VEDANTHAM, V

- "Optical Coherence Tomography Findings in a Case of Chronic Welder's Maculopathy"

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MYINT, K SAHAY, R; MON, S; SARAVANAN, V R;

NARENDRAN, V; DHILLON, B

- "The Indian Case of Live Worm in Diffuse Unilateral Subacute Neuroretinitis"

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- "Smouldering ROP"

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VEDANTHAM, V; LALITHA, P; VELPANDIAN, T; GHOSE, S;

MAHALAKSHMI, R; RAMASAMY, K

- "Vitreous and Aqueous Penetration of Orally Administered Moxifloxacin in Humans"

VOL: 20 (11) 2006 NOV. P.1330-1332

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SHUKLA, D; RAO, N V AND KIM, R

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RAMASAMY KIM, PRAKASH KARTHIK, NAMPERUMALSAMY

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- "Clinico-microbiological profile and visual outcomes of post-traumatic endophthalmitis at a tertiary eye care center in South India"

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- "Retinal nerve fibre layer thickness measurements in normal Indian population by optical coherence tomography"

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- "Bilateral spontaneous hyphaema in juvenile xanthogranuloma"

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- "Atypical manifestations of acute posterior multifocal placoid pigment epitheliopathy"

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VEDANTHAM VASUMATHY, BALASUBRAMANIAM KOSHAL

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- "Bilateral vitreous hemorrhage in an elderly male"

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P.120-122 Type: Report

SHUKLA, DHANANJAY; KIM, RAMASAMY

- "Giant Nodular Posterior Scleritis Simulating Choroidal Melanoma"

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VIJAYALAKSHMI, P; JETHANI, JITENDRA AND KIM, USHA

- "Congenital Unilateral Ocular Fibrosis Syndrome Secondary to Benign Congenital Tumor"

P.129-131 Type: Report

MANIKANDAN P, BHASKAR M, MANOHAR BABU B,

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- "Intravitreal Injection of Triamcinolone Acetonide for Diabetic Macular Edema: principles and practice"

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KRISHNADAS, S R

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- "Atypical association of Duane retraction syndrome and Bardet Biedl syndrome"

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- "Weill-Marchesani syndrome associated with retinitis pigmentosa"

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- "Pigmented epiretinal membranes caused by RPE migration: OCT-based observational case reports"

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VEDANTHAM VASUMATHY, JETHANI JITENDRA, AGARWAL

ANIL, VIJAYALAKSHMI PERUMALSAMY

- "Retinitis pigmentosa associated with blepharophimosis. Blue dot cataract and primary inferior oblique over action: A new syndrome complex?"

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- "Electroretinographic assessment and diagnostic reappraisal of Children with visual dysfunction: a prospective study"

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- "Weill-Marchesani syndrome associated with retinitis pigmentosa"

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- "Pigmented epiretinal membranes caused by RPE migration: OCT-based Observational case reports"

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ORIGINAL INVESTIGATION

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Lions Aravind Institute of Community Ophthalmology

I. Consultancy & Capacity Building Services

Today, a major part of LAICO's work centers around enhancing the capacity of existing and new eye hospitals worldwide for comprehensive organizational development through sharing the best practices in eye care. It works with these hospitals in collaboration with international voluntary organizations such as the Lions Clubs International Foundation, Sight Savers International, CBM, International Eye Foundation, Seva Foundation, Orbis International, Lavelle Fund for the Blind and World Health Organisation to contribute to the mission of eliminating needless blindness.

Through the consultancy process, LAICO now works with 220 eye hospitals spread all over the country and in other developing nations.

Consultancy is carried out through the following phases:

- Needs Assessment Visits
- Vision Building Workshops
- Follow-up Visits, and Monitoring

Needs Assessment Visits

Aravind Consultancy team makes Needs assessment visits to gain an understanding of the working systems and management structure to help establish a framework for capacity building specific to each hospital.

*Aravind's Needs Assessment
Team with KCMC staff at
Moshi, Tanzania*



Needs Assessment Visits from Jan. 2006

- Kilimanjaro Christian Medical Centre, Moshi, Tanzania
- Fateh-bal Eye hospital, Nepalgunj, Nepal
- Bangalore West Lions Super Speciality Eye Hospital, Bangalore, Karnataka
- Jindal Sanjeevani Hospital, Toranagallu, Karnataka
- Vinayaka Mission Hospital, Salem, Tamil Nadu
- Jhalda Lions Eye Hospital, Jhalda, West Bengal
- Paran Chandra Roy Memorial Lions Eye Hospital, Ghatal, West Bengal,
- Nabadwip Lions Eye Hospital, Nadia, West Bengal
- Eye Department, Kerala Institute of Medical Sciences, Thiruvananthapuram, Kerala
- Comtrust Eye Hospital, Calicut, Kerala

Vision Building and Strategic Planning Workshops

Following the needs assessment visit, a multidisciplinary team consisting of key people from each hospital attend a six-day workshop at LAICO. The workshop provides an environment for the teams to evolve a vision for their hospital, and help them develop various strategies followed by detailed action plans through which this vision can be translated into reality. Since January 2006, five Vision Building and Strategic Planning Workshops were conducted at LAICO.

Dr. M.Srinivasan with the participants at the Vision Building and Strategic Planning Workshop

Participants from the following hospitals attended the courses:

From January 30 - February 4, 2006

- Sri Janaki Eye Hospital, Janakpur, Nepal
- CEHP Nepal Red Cross, Nepalgunj, Nepal
- Swiss Red Cross, Janakpur, Nepal
- Health Dept. Nepal Red Cross Society National Head quarters, Nepal
- Kilimanjaro Christian Medical Centre (Eye Department), Moshi, Tanzania
- Lotus Eye Hospital, Mumbai, India

From June 12 -17, 2006

- Fateh-Bal Eye Hospital, Nepal
- Jindal Sanjeevani Hospital, Toranagallu
- BW Lions Eye Hospital, Bangalore
- Vinayaka Mission Hospital, Salem



Team from UCH - IBADAN, Nigeria with the Aravind team

From July 17-22, 2006

A special workshop was conducted for UCH-Ibadan, Nigeria, the largest and the oldest teaching hospital in Nigeria to orient them towards enhancing services for the needy and poor and improve the residency training by enhancing the level of service delivery. An MoU was signed for the responsibilities of each stakeholder for the future course of action between International Congress of Ophthalmology, UCH-Ibadan, OSN and LAICO.

From October 23-28, 2006

- Sight First Hospital, Hendala, Srilanka
- Lions Gift of Sight Hospital, Panadura, Srilanka
- Paranchandra Roy Memorial Lions Eye Hospital, Ghatal, Medinipur, West Bengal
- Nabadwip Lions Eye Hospital, Nabadwip, Nadia, West Bengal
- Neta Mandir, Mumbai
- Jhalda Lions Eye Hospital, Jhalda, Purulia, West Bengal.

From December 4-9, 2006

- Comtrust Eye Hospital, Calicut, Kerala
- Hindu Mission Hospital, Tambaram, Chennai
- Bansara Eye Care Center, Shillong, Meghalaya
- Dr. Abdullah Zahir (Individual), Male, Maldives

Follow-up Visits

After allowing six months for the hospitals to implement their strategies, the LAICO – Aravind team makes follow-up visits to provide further support to the hospitals in implementing their action plan. In addition to help with the change process, training support is offered to individuals from the hospitals, both in clinical and administrative areas.

Follow-up Visit in 2006

Lotus Eye Hospital, Mumbai, Maharashtra.

Capacity Building for Specialty Services

Capacity Building for Paediatric Ophthalmology

In addition to developing a paediatric ophthalmology human resource team, Aravind ORBIS

Paediatric Ophthalmology Learning & Teaching Programme Initiatives project focuses on capacity building of ORBIS partner eye hospitals.



Dr. P. Vijayalakshmi with the participants of the ORBIS long range strategic planning workshop

- HV Desai Eye Hospital, Pune, Maharashtra,
- Lions NAB Eye Hospital, Miraj, Maharashtra,
- Srikiran Institute of Ophthalmology, Kakinada, Andhra Pradesh,
- Lotus Eye Hospital, Mumbai, Maharashtra

ORBIS Long Range Strategic Planning Workshop

LAICO, December 4 – 6

A total of 15 participants from four eye hospitals took part in this workshop.

Other Consultancy Projects

*Dr.M.Srinivasan
Mr.R.D.Thulasiraj,
Dr.P.Balakrishnan and
Ms.Preethi Pradhan with the
Wenzhou Medical College
team*



Agreement on Establishment of Friendly Relations, China

December 27, 2005 - January 4, 2006

In response to an invitation for training at Peking University Eye Centre and for an exploratory visit to Wenzhou Medical College for signing of the MoU for collaboration between Aravind Eye Care System and the Wenzhou Medical College-Eye Centre, Dr. M. Srinivasan, Mr. R.D. Thulasiraj, Dr.P. Balakrishnan and Ms. Preethi Pradhan visited China. The MoU was signed on January 5, 2006 by Dr. Qu Jia, Director, Eye Hospital, Wenzhou Medical College, China and Dr.M.Srinivasan, Director, Aravind Eye Hospitals & Postgraduate Institute of Ophthalmology, India.



*Mr. R. Meenakshi Sundaram,
Mr. Keerthi Pradhan and
Mr.Ganesh Babu with the He
Eye Hospital team in
Shenyang*

He Eye Hospital, Shenyang, China,

April 3- 16

The Aravind team of consultants visited the He Eye Hospital founded by Dr Wei He to offer consultancy in three areas: Strategic growth and development, Community Outreach and Management Information System.

Baramati, Maharashtra,

September 14-15

Digital Health Division of Intel India is collaborating with Aravind Eye Hospital to set up an IT enabled centre which will create access to experts through a Telemedicine system. HV



*Mr. Selvakumar at the Rural
Hospital (Tehsil Level Referral
Centre), Baramati*

Desai Eye Hospital, Pune will be the immediate referral centre for ophthalmology while Aravind would provide services for higher level management. Ms. KM.Sasipriya, Faculty, LAICO visited Rural Hospital (Tehsil level referral centre), Baramati, Maharashtra State to provide inputs in setting up the infrastructure, layout, in identifying training

needs, establishing linkages and planning the modality for collaboration to provide eye care services.

Timor and Sumba Islands, Indonesia;

May 27- June 7

On invitation by PERDHAKEI, a national NGO in Indonesia, Mr. Keerti Bhusan Pradhan went to assess their partner organizations for eye care services in Timor and Sumba Islands.



He also visited the partner organizations of PERDHAKI to assess and to guide the eye care programmes to enhance the services to reach more needy population in islands where no eye care services are provided by the government.

*Mr. Keerti Bhusan Pradhan
with the Tibet team and
Mr.R.P.Kandel*

SEVA – Tibet and Kham Eye Centre in Dartsedo, China,

October 4 – 12

Mr. Keerti Bhusan Pradhan visited Dartsedo Prefecture Hospital and the regional health centers in Eastern part of Kham to discuss the eye care plan with both SEVA Foundation and the Government of Tibet.

TVS Group Social Development Division-Lakshmi Vidya Sangam.

October 16

The LAICO team organized a workshop for the key members of Lakshmi Vidya Sangam (LVS), the charitable wing of TVS Group in Madurai to give strategic inputs towards institutionalizing the Social Development Division in line with the Vision and Mission of LVS.

Melaghar Vision Centre & Indira Gandhi Memorial Govt Hospital, Agartala, Tripura.

January 1 to 8, 2007

Aravind is collaborating with Infrastructure Leasing & Financial Services Pvt. Ltd to provide primary eye care services through their network of Community Services Centres (CSC) which have been set up to essentially provide IT services to rural areas as part of the nationwide programme by the Ministry of Information & Technology. The concept is to set up Vision Centres in select CSC's and use the existing IT capabilities to provide comprehensive eye examinations. As a pilot, a Vision Centre is being rolled out at Melaghar and with successful implementation, this will be scaled up across the State of Tripura where access to health care services is one of the challenges, especially access to speciality care. As part of this collaboration Aravind is providing complete technical support in setting up the Vision Centre, training, and providing the Tele-consultation software.

II. Teaching and Training Division

LAICO runs a series of management training and skills development courses to address the need for professionally trained human resource in eye care. The following management and skills development courses on eye care services are offered at LAICO

- Management Priorities in Eye Care Delivery
- Management Training for Eye Care Programme Managers
- Management Training and Systems Development for Hospital Administrators
- Training in Community Outreach
- Fellowship in Eye Hospital Management
- Training in Eye Hospitals Operation
- Project Management Training for Eye Care
- Instrument Maintenance and Training

Participants of the Management Priorities in Eye Care Delivery, Jan, 2006 with Mr. Nagarajan, Prof. Fred Munson, Dr.G.Venkataswamy, Mr. Irai Anbu, Ms. Cindy Harrison, Dr.P. Namperumalsamy and MR.R.D. Thulasiraj



Management Priorities in Eye Care Delivery

This is a short term intense training programme to strengthen the management perspective of the heads of eye hospitals. It provides an overview and appreciation of different principles and practices of management that contribute to more effective and efficient delivery of eye care services. It aims to impart management skills necessary to help in planning, monitoring and evaluation to increase their efficiency and productivity by optimally utilizing the available resources.

In the Fifth Course conducted from January 15 – 21, 2006, there were twenty participants for this workshop from twelve nations. Three representatives from each of the Aravind Eye Hospitals at Tirunelveli, Coimbatore and Puducherry also participated.

In the Sixth Course conducted in January 7-13, 2007, there were twenty seven participants for this workshop from nine nations.

Prof. Fred Munson, Dr. Cindy Harrison, Mr.D.Nagarajan, Mr. R.Muralikrishnan, Prof. G. Balasubramanian and Prof. Janat Shah, Ms. Liana Maria Vira-De-Oliveira were the guest faculty for these courses.



At the Management Training for Eye Care Programme Managers Workshop

Management Training for Eye Care Programme Managers

The objective of this training is to enable the participants to acquire knowledge, skills and attitude to become effective in eye care

programme management. This training is designed for professionals concerned with eye care programme development, planning, implementation, monitoring, evaluation and funding.

In the Fifth Course held from February 13-24, 2006, there were twenty participants from seven nations.

In the Sixth Course held from February 19 - March 2, 2007, a total of 32 participants from 18 countries - India, USA, UK, Cameroon, Uganda, Ethiopia, Swaziland, Ghana, Ireland, Bolivia, Tanzania, South Africa, Cambodia, China, Pakistan, Nepal, Mexico and Vietnam participated.

Management Training and Systems Development for Hospital Administrators

This course is designed to give exposure and training in the best practices for day-to-day operations management in an eye hospital. Each student is guided to develop and take back a detailed action plan to implement the new ideas and concepts learned in the course.



Participants to the Management Training and Systems Development for Hospital Administrators with the Aravind team

Mr. R. D. Thulasiraj with participants to the Community Outreach Course

activities in their organization. During the course, the participants attend a series of lectures, visit camps, participate in the process of camp organization, see patient counselling in action, engage in calculation of magnitude of blindness and developing health education materials such as posters and banners.

In the Nineteenth Course conducted from June 15- July 14, participants from fourteen hospitals from various parts of India attended.



In the Twelfth Course held from April 15 to May 27, 2006 participants from eight hospitals all over the country participated. In the Thirteenth Course held from October 2 – November 10, a total of 15 participants from Afganistan, Bangladesh, Guatemala, India, Kenya, Nepal, attended.

Training in Community Outreach

Certificate course on Community Outreach & Social Marketing of Eye Care Services

The main objective of this certificate course is to improve the community outreach

In the Twentieth Course conducted from November 14 – December 15, 11 participants from eight hospitals in Bangladesh, Egypt, India and Nigeria attended. Representatives from Aravind Eye Hospitals, Coimbatore and Madurai also participated.

Fellowship in Eye Hospital Management

The second Fellowship in Eye Hospital Management Programme began on July 24, 2006 with eight Fellows. These Fellows on completion of the training will be employed as Managers in various areas according to their aptitude, skills and the requirement in the system.



The second batch students of Fellowship in Eye Hospital Management

Training in Eye Hospital Operations

LAICO, July 17

Certificate Course on Eye Hospital Operations was started on July 17, 2006. A total of 12 candidates participated in the course. After the training programme all the members were posted at different Aravind Eye Hospitals.

Project Management Training for Eye Care

September 4 – 30, LAICO

Project Management training for Eye Care is a new course added to the management courses stream ORBIS India initiative for their partner hospitals. The main objective of this course is to enable the participants to acquire knowledge, skills and develop attitude to manage eye care projects effectively. This training programme is a four week course. Sixteen participants including one from Bhutan, ten from different parts of India and five belonging to Aravind participated in this programme.

Training in Instruments and Equipment Maintenance

In the four courses offered in 2006, twenty three persons were trained including one each from Zambia, Jamaica and Ghana, and two each from Malaysia and Cambodia. Two ophthalmologists were trained in the course for ophthalmologists & administrators. The Instrument and Equipment Maintenance department celebrated its 50th Golden Jubilee training course in the year 2007. Among the 302 trainees who have attended these courses, 100 were from 23 developing countries.



Innovation – Appropriate Technology

Changes in the retina due to diabetic retinopathy or on the optic disc due to glaucoma can be ascertained from fundus images and when this is detected early, timely treatment can be initiated to prevent further loss of vision. Fundus imaging requires a fundus camera which is very expensive and found only in tertiary care eye hospitals. To provide an inexpensive tool for the routine examination of the fundus at primary eye care Vision Centres, the Aravind Instrument Maintenance Laboratory developed a simple attachment to mount the common digital camera on a slit lamp. The arrangement is so simple that a trained paramedic, using the slit lamp and a 78 or 90 dioptre lens can take good fundus or anterior segment pictures, copy them onto a computer, and transmit it to the base hospital for further diagnosis and send back advise for follow-up action. This is now used in all Aravind Vision Centres. The invention has created world wide interest and the set up is already being used in many developing nations such as Sri Lanka, Nepal, Syria, and Kenya.

Participants of the Ethiopia Workshop along with the instruments repaired by the trainees under the guidance of Mr.Poornachandran and Prof.Srinivasan.

OFF-SITE Training

Visiting Faculty to Instrument Maintenance Workshop

Ethiopia and Uganda, May 2006

In May 2006 Orbis International conducted a workshop in Ethiopia and Uganda. Mr.S.Poornachandran and Prof. V. Srinivasan were invited as Visiting Faculty for those workshops.





*Mr. Keerti Bhushan Pradhan
at the Course on Community
Eye Health in Cape Town,
South Africa*

Eye Care Management Training for VISION 2020 Community Eye Health Course participants

South Africa, September 11-15

Mr. Keerti Bhushan Pradhan, Senior Faculty went to University of Cape Town, South Africa - as a resource person for an eight week certificate course on community eye health jointly run by the University and ICEH, London. The objective of the Programme was based on the key concepts in eye care services management. There were 18 participants including Ophthalmologists, Ophthalmic Clinical Officers, Ophthalmic Nurses, and Optometrists from ten African countries - Angola, Botswana, Ethiopia, Lesotho, Malawi, Nigeria, Rwanda, South Africa, Zambia and Zimbabwe.

Workshop on "Improving the Quality of Life through Partner Enablement"

CBM – SARO, Bangalore, March 22-23

Mr.R.D.Thulasiraj, Executive Director-LAICO, Mr.Ganesh Babu, Senior Manager – IT and Systems, Ms.Preethi Pradhan, Senior Faculty, LAICO were at Bangalore on March 22-23, to conduct a workshop for staff of CBM SARO(S), and to internalize and operationalise the new direction CBM has mandated for their organization.

Continuing Professional Education Programmes



*Dr. P.Namperumalsamy
lighting the lamp to
inaugurate Prism-2006*

PRISM-Reflecting Perspectives in Hospital Management

The main goal of the conference was to provide new insights and approaches of addressing various managerial issues for improving the delivery of hospital services. It also provided an opportunity for networking with professionals of diverse background in

the field of hospital administration.

PRISM-2006 February 25, 2006

Among the 184 participants, students from different Hospital management schools around South India formed the major group.

PRISM - 2007 January 20, 2007

The conference was attended by 116 external delegates from different parts of India.

The sessions were on various functional areas of Hospital and Health care Management such as Planning Hospital Facilities, Human Resource Development, Turnaround Strategies, Crisis management and Quality Assurance facilitated by expert resource persons in the respective areas from various parts of the country.

Custom Designed Training

Hospital Administration Programme

- Mr. Arudra Kuchibhatta, Vijayawada, attended the programme from June 23-24, 2006
- Dr. Bakul N. Trivedi, Consultant-Oculoplasty, Om Eye Hospital, Gujarat attended the programme from September 4-9, 2006



Participants of the i-connect workshop

i-connect Workshop on Resource Center Collaboration

LAICO, March 15-17, 2007

A total of 14 persons from California, Canada, Tanzania, Nepal, USA, UK, and India participated in the workshop. The workshop was held in recognition of the vital role of knowledge-seeking and sharing in strengthening sustainable eye care services. A

platform for effectively sharing research literature, case studies, training curricula, and management tools were developed.

Mr. Colin Williams at the Review Session of the Consultancy for Capacity Master Class

Faculty Development Programme

Consultancy for Capacity Master Class - Review Session

March 22, 2006

A review session of the Consultancy workshop held in November, 2005 was conducted on March 22, 2006. Mr. Colin Williams from W² consulting, UK was the facilitator. The one day session was attended by 21 participants including Mr. R.D. Thulasiraj, Executive Director-LAICO, CMOs /



representatives from all Aravind Eye Hospitals, Senior Managers from Aravind-Madurai and LAICO faculty. The aim of the session was to reinforce the concepts discussed in the previous workshop in order to improve the consultancy skills of Aravind Consultants and to review the progress in the action plans developed related to various consulting issues. The participants had already been grouped into 9 teams, each working on a specific consulting issue. The teams developed new action plans relating to the respective issues applying the key principles in consulting.

At the Workshop on Theory of Constraints

Workshop on Theory of Constraints

Aravind -Madurai, September 26-27

A total of 29 participants attended the workshop on Theory of Constraints. The main participants were senior doctors, administrative staff of all Aravind Eye



Hospitals and LAICO faculty. The workshop was facilitated by W2 Consulting, UK, with their key faculty members including Mr. Colin Williams, Mr. John Bickell, and Ms. Sarah Keith and Mr. P. Bill West from Goldratt Institution, UK.

Individual Faculty Development Programme

- Ms. Preethi Pradhan and Mr. Keerti Pradhan continued their work towards Ph.D (registered under IIT-Chennai)
- Mr. Sanil Joseph was at Aravind-Puducherry from May 20 - June 12 to enhance practical knowledge of hospital management.
- Mr. Rajadurai, Faculty Associate, LAICO was in Aravind-Theni from June 19 - July 19 to understand Aravind's basic system and how it functions.
- Dr. Noela Prasad attended the National Training Programme in Advanced Epidemiology workshop which was held in Mumbai, April 20-28 at TATA Institute of Social Sciences.

Other LAICO Activities

Synergy & Sight: SEVA Global Networking Workshop

The SEVA Global Networking workshop was conducted at LAICO from March 24-29, 2006. The objective of the workshop was to promote stronger Programme services by strengthening SEVA's network with a focus on building relationships, partnerships, communications, reporting across programmes and with SEVA offices. A total of 25 participants from 9 countries attended the workshop.

Seva Partners at Aravind-Puducherry



Centers for Community Ophthalmology Workshop

SEVA organized a three day workshop in Lumbini, Nepal, September 25-27, 2006 as a sequel to the SYNERGY & SIGHT meeting. This workshop was organized to further the objective of creating a network of Community Ophthalmology Centers across the globe to synergise available Knowledge, Expertise and Best Practices within such individual centres to benefit the various eye programmes that they work with. A three member team of Mr. Keerti Pradhan, Dr.Noela Marie and Mr.R.Suresh Kumar represented Aravind.

Mr. Suresh Kumar and Dr.Noela Prasad with other participants at the Centers for Community Ophthalmology Workshop



Seva Partner and Staff Retreat Overview

Seva Partner and Staff Retreat Overview was conducted at Aravind-Puducherry from March 3-6, 2007. Mr. R.D. Thulasiraj, Dr. R.D. Ravindran and Mr. Keerti Bhusan Pradhan attended the Programme. The objective of the programme was to help develop eye care programmes in Cambodia and Dartsendo-Tibet, China. Consultants worked with SEVA staff members from USA and country offices along with the partner organizations from respective countries to

conceptualize and develop eye care programmes. This retreat highlighted the values and mission that directs the work, focus on practical goals to reduce avoidable blindness, and to draw from “positive and negative” experience of previous programs, adapt and build new strategies to achieve the goals of sustainable, quality, community-oriented eye health.

Contribution to the XI National Five year Plan for Prevention of Blindness

The Ministry of Health, Government of India made a formal request to VISION 2020: The Right to Sight, India to develop the XI Five-year plan of the National Programme for Control of Blindness. This work was then entrusted to LAICO to coordinate the development. This was carried out by Mr. Thulasiraj and Dr. Noela Prasad who developed the draft plan and incorporated inputs from the Government, INGOs and other stake holders. This called for plan outlay of over Rs. 1,500 crores (US\$ 360 million) over the 5 year period which represents a three-fold increase from current plan. Subsequently, separate meetings were arranged with

the Union Finance Minister

Mr.P.Chidambaram and Dr. Montek Singh Ahluwalia of the Planning Commission, in which R.D.Thulasiraj along with members of VISION 2020: The Right to Sight, India presented the proposal to facilitate its understanding and approval.



*Mr.R.D.Thulasiraj,Dr.G.N.Rao,
Dr.G.V.Rao and Mr.Swamy
with Dr. Montek Singh
Ahluwalia of the Planning
Commission*

III. Projects Division

LAICO Projects Division contributes to the elimination of needless blindness through

- Effective provision of end to end project management systems and processes
- Development of project management capability through constant training and capacity building.

The main areas of work under this division will be to develop the right approaches to Project Development & Management, evaluation of the projects, and provide Project Management Training.

Primary Eye Care through Vision Centres

Following by the pilot implementation of five IT enabled Vision Centres linked to Aravind Eye Hospital, Theni, supported by International Eye Foundation, USA, Aravind Eye Care System has now joined hands with Lavelle Fund to scale up the number of Vision Centres by another twenty during the next two years linked to Aravind Hospitals at Madurai, Tirunelveli, Coimbatore and Puducherry. The first set of eight Vision Centres (two each) are coming up between April and May 2007. Based on the experience gained on an earlier initiative, Aravind is incorporating Community Based Rehabilitation coupled with aggressive community based activities, thus providing comprehensive coverage and services – preventive, curative and rehabilitative. This programme aims at covering a population of approximately 2 million

through these Vision Centres. Functioning of these Vision Centres will come under the outreach division of each hospital and thus will become an integral approach to community eye care.

In addition to developing the infrastructure in the community to provide service delivery, Aravind is also setting up training units to train human resource for the Vision Centres in the categories of Vision Centre Technician, Vision Centre Counsellors and Eye Health Community Workers that would enable not only Aravind but also other eye care programmes to initiate similar approaches.

Aravind WDF Diabetic Retinopathy Management Project

Aravind is working on developing a sustainable service delivery model with the support of International NGOs like Lions Clubs International, World Diabetes Foundation and with the Government of India – TIFAC CORE. With the successful implementation of Diabetic Retinopathy Programme at Aravind Eye Hospitals at Madurai, Tirunelveli and Puducherry, WDF is now extending support to the existing project centres along with further expanding of this programme to Aravind Coimbatore. Through these Diabetic Retinopathy screening programmes, Aravind will be reaching out to about 40% of the Tamilnadu's population during the next three years starting from May 2006. Key strategies of the DR programme are continuous awareness creation, aggressive outreach, providing required diagnostic and treatment services and employing information technology to extend the clinical expertise to centres that need them. Experience and insights gained through this programme are being shared with other eye care programmes through publications, seminars and participation in expert committees.

Aravind ORBIS Paediatric Ophthalmology Learning and Teaching Centre Programme

(POLTC) - I

Aravind's recent collaboration with ORBIS International gave an opportunity to develop a full-fledged Training Centre thus actively contributing to the development of trained human resource in the country for Paediatric Ophthalmology. Started in August 2003 with the aim of developing seventy seven eye care personnel, this project was completed by Dec 2006. Aravind was able to train one hundred and thirteen personnel from fourteen Indian States and seven countries.

In addition to developing human resource, Aravind, has supported four eye hospitals through the capacity building programme for the development of their organisational as well as paediatric ophthalmology services. A follow-up workshop comprising of all the four hospitals was conducted between December 4-7, 2006 in order to understand the inputs provided through capacity building initiatives and develop strategies for the long term sustenance.

This programme also provided ample opportunity to Aravind in developing resources like patient information brochures, posters, training videos in DVDs, manuals, MIS software for Paediatric Ophthalmology. POLTC with the support of ORBIS hosted Volunteer Faculty, experts in their own right, each of them running one Hospital Based Programme (Orthoptics, Strabismus, Retinopathy of Prematurity and Paediatric Glaucoma) which benefited not only

the Fellows in the paediatric department but also the Postgraduate Residents at all of the Aravind Centres.

(POLTC) - II

Considering the need for developing more human resources to deliver paediatric ophthalmology services as envisaged in the VISION 2020 National Plan, ORBIS International, India is contributing to this by supporting eye care programmes to set up and run the paediatric ophthalmology services. With this growing need, ORBIS has extended the support to Aravind for another three years starting Jan 2007. During this extended phase, around 52 personnel will be trained through structured training courses. As a teaching and resource centre, Aravind will develop a standard study protocol to assess magnitude of blindness and visual impairment in children through a research study. Additionally, preferred clinical practice manuals will be developed that would be useful in Indian context.

Tele-ophthalmology Initiatives with National Programme for Prevention of Blindness (NPCB), Government of India

NPCB is in the process of developing tele-ophthalmology initiatives to strengthen service delivery mechanism in the government set up. In this regard, meetings were held in New Delhi with eye hospitals and other institutions currently practicing tele-ophthalmology. In order to evaluate the different models demonstrated by the participating institutions, NPCB is supporting each of these institutions to implement a pilot model for one year starting April 2007 followed by the evaluation of the same by the expert team at the year end so as to develop and adopt concrete service delivery model. With this support, Aravind would establish an IT enabled Vision Centre in Rameswaram, Tamil Nadu.

Consultancy for Setting up of Diabetic Retinopathy Services in Peking University Eye Center, Beijing, China

The International Council of Ophthalmology Foundation has identified Beijing University Eye Centre, Beijing as a site for the Eli Lilly Diabetic Eye Disease Centre (ELDEDC) to provide advanced care of diabetic eye diseases by developing sustainable programme for detection and treatment. For this two year programme, LAICO will support ELDEDC to set up and manage DR services through systematic approach and help put in place the appropriate service delivery and human resources development mechanism. To accomplish this, a team from LAICO will visit the centre to develop a baseline document to enable the team to work together to develop good strategies and metrics through a structured workshop and exchange visits. The impact of the activities undertaken will be evaluated in the second year. To kick start this programme, a multidisciplinary team from LAICO will visit Beijing University Eye Centre, Beijing in June 2007

Creating Access for Rural Eye Care

Rotary Clubs International is supporting Aravind for one year starting January 2007 to experiment on developing a service delivery approach that will motivate patients with visual impairment seek eye care on their own. This project covers a population of 130,000 near Dindigul, Tamilnadu. This involves recruiting and training the field workers (5) to carry out house to house enumeration and basic screening.

IV RESEARCH

The mission of LAICO's research division is two fold - one to generate a research culture among Aravind staff, through which a critical mass of research capacity is built that conducts scientifically rigorous and relevant research, and the other to engage in epidemiologic, and population based studies and health systems research to generate evidence to guide global policy in the elimination of avoidable blindness.



*Dr. Madan P. Upadhyay,
Regional Adviser, WHO, Delhi,
Mr. Muthusamy,
Mr. G. Saravanan,
Mr. P. Vijayagamoorthy,
Ms. R. Mahalakshmi,
Ms. M. Priya at a review
meeting*

The Biostatistics Department provides vital support in data entry, management and analysis for all ongoing clinical, epidemiological and health systems research conducted at Aravind. Additionally, statistical inputs are provided whenever needed for planning research studies and for reviewing articles by various reviewers within Aravind and to research projects elsewhere on request. A

part-time short course on the use of the statistical package SPSS was developed and conducted by the Biostatistics Department for the academic staff at Fathima College, Madurai.

Major studies completed and ongoing are:

- the Diabetic Retinopathy India Prevalence Study,
- the Rapid Assessment of Avoidable Blindness in Cuddalore district,
- the development of an instrument to measure Quality of Life among individuals with visual impairment due to refractive errors,
- developing a tool to measure patient satisfaction,
- a study of HR practices that impact employee satisfaction and patient satisfaction
- HRD related operations research to develop and test tools for assessing HR practices that are culturally relevant,
- a community interventional trial using Village Health Nurses to provide primary care for trivial corneal injuries,
- and a series of studies on detecting refractive errors and the demand for spectacles
- the SCUT (Steroids for Corneal Ulcer Treatment),
- INGOTT (The India National Glaucoma Outcomes Treatment Trial),
- and the IND-EYE study.

Workshop on Research Methodology

LAICO, February 5-10, 2007

This workshop aimed at building the capacity of eye care professionals in the conduct of scientifically rigorous research. A total of 24 participants attended the workshop.

The main objectives of the workshop was to

- Understand the relevance of clinical, operations and field research.

*Dr. Namperumalsamy with the
participants to the Research
Methodology Workshop*



- Acquire knowledge and skills in generating health related data.
- Design and conduct relevant priority research in health.
- Perform appropriate data analysis, interpret the findings and make appropriate recommendations.

Major Conferences Attended Elsewhere

One World South Asia Annual Regional Meeting

Agra, January 23-24, 2006

Mr. Keerti Bhusan Pradhan

- *The ICTs application in Aravind Model of services delivery to reach the communities.*

Tsunami Evaluation Meeting

Sri Lanka, March 19-21, 2006

Mr. R.D. Thulasiraj facilitated the development of an evaluation framework at this meeting for the Tsunami rehabilitation projects supported by CBM.

ZFS Partners Meeting

Bangalore, March 17-18, 2006

Ms. Veni, Administrator, LAICO attended the meeting as a representative of Aravind Eye Hospitals.

Workshop on Information needs to improve implementation of refractive error programmes in India

Faridabad, New Delhi, March 20-25, 2006

MR. R.D. THULASIRAJ WAS A CHAIRMAN FOR A PLENARY SESSION ON "EPIDEMIOLOGICAL ISSUES IN REFRACTIVE ERRORS."

- *Prevalence of RE among the aged in India*
- *Need for Refractive correction in a Population*
- *Costing of services at secondary level institutions*

DR. P.VIJAYALAKSHMI WAS A CHAIRMAN FOR A PLENARY SESSION ON "SERVICE DELIVERY APPROACHES FOR SPECIFIC POPULATIONS."

- *Description of refractive errors*
- *Norms for establishing a quality RE services*

DR. NOELA PRASAD

- *IEC approaches for augmenting RE services uptake*

MR. V.VIJAYAKUMAR

- *Designing Quality of life instruments to monitor impact*

Practice Management Symposium

Bangalore, April 16, 2006

MS. PREETHI PRADHAN

- *Patient Satisfaction*

Aravind Model Presentation at World Bank- Ashoka Conference

Delhi, July 12

ASHOKA (Ashoka: Innovators for the Public) as part of its programme on change makers-health for all invited Aravind Eye Care System to present the model and innovations for their success to an audience at four sites in

World Bank Institute, Paris; World Bank Office, Washington, World Bank Office, Pretoria, South Africa; and World Bank, New Delhi through Video Conference from Delhi. Mr. Keerti Pradhan, Senior Faculty, LAICO did the Aravind Model presentation.

ORBIS Dissemination Workshop on Mapping of Human Resource and Infrastructure for Speciality Eye Care Services in India

Delhi, April 30, 2006

The Delhi meeting was held to disseminate the findings of the survey. Dr. Noela Prasad attended the workshop.

First Annual National Conferences of Federation of Hospital Administration (FHA)

Ooty, August 25-27, 2006

A team from AECS Mr. R. Suresh Kumar, Faculty-LAICO, Mr. Rajakumar – Manager, Medical Records, Mr. Ramesh Babu, Asst Administrator Free Hospital, Madurai, Mr. Kanagaraj, Manager-HR, Aravind - Coimbatore and Mr. Ranjit Kumar, Manager-Free Hospital, Aravind-Coimbatore attended.

Sight First Conclave of Eastern India

Kolkata, September 3-4, 2006

Mr. R. D. Thulasiraj Executive Director, LAICO, participated in the Sight First Conclave and spoke on community ophthalmology.

National Program for Control of Blindness [NPCB]

Cuddalore, September 11-16, 2006

Dr. Noela, Research Medical Officer and Mr. Srinivasan, Field co-ordinator Diabetic Retinopathy project, gave training to the team for Rapid Assessment of Avoidable Blindness.

American Academy of Ophthalmology (AAO) and Asia Pacific Academy of Ophthalmology (AAPO) Joint Meeting

Las Vegas, November 11 [- 14, 2006

MR. R.D. THULASIRAJ

AT THE SYMPOSIUM ON DEVELOPING INTERNATIONAL RESEARCH COLLABORATIONS,

- *'India: A Model for the Future?'*

IN THE PANEL DISCUSSION I:

- *Who is going to pay for the world's eye care?*

AT THE SPECIAL MEETING: 2006 INTERNATIONAL FORUM:

- *The Truth about Needless Blindness*

Dr. Abdul Husain Nawab Arastu Yar Jung Bahadur Memorial Lecture

Hyderabad, December 21-22, 2006

Mr. R.D. Thulasiraj, Executive Director,

LAICO participated in the Memorial Lecture in honour of Dr. Abdul Husain Nawab Arastu Yar Jung Bahadur and gave inaugural lecture on the Topic of Diabetic Retinopathy and Epidemic Blindness in India. This Memorial Lecture was attended by family members of Dr. Abdul Husain, public and staff of LV Prasad Eye Institute.

IESE Business School

University of Navarra, Barcelona-Spain, January 18-19, 2007

Mr. R.D. Thulasiraj, Executive Director, LAICO and Mr. David Green spoke about the Aravind model and Aurolab, to the students of the MBA Programme.

Social Entrepreneur Forum

Zurich, January 20-23, 2007

Mr. R.D. Thulasiraj attended Social Entrepreneur Forum organized by Nabarra Foundation. During the three day meeting he interacted with other Nabarra fellows and Business Leaders to find out how the Aravind Model can be further escalated.



Mr. R.D. Thulasiraj at the Social Entrepreneur Forum

World Economic Forum

Davos, Switzerland, January 23-28, 2007

Mr. R.D. Thulasiraj attended the World Economic Forum. During the five day meeting, he attended several sessions and interacted with several people belonging to Academic and Business World.

Technology Working Committee of IAPB Meet

Durban, South Africa, January 2007

Prof. V. Srinivasan participated in the Technology Working Committee of IAPB Meeting.

"Medallion 2007"

School of Medical Education, Kottayam, Kerala, March 3, 2007

MS. PREETHI PRADHAN

- *Marketing to the internal customers*

MR. KEERTI PRADHAN

- *Importance of management systems in hospitals - a example from the World's largest eye care systems.*

Managed Eye Hospitals

The concept of “Managed Eye Hospitals” as another strategic direction to realize the vision of “Eliminating needless blindness” germinated in early 2005. An internal framework has been developed to partner with those who have a strong desire to serve the community and to do it in areas where eye care services are inadequate. Certainly there is no dearth of such areas. In several parts of India and other developing countries the current eye care services are at such low levels both in terms of quality and coverage, that with the normal incremental growth, the service levels will never catch up with the incidence of new cases resulting in an ever increasing number of needlessly blind people. The plan over the 10 years is to engage with 100 eye hospitals and do a million eye surgeries a year including the output from the network of Aravind owned hospitals. In the last two years, this concept is becoming a reality with several partnerships emerging.

In this approach, Aravind in working with the partner takes the responsibility of establishing the eye care facility, equipping, staffing and running it. Activities involve building design, selection of local staff, training, equipment purchase, installation, and putting all the operating systems in place. Aravind places a core team of key staff and runs the eye hospital taking care of day-to-day management as well as influencing the strategic decisions.

The opportunity came almost immediately, leading to a partnership with Rajiv Gandhi Foundation. Through this partnership the Indira Gandhi Eye Hospital and Research Centre was established in Munshiganj, a small village near the town of Amethi in Uttar Pradesh State in North India. In 2006, the first full year of operation, the hospital performed about 9,000 eye surgeries making it the largest provider of eye care in the entire state which has a population of 180 million. In spite of 70% paying a steeply subsidized rate of Rs. 500 for a cataract surgery with IOL implant, the hospital became financially viable from its third month of operation. This initial experiment in a rural village of Uttar Pradesh stands a strong testimony to the replication of the Aravind Model. It demonstrates the vital role that both the systems and culture play – a role far greater than that of mere name branding. It also demonstrates that even in an economically very poor and under developed area it is possible to offer high quality

*Mr. Suresh Kumar and
Mr. Nagarajan with the
Grameen team*



eye care to all in a financially sustainable manner. Armed with this experience and confidence, a blue print for further expansion in Uttar Pradesh, in the cities of Lucknow and Allahabad, has been developed to add at least another 100,000 surgeries a year. Priyamvada Birla Aravind Eye Hospital in

Kolkatta, which came into existence along the same lines but before launch of this strategic direction has also been brought under this framework.

Simultaneously the engagement with Grameen Bank in Bangladesh and Nobel Laureate Mohammed Yunus has resulted in concrete plans for establishing two eye hospitals in Bangladesh at Barisal and Bogra. The staff members for these two hospitals were handpicked from Bangladesh and are undergoing training in Madurai both in the science of eye care and in the art of providing it with compassion. A similar project is underway in Amreli in Gujarat in collaboration with Nagardas Dhanji Sanghvi Trust. In these projects in Bangladesh and Gujarat, the engagement as mutually agreed will be limited to getting the hospital up and running till stabilizing it over a period of time.

In Amreli, Gujarat

February 5– 9, 2006

At the request of Sun Pharmaceuticals, a study was undertaken for a situational analysis of the existing eye care facilities in Amreli district of Gujarat to assess the feasibility of starting a new eye hospital to meet the eye care service needs in the region. An initial joint site visit to Amreli was made by Sun Pharma representative Mr. Uday Baldota and LAICO Faculty, Mr. Keerti Bhusan Pradhan and Mr.S.P. Venkatesh. The study covered the visits to eye hospitals, private eye clinics, optical shops and community centre in the Amreli district.

Vision Building and Strategic Planning Workshop at Priyamvada Birla Aravind Eye Hospital, Kolkata

May 27-29, 2006

The Workshop was held for 2 days at the Bellevue Hospital. The workshop was facilitated by a team from Aravind Eye Care System. The entire hospital team comprising of ophthalmologists, administrative staff, mid level ophthalmic personnel, and the leadership team attended the workshop. This workshop aimed at developing a vision

amongst the participants and translating them into time bound strategies. The workshop facilitated the participants to visualize for themselves their potential, and the strategies they would like to follow to achieve it.

Indira Gandhi Eye Hospital and Research Centre, Munshiganj, Amethi

The Essilor Company donated a Refractive mobile van to the Indira Gandhi Eye Hospital and Research Centre at Amethi. This van will be utilized to carry out refraction checkup in the rural areas of Amethi. The van is the first of its kind in the world and has been especially designed by Essilor India for conducting refraction tests in the rural areas and onsite manufacture of spectacles.

Dr. Datta with Participants at the Vision Building and Strategic Planning Workshop at Priyamvada Birla Aravind Eye Hospital, Kolkata



Information Technology & Systems

Over the years, Information Technology at Aravind has transcended from being a tool for improving efficiency to becoming a core strategy towards achieving its mission of eliminating blindness.

Today, Local Area Network is available in all the five Aravind Eye Hospitals. A Wide Area Network is in place to share the data among all the hospitals. All Aravind IT activities are managed by a central team at LAICO in coordination with respective hospitals IT staff. IT & Systems department in each location supports the users, improves the software and works with users for the development of new systems. Central team takes care of new development, improving existing systems and also providing services for other eye hospitals to implement IT.

IT is widely used for the following key applications at Aravind Eye Care System:

- Integrated Hospital Management System software to manage patient care areas.
- Electronic Medical Records (EMR) in Bio-Chemistry and Microbiology Labs
- Community Outreach Management
- Materials Management
- Financial Accounting
- Human Resource Management
- Eye bank Management
- Intranet for internal sharing of information
- Tele-Ophthalmology
- Eyestalk - A tool for clinical consultation
- ADRES – Aravind Diabetic Retinopathy Evaluation Software
- Training Courses Management
- Consultancy Management
- Research Data Management
- Fingerprint based attendance
- VISION 2020 e-resource

IHMS at Aravind Eye Hospitals

IT Division worked on improving the performance of overall system by fine tuning databases and improving the software. Enhancements were done in the areas of clinical management, operation theatre, patient counselling, dietary and other modules to improve the utilization of system and generate necessary information.

Personal Digital Assistance (PDA) application was implemented in the areas of Refraction to record and print glass prescription details and in housekeeping to capture complaints right at the patient room to intimate the concerned department at once.

A miniature version of IHMS with some specific customization to suit Community Clinic and vision centre were created and implemented in Tuticorin and Thiruppur community Clinics, Chinnmanur and Periyakulam Vision Centres.

During 2006, IHMS has been implemented in eight more hospitals in India, Nepal and Bangladesh. Follow-up support service has been set up to offer the existing users of IHMS. As of date 12 more hospitals are in the list for implementing Aravind's IHMS system during 2007.

Inventory Management Software

Windows based Stores management software which was installed at Aravind-Madurai in 2003, is now implemented at Aravind - Tirunelveli, Theni and Coimbatore with necessary improvements.

Accounting software

Uniform accounting software was implemented during this year to facilitate easy transmission of data from satellite hospitals and also to send the audited accounting details for use in satellite hospitals without any conversion.

Upgrade of IT facilities

- IT department of Aravind-Theni and Tirunelveli have been remodeled
- Fingerprint Attendance system was introduced in all our hospitals.
- Touch screen system for patient information was setup in Theni in November 2006
- Structured cabling was done at Aravind- Tirunelveli and Theni for easy maintenance and management. Wireless network was setup in the speciality clinics to provide connectivity for PDAs and Laptop computers. Rack based network cabling work was done at LAICO during this year.
- WAN was setup with all the vision centers and hospitals for live consultation, data sharing etc.

Air Jaldi 2006

Dharamsala, October 19 - November 2

Mr. Rajan - EDP Department and Mr. Pranesh – Telemedicine attended the summit on Wireless Network Workshop and Training at Dharamsala, Himachal Pradesh.

*Mr. Rajan, EDP department
and Mr. Pranesh, Telemedicine
visited Dharamsala*



National Workshop on IT applications in Eye Care

Aravind-Madurai, August 3-5

The workshop on “IT applications in eye care” was designed to share knowledge about current trends and status of Information Technology and share experiences of various IT applications in eye care settings. Two eye care majors in the country — Sankara

Nethralaya and Aravind Eye Care System —jointly organized the workshop under the auspices of VISON 2020-The Right to Sight – India.

Several IT companies, more than 70 delegates from India, Bangladesh and Nepal attended the workshop.

*Participants to the National
Workshop on IT applications
in Eye Care*



Aravind Tele-Ophthalmology Network

Vision Centres, Theni District

Year 2006 marked a new beginning in terms of connectivity for Aravind Vision Centres. All the five centres have migrated to 4 mbps high bandwidth wireless connectivity that uses 802.11b technology. The technical support for this initiative came from the IT team from UC Berkeley headed by Mr. Sonesh Surana under the leadership of Mr. Eric Brewer. Vision Centres demonstrate the power of tele-ophthalmology in reaching rural population at primary eye care level thus overcoming challenges like accessibility, availability of critical resources like ophthalmologists etc.

Extending the Reach

Aravind in collaboration with Digital Health, Intel India Programme supported Government Rural Hospital, Baramati, Maharashtra to set up a real time ophthalmic tele-consultation (along the lines of Vision Centre approach) as part of the Digital Health Centre. An ophthalmic assistant from the Rural Hospital was trained at Aravind Madurai for two weeks to carry out basic screening. eyesTalk, the tele-consultation software is used to send out patient information to Aravind-Madurai to obtain ophthalmologist's opinion. Real time Tele-consultations will be carried out with HV Desai Eye Hospital, Pune in near future once the broadband connectivity is established.

Vision Centres - Scaling up

Through a generous grant from Lavelle Fund for the Blind, USA, Aravind is scaling up the Vision Centres increasing the tally to twenty five by setting up another 20 Vision Centres that will be spread across and linked to each of the Aravind Eye Hospital. Considering the long term sustainable model, ATN would explore multiple technologies for connectivity. Few of these Vision Centres would be set up with broadband DSL connectivity (256 Kbps to 1 Mbps) taking advantage of increased penetration of DSL connectivity in the rural areas.

Reading & Grading

Aravind TIFAC-CORE in Diabetic Retinopathy, with support from TOPCON South Asia Pvt Ltd, Singapore has developed exclusive Diabetic Retinopathy Reading and Grading Software ADRES (Aravind Diabetic Retinopathy Evaluation Software). It allows for exchange of images of retina and clinical information of diabetic patients via VSAT (satellite)/LAN/Leased line through the client computer at the eye camp site or secondary eye hospital end. Eye care programmes that do not have Retina specialist or doctors from other disciplines like diabetologists could use this software that would ultimately benefit the patients.

Further extending the reach, in Dec 2006, Aravind implemented tele-consultation programme at the M V Diabetes centre, Madurai through ADRES software to screen patients with diabetes for diabetic retinopathy. Patient's retinal images and clinical information is sent to Aravind over DSL connectivity and a report on patients' eye condition along with the treatment advice is sent back immediately by the Retina specialist at Aravind, Madurai.

Tele-education

As a postgraduate institute, Aravind joined the initiative of collaborating with IGNOU, New Delhi to take part in online classroom sessions offered through IGNOU VSAT connectivity during the month of July – August 2006.

Human Resources Development

The Human Resources Development Department is a centralised service to support the staff development across the entire Aravind Eye Care System. The broad mandates are to maintain alignment to the Vision of the organization, strengthen the value system, ensuring appropriate staffing, team work and building individual employees' capacity and capability. The following describe the activities carried out towards this mandate.

Founder's Day At Aravind Eye Hospitals

A Light there is that leads, a Power that aids;

Unmarked, unfelt it sees in him and acts: - Sri Aurobindo, 'Savitri'

In honour of the legendary founder Dr. V, it was decided to observe his birthday on 1st October as 'Founder's Day' from 2006 onwards. As Aravind looks to the future and being the world's largest quality eye care service provider, it is important that the administration, employees, faculty members and students remember the efforts of the great man who created this great institution. One of the core strengths of Arvind has been the strong alignment of all departments to the Vision of the organization of "Eliminating needless blindness" and the value framework which governs all the activities and decisions.



*Poster making competition in
Founder's day celebration*

Recognizing this, the Founder's Day activities involved different competitions like poster making and essay writing which were held across all the centres of Aravind Eye Hospitals. In these competitions each department was asked to express its mission explicitly and how it contributes to Aravind's Vision and the more short-term target of 1 million surgeries. On that day the senior members of the Aravind team addressed the staff at all the hospitals on the Founder's contribution, goals and the vision.

Retreat 2006 - 07

Leadership Retreat

Hotel Pandian, Madurai, January 7-8, 2006

Once in five years, the Aravind Leadership Team takes time off from routine work to focus on the steps to plan further growth towards its mission. Prof Fred Munson, Aravind's good friend and management consultant since 1981 facilitate these retreats. This year he was assisted by Cindy Harrison, Vice President, Chelsea Hospital. The Leadership team presented various strategies focusing on the mission. The purpose of the retreat was to develop a shared understanding of what we want to become as an organization.

The following aspects were discussed in the leadership retreat:

- the values that define Aravind as an organization
- review the challenges that will likely, or certainly be faced in the next five-ten years.
- discuss ideas that will make Aravind a better organization.
- identify what qualities Aravind needs to have in order to generate, evaluate and introduce new ideas that will continuously make it a better organization.
- based on that shared understanding of what the organisation wants to become, agree on the strategic directions to get there
- finally, each participant individually decide on what he or she will do to begin the process.

Cornea Retreat

LAICO, March 11-12, 2006

Cornea retreat brought together all the key people of the Cornea and allied services of the four



At the Cornea retreat at LAICO

hospitals of Aravind Eye Care System excluding Theni. It brought together medical and paramedical personnel of cornea services and supportive services like microbiology, Eye bank, Refractive surgery services and Aurolab personnel. This retreat was coordinated by the Cornea departments of Coimbatore and Madurai. The main objective was

on improving patient care, number of patients seen, standardising clinical protocols and come up with innovations in terms of newer and improved services. This retreat also addressed research activities and the Fellowship training Programme.

Glaucoma Retreat

Courtallam, April 8-9, 2006



Glaucoma retreat at Kris Gardens in Courtallam

The first Glaucoma retreat was conducted at Kris Gardens in Courtallam under the guidance of Dr. R. Ramakrishnan and was organized by Dr. Venkatesh and Dr. Sathyan. The aim of this retreat was to evolve preferred practice pattern, glaucoma clinic management, standardization of long and short term Glaucoma fellowship program, surgical training for

PG and speciality fellows, to plan yearly CME programmes and research activities.

Aravind Humarn Resources Development Planning Workshops

LAICO, Jan 17 & 18, 2006 & Jan 10 & 11, 2007

These workshops were facilitated by Ms. Cindy Harrison, Vice – President – HRD, Chelsea Community Hospital and attended by Director , HRD, HR and Personnel Department staff of Aravind Eye Care System.

The workshop in Jan 2006 started with a review of activities set out for 2005. The main part of the workshop focused on what the HR Department would like to achieve and set out a “HRD Roadmap”. Some of the broad directions were to make the celebrations like Auroutsav into meaningful activities that strengthen “Aravind’s Vision & Values”; streamline and standardise the staff training activities so that the reach and benefits will be across the system. These sessions were extremely useful in developing a clear-cut road map and also in prioritizing the HR activities for the year 2006. It gave a clear idea of how the HR and Personnel staff could contribute to the better functioning of Aravind Eye Care System. These were then reviewed in the Jan 2007 workshop.



Guest Faculty Mr. Ajit Abraham, Chief HR Sify Ltd., and Mr. Sunil Karanjikar, Head of HRD, Kokilaben Dhirubai Ambani Hospital, Mumbai, with Dr. S. Aravind and Ms. Preethi Pradhan

National Conference on HR Management

Aravind - Madurai, January 21-22, 2006

‘Building a Culture of Service Excellence and Innovations in

Healthcare’ was the theme of the conference. Mr. Bangera, Managing

Director, Hi Tech Arai gave the inaugural address and set the context for the workshop.

Prof. Fred Munson, Ms. Cindy Harrison as well as prominent representatives from the HR arena of several industries served as resource persons. About 120 people attended the conference - hospital administrators as well as students of HR. The conference covered several dimensions of building service excellence.

Workshops and Training Programmes FOR AECS

A core function of the HR department is one of continually enhancing the capacity and capabilities of the employees of all cadres in the Aravind Eye Care System. This is carried out through a series of workshops and training programmes. Each of this is based on careful needs assessment and designing the learning activity accordingly. The resource persons are often a combination of internal and external faculty as dictated by the training activity.

Training Programmes Organised:

- Spoken English Class for all cadres of MLOPs across AECS was conducted from Nov 6, 2005 - Jan 26, 2006 to improve their English speaking skills.
- A CME Programme for personality skills development and updates in their area of work was conducted at all the hospitals for MLOPs of all Departments during the pre-Pongal week from 1-10 January in 2006 and 2007
- Ward sisters of AEH-Madurai were trained in using computers and MS Office from January 9-11, 2006.
- A lecture on Values for Every Day Life for all Aravind-Madurai Employees on Jan 27, 2006.
- A training programme on Human Relations was conducted during February 13-23, 2006 for the MLOPs of AEH-Madurai. The training covered how to identify

MLOPs at the training programme on Human Relations



- communication barriers, communication style, body language, communicate effectively, improve interpersonal skills.
- A training programme was conducted for the Camp Organizers of Community Outreach Department during May 1-13, 2006 on how to communicate effectively with sponsors of different voluntary organizations about organizing camps and on clarifying the details and issues relating to funding by District Blindness Control Society.
 - A refresher programme on systems and procedures, Personnel Software was conducted for Personnel Department staff of all the Hospitals from June 1-3, 2006.
 - CME for training Coordinators at Aravind-Madurai, June 5-6, 2006: The two day training programme was conducted for the coordinators responsible for the external structured training programmes at Aravind. The main objective was to strengthen the training management by standardizing the process and developing the capacity of the training coordinators in communication, documentation, report generation, etc. A total of 13 participants from all Aravind Eye Hospitals attended this training.
 - Orientation cum Training Programmes for II Batch of MLOP Supervisors & Tutors: This is a series of three training sessions (Aug 21-30, 2006, Nov 27-30, 2006 & Mar 8-10, 2007) aimed at preparing the newly promoted Supervisors & Tutors of MLOP's to perform more effectively in their new role. Nineteen members participated in the programme. The objectives were:
 - to formalize the expectations from them in their new role
 - To learn supervisory skills and making their classes more effective and productive
 - To improve the focus on patient centred care.
 - To become aware of the newer developments across the Aravind Eye Care System
 - to familiarize them with AECS and the vision for its growth
 - CME for MLOPs from all departments was conducted during October 5-15, 2006 utilising the slack in patient load on account festival season.
 - Awareness about Effective saving of Money - All MLOPs of Aravind-Madurai attended a talk by Indian Overseas Bank
 - "Patient Centred Care" workshop was conducted for I & II Batch MLOP Supervisors and Tutors on November 30, 2006
 - Workshop on Adult Learning Principles, held at LAICO, March 13, 2007: The Participants of this workshop were the MLOP Supervisors and Tutors, Training Team from LAICO and the HR Team. The workshop was facilitated by Ms. Kathryn Hecht from USA who served for many years at the American Academy of Ophthalmology as Vice President in charge of education. The Training helped the participants understand the learning principles. The session also had various group activities to help the participants understand the theme better and develop new ways to improve their teaching.

DR. G. VENKATASWAMY EYE RESEARCH INSTITUTE

Aravind Medical Research Foundation

Over the years, the spectrum of research activities at Aravind Medical Research Foundation diversified from epidemiology, clinical research and clinical genetics to basic research and translational research. The importance of basic research on Genetics, Immunology, Microbiology, Cell Biology, Biochemistry and Molecular Biology of eye diseases with special reference to Indian context is well recognized and several research programmes are underway with the support of various funding agencies in India and with international collaboration.

Aravind is currently in the process of establishing a new major centre for research – Dr. G. Venkataswamy Eye Research Institute to strengthen and integrate our various research activities. We have also initiated major programmes on Proteomics of plasma, vitreous and tear related to eye diseases.

In addition to screening for mutations, the major activities would involve Functional Genomics, Copy number variation, Single Nucleotide polymorphism, especially in age related eye diseases.

ON GOING PROJECTS

- Pathogenic Mechanism of Uveitis Associated with Past Leptospiral Infection
- “Two-Parameter Analysis” A Precise Corneal Epithelial Stem Cell Marker
- Evaluation of Label Retaining Property of Cultured Limbal Epithelial Cells in Relation to Two-Parameter Analysis
- In vitro and in vivo study on the secretion of Gly367Arg mutant Myocilin protein
- Molecular Study on Congenital Rubella Syndrome in south Indian population
- Identification of Candidate Genes and Screening for Polymorphisms of Genes Associated with TYPE II Diabetic Retinopathy
- Studies on the proangiogenic and vascular growth factors in relation to the pathogenesis of Eales’ disease and Diabetic Retinopathy
- Molecular Genetic Analysis of Autosomal Recessive Congenital Hereditary Endothelial Dystrophy
- Genetic and Functional analysis of FOXL2 gene in Indian Patients with BPES syndrome
- Development of Data mining techniques using variety of data structures on eye diseases in Indian population and software development in relation to medical diagnostics for image analysis

NEW PROJECTS

- Pathogen host interaction in human mycotic keratitis
- Identification of Genetic Defects Occurring in Indian Oculocutaneous (OCA) and Ocular Albinism (OA) Families

- Will Cytoskeletal Drugs Prevent Posterior Capsule Opacification?
- Corneal Surface Reconstruction using Bio-Engineered Autologous (BUCCAL) Mucosal Epithelium
- Application of multiplex PCR in the diagnosis of infectious retinitis

Major Events

The first meeting of the Joint Working Group of Indo-US Collaboration on Expansion of Vision Research

Organized by the Department of Biotechnology, Government of India, New Delhi, on 28 & 29 September, 2006.

The main objective of the meeting was to discuss and plan for establishing collaboration on expansion of vision research between India and United States of America. Dr.P.Namperumalsamy spoke on the role of Aravind Eye Hospital and giving an overview of Vision Research and Diabetic Retinopathy clinical research network.

Dr.VR.Muthukkaruppan presented the various ongoing research projects as well as the potential of patient materials available for basic research. He also mentioned about the project “Will Cytoskeletal drugs prevent Posterior Capsule Opacification?” which was already approved by National Institute of Health.

The New Indo-US Collaborative projects will be considered for funding by National Institute of Health and by Department of Biotechnology simultaneously.

President Dr. Abdul Kalam lays Foundation for Dr. G. Venkataswamy Eye Research Institute

Aravind-Madurai, January 5, 2007

On January 5, 2007 His Excellency Dr. A.P.J. Abdul Kalam, President of India laid the foundation stone for Dr. G. Venkataswamy Eye Research Institute. The function was held at an improvised auditorium, elegantly erected at the site of the planned building of the Eye Research Institute, near LAICO. After the foundation stone laying ceremony, The President met all senior staff of AMRF and other visiting scientists privately and discussed ways research can help tackle the problem of blindness.

Dr. A.P.J. Abdul Kalam, the President of India with Dr.P.Namperumalsamy, Dr.VR.Muthukaruppan, Dr.Sundaresan and other guests at the 'Meeting with the Scientists' session following the Foundation Stone Laying Ceremony



MAJOR CONFERENCES ATTENDED ELSEWHERE

“Human Genetics and Public Health” and XXXI Annual Conference of Indian Society of Human Genetics

New Delhi, Feb27-Mar 01,2006

Poster presentations

- J. Kanagavalli- Novel Homozygous mutation in MYOC associated with Indian POAG patient
- B. Hemadevi - CYP1B1 Gene variations in primary Congenital Glaucoma (PCG) and primary Open Angle Glaucoma
- J. Nallathambi- FOXL2 mutations in Indian families with Blepharophimosis-ptosis – Epicanthus Inversus Syndrome

Indo-Swedish Symposium on Genomics and Proteomics of Diabetes

Chennai, April 1-2, 2006

- P.Sundaresan, G.Sajithlal, G.Sangiliyandi, P.Murugeswari, B.Suganthalakshmi participated

Poster presentation

B.SUGANTHALAKSHMI

- Role of VEGF, eNos and ALR gene polymorphisms in diabetic retinopathy

Indian Eye Research group (IERG) Meeting, L V Prasad Eye Institute

Hyderabad, July 20-30, 2006

DR.VR.MUTHUKARUPPAN

- Identification, Enrichment and characterization of Human Corneal Epithelial Stem Cells

GOWRI PRIYA CHIDAMBARANATHAN,

- Leptospiral Uveitis is endotoxin mediated

AMALA RAJASUNDARI

- Molecular Study on Congenital Rubella Syndrome in South Indian Population

J.KANAGAVALLI

- Normal and Mutant Myocilin Gene Expression in Cultured Trabecular Meshwork Cells

P.MURUGESWARI & B.SUGANTHALAKSHMI

- Correlation between Genetic Polymorphisms and Vitreous Levels of VEGF in Proliferative Diabetic Retinopathy

B.HEMADEVI

- Molecular Genetic Analysis Of Autosomal Recessive Congenital Hereditary Endothelial Dystrophy

The Sixth International Symposium of Ophthalmology and the Seventh Asia Pacific Society of Eye Genetics Symposium (APSEG)

Hong Kong, 13-15 August 2006

Dr.P.Sundaresan

- Molecular genetics on hereditary Glaucoma and in vitro expression of mutant myocilin gene in trabecular meshwork cells



Dr. P.Sundaresan at the 6th International Symposium of Ophthalmology and the 7th APSEG Meet

Meeting on Research in Vision and Ophthalmology (ASIA ARVO-2007)

Singapore, March 2-5, 2007

DR.VR.MUTHUKARUPPAN

- Identification, Characterization, Enrichment and Ex Vivo Expansion of Human Corneal Epithelial Stem Cells

DR. R. KIM

- Asia-ARVO meeting on Research in Vision and Ophthalmology
- Intravitreal Triamcinolone in DME”.
- Allergan POSURDEX Investigators meeting

DR.P.SUNDARESAN

- Variations in the MYOC Gene in Indian Patients with POAG and in vitro and in vivo Study on the secretion of Gly367Arg Mutant Myocilin protein

DR.LALITHA PRAJNA

- Diversity of Pseudomonas aeruginosa in Corneal Ulcers from South India

MS.GOWRIPRIYA

- Aetiopathogenesis of Uveitis associated with Leptospirosis in Humans

MS. S.ANANTHI

- Tear proteome Analysis in Fungal Keratitis

MS. B.HEMADEVI

- Molecular Genetic Analysis of Corneal Endothelial Dystrophies: FECD and CHED2 in Indian patients

MS.P.MURUGESWARI

- Studies on pro-inflammatory cytokines, Angiogenic and Anti-angiogenic factors in Vitreous of patients with Proliferative Diabetic Retinopathy and Eales' Disease



BEST POSTER PRESENTATION
The Outstanding Award in Basic Science was given to Ms.Murugeswari for the best poster presentation at the ASIA ARVO 2007 meeting for the article on “Autosomal recessive juvenile onset cataract associated with mutation in BFSP1

Internal Capacity Building: Training

- Ms. T. Amala Rajasundari, Ph.D Research scholar at AMRF underwent training at Health Protection Agency in London under the supervision of Dr. Li Jin, Molecular Virologist from March 8 to June 1, 2006. The aim of this training was to carry out the molecular testing in the Congenital Rubella Syndrome (CRS) samples collected at Aravind Eye Hospital and to

get practical training in rubella virus culture and molecular assays.



Ms. Amala with IDU staff HPA, London, UK

- Mr.J.Nallathambi, Junior Research Fellow, Department of Genetics, AMRF underwent research training from September 6 to December 29, 2006 in Cochin, Paris, under the guidance of Prof. Reiner A Veitia under the sandwich Ph.D scholarship by French Embassy India, to carry out part of his Ph.D Programme in Paris.



Mr.J.Nallathambi with Prof. Reiner A Veitia

- Ms.Ramya Devi Ramachandran, Junior Research Fellow, Department of Molecular Biology, AMRF was awarded the pre-doctoral visiting fellowship to work at the National Eye Institute, NIH, Maryland,

USA from January 2006 to February 2007. There she worked on 'Understanding the genetic basis of hereditary cataract in Indian families' under the guidance of Dr. J Fielding Hejtmancik, Senior investigator, Ophthalmic Genetics & Visual Function Branch. Here she received training to carry out positional cloning of genes involved in inherited diseases and published an article on "Autosomal recessive juvenile onset cataract associated with mutation in BFSP1" Hum Genet. 2007 Jan 16.



Dr.Dorothea Nitsch, Clinical Lecturer

Visitors

- Dr. Pritindir Kaur, Peter MacCallum Cancer Center, Australia came to discuss on Epithelial Stem Cells.
- Dr. M. Ramanathan, Professor of Pharmacology, PSG College of Pharmacy, Coimbatore gave a guest lecture on "Understanding the role of neuronal mediators in neurodegenerative processes"
- Dr. Dorothea Nitsch, Clinical Lecturer, Department of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London visited on March 15, 2006 for discussion about INDEYE project on Genetics of age related cataract and age related macular degeneration. She also gave a seminar on "Mendelian Randomization"
- Dr.Xu ling, Director of Research Division, HE Eye Hospital, China

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ASIAN J.EXP.SCI.

2006;20:15-28

SUGANTHALAKSHMI, RAJENDRAN, KIM, NAMPERUMAL-SAMY, SUNDARESAN

- *Emerging Patterns of Possible Potential Candidate Gene Polymorphisms Associated with Diabetic Retinopathy – a review*

NATURE GENETICS

2006 Jul; 38 (7):755-7

ERANGA VITHANA, MORGAN, SUNDARESAN, EBENEZER, TAN, ANAND, KHINE, DHIVYA, YONG, SALTO TELLEZ, ANANDALAKSHMI, KE GUO, HEMADEV, MOIN D.

MOHAMED, SRINIVASAN M, PRAJNA, KHINE M, CASEY J, CHRIS F. INGLEHEARN AND TIN AUNG .

- *Mutations in Na⁺-borate co-transporter SLC4A11 cause recessive Congenital Hereditary Endothelial Dystrophy CHED2*

BMC J OPHTHALMOL

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NEETHIRAJAN G, NALLATHAMBI J, KRISHNADAS, VIJAYALAKSHMI, SHASHIKANTH, JON MARTIN COLLINSON AND SUNDARESAN

- *Identification of novel mutant PAX6 alleles in Indian cases of familial aniridia*

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SUGANTHALAKSHMI B, ANAND R, KIM R, MAHALAKSHMI R, KARTHIKPRAKASH S, NAMPERUMALSAMY P, SUNDARESAN P.

- *Association of VEGF and eNOS gene polymorphisms in type 2 diabetic retinopathy*

2006 12: 1086 - 1092

NALLATHAMBI J, SHUKLA, RAJENDRAN, NAMPERUMAL-SAMY, MUTHULAKSHMI, SUNDARESAN

- *Identification of Novel FZD4 mutations in Indian Patients with Familial Exudative Vitreoretinopathy (FEVR)*

2006:12:236-42

NALLATHAMBI J, NEETHIRAJAN G, SHASHIKANT S, VIJAYALAKSHMI P, SUNDARESAN P,

- *PAX6 Missense Mutations Associated in patients with Optic Nerve Malformation*

2006;12:190-5

DEVI RR, VIJAYALAKSHMI P.

- *Novel mutations in GJA8 associated with autosomal dominant congenital cataract and microcornea*

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BALASUBBU SUGANTHALAKSHMI, DHANANJAY SHUKLA, ANAND RAJENDRAN, RAMASAMY KIM, JEYABALAN NALLATHAMBI, AND PERIASAMY SUNDARESAN

- *Genetic variations in the hotspot region of RS1 gene in Indian patients with Juvenile X-Linked Retinoschisis*

INDIAN J OPHTHALMOL

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VASANTHI, NAMPERUMALSAMY, PRAJNA, LALITHA, KANNAN MAHADEVAN, MUTHUKKARUPPAN

- *A Pilot study on the infiltrating cells and cytokine levels in the tear of fungal Keratitis patients.*

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2007 Feb. 26(2) 119-22

PRAJNA, NIRMALA, SARAVANAN, SRINIVASAN

- *An economic analysis of corneal ulcers in South India*

2007 Feb. 26(2) 207-11

ROHINI, MURUGESWARI, PRAJNA, LALITHA, MUTHUKARUPPAN

- *Matrix Metalloproteinases (MMP-8, MMP-9) and the Tissue Inhibitors of Metalloproteinases (Timp-1, Timp-2) in Keratitis Patients*

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2006 Nov;124(5):553-8.

AMALA, KEERTHY, VIJAYALAKSHMI, MUTHUKKARUPPAN

- *Immune Status of Health Care Personnel and Post vaccination analysis of immunity against Rubella in an Eye Hospital”*

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P.VIJAYALAKSHMI, VR.MUTHUKKARUPPAN, A.RAJASUNDARI, G.KORUKLUOGLU, W.NIGATU, L.A.WARRENER, D.SAMUEL, D.W.G.BROWN

- *Evaluation of a commercial rubella IgM assay for use on oral fluid samples for diagnosis and surveillance of congenital rubella syndrome and postnatal rubella 2006*

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- *A novel polyalanine expansion in FOXL2: the first evidence for a recessive form of the blepharophimosis syndrome (BPES) associated with ovarian dysfunction.*

2007 [Epub January 16]

RAMYA DEVI RAMACHANDRAN, VIJAYALAKSHMI PERUMALSAMY, J.FIELDING HEJTMANCIK

- *Autosomal recessive juvenile onset cataract associated with mutation in BFSP1*

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JEYABALAN NALLATHAMBI GURUSWAMY NEETHIRAJAN, KIM USHA, JETHANI JITENDRA, ELFRIDE DE BAERE, AND PERIASAMY SUNDARESAN

- *FOXL2 mutations in Indian families with Blepharophimosis-Prosis-Epicanthus Inversus Syndrome*

Aravind Eye Banks

To bridge the gap between the number of corneas procured and the actual number required to treat corneally blind population, Eye Banks have been established at all Aravind Eye Hospitals, except in Theni.

- Rotary Aravind International Eye Bank at Aravind Eye Hospital, Madurai
- Rotary Aravind Eye Bank at Aravind Eye Hospital, Tirunelveli
- Aravind IOB Eye Bank at Aravind Eye Hospital, Coimbatore
- Aravind Eye Bank at Aravind Eye Hospital, Puducherry

Eye Bank team with trainees from Vietnam & Ethiopia at Aravind- Madurai



In the year 2006, the Aravind Eye Banks besides its eye ball collection and processing work, were involved in various activities.

They took new initiatives to improve the eye ball collection. Various initiatives were taken to increase the awareness about eye donation

among the general public. Awareness programmes were arranged in colleges, self-help groups, Lions Clubs, Rotary Clubs and in Non-Profit Organizations.

The Aravind Eye Banks recovered a total of 3,441 eyes from January 2006 to March 2007. After grading the corneal tissues 1,271 were used for Corneal Transplantations at Madurai, Puducherry, Tirunelveli, and Coimbatore Aravind Eye Hospitals.

Aravind Eye Banks	Eyes received	Used for Corneal Transplantation
Madurai	2,255	660
Tirunelveli	74	74
Puducherry	186	117
Coimbatore	926	420
Total	3,441	1,271

Eye donation volunteers meeting



Training programmes at Rotary Aravind International Eye Bank, Madurai

Three Doctors from Vietnam National Institute of Ophthalmology and two members from Orbis, Vietnam attended a three day orientation programme in eye bank in the

month of February 2006, to learn about the Aravind Eye Care System, Eye Bank standard operating procedure, Eye banking processes and quality control in Eye bank.

Eye Donation Volunteers Training

Physicians training on eye donation retrieval



Skating rally organised at Tirunelveli to spread eye donation awareness

In July 2006 six volunteers from Madurai were trained on eye donation. In January 2007, second meeting for volunteers was conducted. In which 20 volunteers from women Self Help Group's, students and Lions club members participated. Ln. T.A.Srinivasan participated and shared his experience to the Eye donation volunteers encouraging them to involve in the eye donation services.

Nine Physicians from Lions and Rotary Clubs were trained in Eye donation retrieval procedure.

Eye Bank Manager training was given to Mrs. Workinesh Wanore from Eye Bank of Ethiopia and to Ms. Rajeswari, of Coimbatore Eye Bank.

Events

Eye Donation Fortnight Celebration

The 21st National Eye Donation Fortnight was observed from August 25 to September 8 across all Aravind Eye Hospitals. Various programmes like seminars, rallies, and conferences were conducted to create awareness among the public about the importance and the present status of eye donation in India. Posters and banners depicting the need and importance of eye donation were displayed in various public places, such as banks and post offices. It resulted in lot of enquiries from public regarding Eye donation and pledging.

Accreditation from IFETB/HOTA Certificate

In 2006, Madurai Eye Bank received accreditation certificate from International Federation of Eye and Tissue Banks (IFETB), USA. The Madurai Eye Bank also received the registration certificate under Human Organs Transplantation Act 1994.

A record in Cornea Transplantation

Aravind Eye Hospital, Madurai has set a record by performing 62 Cornea Transplantation surgeries with eyes received through Rotary Aravind International Eye Bank, Madurai in September 2006, which is the highest number performed in a single month.

Aurolab

Stepping into the fifteenth year of its establishment, Aurolab has come a long way in terms of not only volume and diversity of products manufactured, but also the impact it had on the eye care market in developing countries. A market that was virtually devoid of suppliers has suddenly seen the entry of a large number of players wanting a slice of the pie. This has proved to be an advantage to those who previously were not able to locate suppliers of affordable eye care products.

Aurolab is all set to move to the new 110,000 square foot facility. The new facility is designed to comply with international standards and provides ample space for future expansions. Aurolab plans to move into the new building in phases, beginning June 2007.

Aurolab now has five divisions – Intraocular lens, Suture Needles, Pharmaceuticals, Instruments and Blades divisions - all dedicated to Aravind's mission of eliminating needless blindness.

The Intraocular Lens Division has added a few more products that are important. Apart from the much-welcomed launch of the hydrophobic foldable lens, a few other products like Yellow PMMA lens, Capsular Tension Segment, Modified Capsular Tension Ring, and Jones Tube were also introduced and the feedback has been extremely good. This year was remarkable as this division's production successfully crossed one million lenses in one year period from April 2006 - March 2007.

The Suture Needle Division is making steady progress in the field of microsurgery. New models were introduced in the absorbable range of sutures.

The new Aurolab facility



Pharmaceutical Division, as always, faced constant demand and has adeptly coped with its increasing orders. Various studies are also being carried out and new products are in the pipeline. They will be successfully launched in the coming year.

There have been significant developments in the Blade Division. The process and the quality of the products have remarkably improved. The products have been well appreciated for the quality of sharpness and consistency.

The Instruments Division is supplying bipolar coagulators and catering to both national and international markets.

NEW PRODUCTS

AuroVue

India's first hydrophobic foldable lens with 360-degree posterior square edge that comes with disposable delivery system was launched in 2007 during the 65th All India Ophthalmic Conference held in Hyderabad in February 2007. Ms. Mary LaMar and Mr. Michael Price of Visionary Medical Supplies and Mr. David Green and Mr. Joel Segre of Project Impact extended their valuable support for the development of this lens. The sample lenses are supplied to various hospitals and the postoperative results are very positive.

AuroGold

Yellow PMMA 360-degree posterior square edge single piece lens is a speciality lens that effectively filters the harmful blue light rays from the visible spectrum and gives enhanced protection to the retina.

AuroPed

This is a 360-degree square edge lens designed specifically for paediatric patients. The overall diameter of this lens is smaller than regular lenses.

AuroRing

Two new products were introduced in this category – Capsular Tension Segment and Modified Capsular Tension Ring. These products are variants of Capsular Tension Ring and are implanted in cases of weakened zonules.

Aurotube is an artificial tear duct designed for implantation behind the inner corner of the eye lid to drain tears into nose.

Aurohook is a disposable device that is used for mechanical dilation of the pupil during surgery.

Apart from these new products, Pre-loaded Capsular Tension Ring, Hydrophilic Foldable lens with 360-degree posterior square edge and 7-0 Aurocryn, an absorbable suture needle are the few products awaiting launch.



AUDITS

Committed to the quality of its products and in strict adherence to quality systems, Aurolab monitors its processes and systems through regular inspection and regular internal and external audits.

Last year the ISO 9001:2000 and ISO 13485 audits were conducted from March 13-14. The CE certification audit was conducted from July 18-22.

CLINICAL RESEARCH DEPARTMENT

Aurolab's Clinical Research Department was set up in 2005 to coordinate all the activities related to clinical research and the studies concerning new and existing products. These studies are undertaken to authentically ensure the safety and efficacy of the products before their use on patients.

Clinical trials from Phase I, Phase II, Phase III and Phase IV studies are being carried out by the department on new products prior to product launch and on the existing products. Randomized controlled trials and double blinded tests are conducted for the products.

Clinical investigational plan, patient's information and clinical data are being prepared in accordance with the standards. Constant interaction with the doctors pursuing the study and focused efforts result in efficient planning, better execution and timely completion of the study as well as achieving reliable results.

The trials are registered with *Clinical Trials.gov* which complies with WHO GCP standards. The participation of the patients in the study is *100% voluntary*. The patients participating in the study are compensated for treatment, surgery, medicines, travel, food and inpatient charges.

NEWS & EVENTS

Registration of Medical Products in China

Dr. P. Balakrishnan, Managing Director, Aurolab gave a presentation on "Developing Manufacturing Capability to Reduce the Cost of Eye Care" at Peking University Eye Center, Beijing. He also met with officials of the Eye Hospital, Wenzhou Medical College, Wenzhou, regarding the registration of Aurolab products with Chinese State Food and Drug Administration (SFDA). Registration of medical products with SFDA is a requirement for using them in China. As a part of the agreement with Aravind Eye Care System, Wenzhou Medical College

is collaborating with Aurolab for the registration of Aurolab ophthalmic products with SFDA.

BEST STALL AWARD for Smaller Stall Category - for Aurolab

Aurolab was given the Best Stall Award under Smaller stall category for its stall exhibited in 64th -All India Ophthalmic Society (AIOS)

Dr. P. Balakrishnan, making presentation to the officials of the Wenzhou Medical College Eye Hospital





Conference held at Bhopal, from February 9-13, 2006. The award was given during the Annual Board Meeting of the 65th All India Conference held on February 1, 2007 and it was handed over to Aurolab by His Excellency, the President of India, Dr. APJ. Abdul Kalam.

Dealers Meet at Hyderabad

Aurolab held a meeting for its dealers on the sidelines of AIOS conference on the 1st of February, 2007 at Hyderabad. This meeting gave the dealers time to interact amongst themselves and with the management, on promoting Aurolab products in conferences.

Team from Essilor at Aurolab

A team from the Instruments Division of Essilor, a major plastic spectacle lens manufacturer in France, comprising of Mr. J.C. Robert, Head- International Sales, Essilor Instrument Division, Paris, Mr. Emmanuel Guillet Belaud, Head of Sourcing, Essilor Instrument Division, Shanghai, Mr. P. Srinivasan, Head of Essilor Instrument Division in India, Mumbai, Saugata Banerjee visited Aravind Eye Hospital and Aurolab on April 25, 2006. The purpose of the visit was to explore the possibilities of sourcing components from India and Aurolab for the range of instruments such as edging machines, pupillometers, and vision testers, that Essilor is presently producing for the global market. They also discussed the possibilities of using Aurolab as a resource for contract manufacturing, testing and design for some of their requirements in the near future.

Management Program at Harvard Business School

Mr. R. D Sriram, Director – Operations, attended a management program at Harvard titled “Strategic Perspectives in Non Profit Management”. He received funding from the “Hansjoerg Wyss Fund for Social Enterprise” instituted by Mr. Hansjoerg Wyss, Chairman and CEO of Synthes-Stratec, a Swiss based medical device company.

*Dr.P.Balakrishnan,
Mr.N.Vishnu Prasad, and
Mr.Sivanand in the Aurolab
booth at AAO, Las Vegas*



Participation in National and International Ophthalmology Meets

Aurolab participated in 3 international conferences this year

- 21st Congress of Asia Pacific Academy of Ophthalmology at Singapore,
- XXIV Congress of European Society of Cataract and Refractive Surgeons (ESCRS) at London
- Joint Meeting of American Academy of Ophthalmology and Asia Pacific Academy of Ophthalmology at Las Vegas, US, November 11-14

These apart, Aurolab participated in over 5 national level conferences and a variety of state level conferences held at Jharkhand, Kerala, Karnataka, Rajasthan, UP, New Delhi, etc.

Dr. P. Balakrishnan at Third international knowledge millennium conference, IKMC2006



These conferences provided a suitable ground to enhance the visibility of the organization and to promote its existing range and new products. There was a very good response for Aurolab's products in all these conferences from the delegates.

Third International Knowledge Millennium Conference, IKMC 2006

“Improving Public Health in India: Need for Innovative Solutions in Healthcare Delivery” on December 19 & 20, 2006 at Hyderabad.

Dr. P. Balakrishnan spoke on “The Evolution and Impact of Indigenous -Intraocular Lenses’ during the second session on Public Health Interventions - Models & Issues in Healthcare Delivery.

VISITORS TO AUROLAB

The following is the list of visitors who visited Aurolab during this year:

- Prof. Abdoulaye Diallo, Institut D’Ophthalmologie Tropicale De L’Afrique and Mr. Mama Garba Tapo, from Republic of Mali
- Dr. Pedro Gomez, Chairman Ophthalmology, Insituto de la Vision, Universidad de Montemorelos, Mexico, Medical Adviser CBM-CARO,CBM – Mexico and Central America
- Mr. Isam Hussain, Unipharma from Sudan
- Mr. Levent Atmaca, Dealer from Turkey
- A team from BD Ophthalmics, led by Mr. Doug Lawrence came to Aurolab to explore broader partnership opportunities for the future
- Dr. Weeraphan Thanaprachoom, working for a CBM Partner in Thailand
- Ms. Gundel Papke, Dipl - Ing, Vertrieb, Klinische Applikation, Carl Zeiss
- Dr. Paul Palmberg, Professor of ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine
- Mr. Lee Larson, Member of SEVA Foundation, Portland, Oregon
- Dr. David Ramsey, Neuroscience Research Laboratory, Lions of Illinois Eye Research Institute, Department of Ophthalmology and Visual Science, University of Illinois, Chicago
- A team from Hindustan Latex Limited – Mr. K.C. Jeyakumar, AGM, Mr. Raju Skaria, Group Product Manager, Mr. Pradeep, AGM – Marketing
- Dr. Eyad Btiebet, Gazeera and Gulf, Yemen
- A team from TYCO, India - Mr. Vithoon Pruengvidhyakarn, Area Vice President (West Asia Division), Mr. S.A.Johnson, Country manager (India & Nepal) and Mr. Ravichandran, Director Sutures & Autosutures.

Accolades



Dr. G. Venkataswamy

Jose Rizal Medal

Dr. G. Venkataswamy was conferred the Jose Rizal Medal for excellence in Ophthalmology in Asia and Pacific countries by the Asia Pacific Academy of Ophthalmology. Dr. N.V. Prajna received the award on his behalf in the presentation ceremony held in Singapore on June 11, 2006.



Lifetime Achievement Award 2006

Dr. Venkataswamy was posthumously conferred the L - Ramp's Lifetime Achievement Award 2006 for his great contribution in restoring the vision of millions in the country through Aravind Eye Hospital network. The Lemelson Recognition And Mentoring Programme (L-RAMP) is a joint initiative by the IIT, Chennai and Rural Innovations Network Chennai, supported by The Lemelson Foundation USA.



Dr. P. Namperumalsamy, Chairman, Aravind Eye Care System

'Teacher Par Excellence' Award

Dr. P. Namperumalsamy has been honoured as "Teacher Par Excellence" by the Retina Institute of Karnataka during its tenth anniversary celebrations on August 11, 2006. As a part of saluting the great teacher Dr. George Hilton the Institute honored Dr. P. Namperumalsamy as a Senior Teacher in the field of Ophthalmology at the Guruvandana Programme.

AIOS' Life Time Achievement Award

Dr. P. Namperumalsamy has been conferred with the Lifetime Achievement Award by All India Ophthalmological Society, in its 65 Conference held in Hyderabad this year. The Award will be presented at AIOS Conference to be held at Bangalore in 2008.

The Padma Shree Award

Dr. Abdul Kalam, President of India, presented the Padma Shree Award to Dr.P.Namperumalsamy in Delhi on March 23, 2007. The award presentation function was held in Rashtrapathi Bhavan at a



Paul Harris Recognition to Mr. R. D. Thulasiraj



glittering ceremony attended by distinguished and elite audience of Central Ministers, M.P.s and special invitees.

Paul Harris Recognition

Mr. R. D. Thulasiraj Executive Director, LAICO was recommended by Rtn. Gabriel Minder from Switzerland and awarded the

honorary Paul Harris Fellow by the Rotary club of Trichirapalli Rock City, in appreciation of his tangible and significant assistance for the furtherance of better understanding and friendly relations among peoples of the world.

Membership to Schwab Foundation Council

Mr. R.D. Thulasiraj, has been invited to participate in the social entrepreneurs council of the Schwab Foundation as one of its members. This foundation provides unparalleled platforms at the country, regional and global levels that highlight social entrepreneurship as a key element to advance societies and address social problems in an innovative, sustainable and effective way.

A.P.C Veerabaghu Memorial Oration Award

Dr. R. Ramakrishnan, Chief Medical Officer, Aravind-Tirunelveli was conferred the A.P.C Veerabaghu Memorial Oration Award for his excellent service in Glaucoma at Tuticorin on December 2006.

Dr. Joseph Gnanadhickam Oration Award to Dr.M.Srinivasan



Dr. Joseph Gnanadhickam Oration Award

Dr. M. Srinivasan, Director-Aravind Eye Hospitals and Postgraduate Institutes of Ophthalmology won Dr. Joseph Gnanadhickam Oration Award in the TNOA Conference held at Pondicherry for his paper on "Objective Assessment of outcome in Refractive Surgery and an overview of

outcome in Lasik, Lasik and Epilasik suppurative Keratitis and Impact on Blindness".

International Advisory Council

Dr. N. Venkatesh Prajna is nominated as member of the International Advisory Council and as a member of the Assessment Committee of the International Council of Ophthalmology (ICO) which will review and advise ICO accordingly.

Dr. S.R. Krishnadas receives the Modern Medicare Excellence Inaugural award



Aravind wins Modern Medicare Excellence Inaugural Award

Infomedia India, Modern Medicare and GE Healthcare in association with Association of Chambers of Commerce (ASSOCHAM) have recognized the contribution of Aravind to society by presenting their Modern Medicare Excellence inaugural award under



Dr. S.R. Rathinam is awarded Ph.D by Tamilnadu Dr. MGR Medical University

the special Jury award category for Institutions.
 Ph.D in Ophthalmology
 Dr.S.R.Rathinam completed her work and submitted her thesis on “Studies on clinical presentation, diagnosis and management of Infectious uveitis with reference to Leptospirosis” in December 2005. She was awarded Ph.D by Tamilnadu Dr. MGR Medical University on March 27, 2007.

ASIA ARVO 2007

Ms. Murugeswari receives the Outstanding Award in Basic Science poster presentation at the ASIA ARVO 2007

The Outstanding Award in Basic Science was given to Ms. Murugeswari for the best poster presentation at the ASIA ARVO 2007 meeting conducted at Singapore from March 2-5.

Biotechnology Overseas Associate ship Award 2005-2006

Dr. P. Sundaresan has been selected for the Biotechnology Overseas Associate ship Award 2005-2006, from Department of Biotechnology, Ministry of Science & Technology, and Government of India.



Silver Jubilee Year Award

Giants Group of Greater Madurai has recognized Aravind Eye Hospital for the Silver Jubilee Year Award for 2006 for its outstanding contribution to sight conservation and free eye operations for the last 25 years.

Certificate of Appreciation

Ms. Chidambaram, Nursing Superintendent at Aravind-Tirunelveli received a certificate of appreciation from the Lions Club of Palayamkottai for her services.



Rakesh Sharma Memorial Award to Dr. Vasumathy Vedantham

Rakesh Sharma Memorial Award

Dr. Vasumathy Vedantham received the Rakesh Sharma Memorial Award in the AIOS conference held in Bhopal in February 2006 for her best work in Ocular trauma in India.

Partners in Service

Institutions and Organizations that partner with Aravind Eye Care System in its mission of eradicating needless blindness swell in number continuously. And it is heartening to note that the long standing collaborators, supporters and friends are finding new ways to strengthen the partnership. Aravind gratefully acknowledges the commitment and assistance of the new and long standing partners in bringing light to more lives.

For Service Delivery, Training and other Developmental Activities

- Acumen Fund, USA
- Adopt-a-Business, UK
- Alcon Laboratories Inc, USA
- Canadian International Development Agency, Canada
- Carl Zeiss Meditec, Germany
- CBM International, Germany
- Combat Blindness Foundation, USA
- Essilor, India
- Friends of Aravind, USA
- Google Foundation, USA
- Indian Institute of Management, Bangalore, India
- Indian Space Research Organisation, India
- International Federation of Eye Banks, USA
- Indian Overseas Bank, India
- International Agency for Prevention of Blindness
- International Eye Foundation, USA
- Lavelle Fund for the Blind, USA
- Lighthouse International, USA
- Lions Clubs International Foundation, USA
- ORBIS International, USA
- Project Impact, USA
- Rotary International, USA
- Seva Canada, Canada
- Seva Foundation, USA
- Sight Savers International, UK
- State Bank of India, Madurai
- TIFAC-CORE, Department of Science & Technology, Govt. of India
- Topcon, Japan
- University of Michigan, USA
- VISION 2020 – The Right to Sight, India
- W2 Consulting, UK
- World Diabetes Foundation, Denmark
- Zurich Financial Services, UK

For Research

- Allergan Pharmaceuticals, USA
- Francis I.Proctor Foundn. for Research in Ophthalmology, UCSF, USA
- Indian Council of Medical Research, India
- International Centre of Eye Health, UK
- London School of Hygiene & Tropical Medicine, UK
- Madurai Kamaraj University, India
- National Eye Institute, USA
- Royal Tropical Institute, Netherlands
- University of Iowa, USA
- World Health Organization, Switzerland
- Singapore National Eye Centre, Singapore
- Tamil Nadu Dr. M.G.R. Medical University, Chennai, India
- Defence Research & Development Organisation, Government of India
- Department of Biotechnology, Government of India
- Department of Science & Technology, Government of India

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Eye Bank Co-ordinator

NIRMALA SORUBARANI MSW

Rotary Aravind Eye Bank, Tirunelveli

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