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SOCIAL AND REHABILITATION SERVICE
Department of Health, Education and Welfare
UNITED STATES GOVERNMENT

383

FINAL REPORT
OF
**PILOT DEMONSTRATION REHABILITATION CENTRE
FOR THE BLIND**

Including an Optical Aid Evaluation Unit
Madurai Medical College, Madurai, India.

Identification Number
19-P-58118-F-01

Period
1st January 1966 to 31st December 1970

PROJECT DIRECTOR

Dr. G. Venkataswamy, B.A., M.B.B.S., M.S., D.O.,
Professor of Ophthalmology and Vice-Principal
Madurai Medical College,
MADURAI

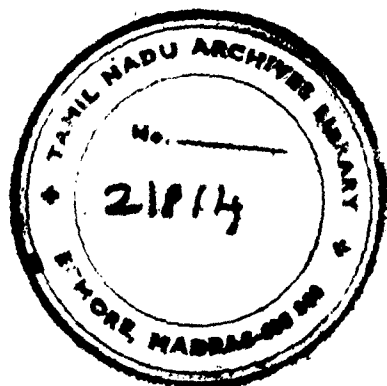
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1. To the Social Rehabilitation Service, U.S. Department of Health, Education and Welfare, for helping with a generous grant of Rs. 5,97,000 for establishing this Pilot Project and Low Vision Aid Clinic in Madurai.
2. To the Director, Far East Regional Office, American Foundation For the Overseas Blind, Kuala Lumpur, Malaysia, for organising Courses for Instructors.
3. To the Indian Council of Medical Research for recommending the project to U.S. Government.
4. To the Government of Tamil Nadu for
 - a) granting permission to carry out the project as a unit attached to the Ophthalmology Department of Madurai Medical College, Madurai and b) for issuing a government order for providing sufficient scope for employment of the blind.
5. To the temples, commercial and industrial organisations and Rotary club for their donations towards the construction of Worksheds and Home Management building.
6. To the Small Scale industrialists for employing the trained blind in their units.
7. To the citizens of Madurai for their encouragement and co-operation for the successful completion of the project.
8. To all the volunteers, blind workers and staff for their devoted service to the project.
9. To the Director, Madurai Institute of Social Work, Madurai, for the help given in the preparation of the Final Report.
10. To all those who directly or indirectly contributed to the success of this project.

Staff employed in the Project, as on 31—12—70

I. P. D. R. C. B.

Honorary Director Dr. G. Venkataswamy

OFFICE STAFF

S. Veerasamy Naidu	Superintendent
S. Ramdas	Office Assistant
T. A. Venkateswaran	Steno Typist.
S. Balachandran	Peon
K. Soundarrajan	Attender
P. Savarimuthu	Van Driver

PROFESSIONAL STAFF

S. Sethuraman	Psychologist
P. Kulandai Raj	Mobility Instructor
R. Kirubanidhi	Vocational Instructor

INSTRUCTORS

R. Veerasamy Naidu	Assistant Mobility	Instructor
Mohamad Ismail	— Do —	— Do —
Mrs. Gnanasoundari	— Do —	— Do —
K. Subbiah.	Weaving Instructor	
Sultan Sikkandar	Tailoring Instructor	

II. LOW VISION AID CLINIC

Dr. P. Namperumal samy	Medical Officer
Sheik Salahudin	Refractionist
P. Krishnamurthy Pillai	Record Keeper

VISITORS' IMPRESSIONS

Mr. N. M. R. Subbaraman, Member of Parliament
15—7—66

"I am glad that I got the opportunity to visit the Centre for the Blind. The centre is doing really invaluable work. I wish the Centre all success. I also congratulate Dr. G. Venkataswamy and his colleagues for the service they are carrying on:-

Mr. Hal Anderson, 325, Fletcher, Danville, Debnis, U.S.A.
18—7—66

"Your work at the rehabilitation centre is quite impressive. I hope that success continues in the future as it has in the past".

Mr. John W. Price, 9095 Veire Street, Urbana Illinois, U.S.A.
18—7—66

"Congratulations on the start you have made for the visually handicapped. I am confident that your programme will be a source of inspiration and personal help to all who come here".

Mr. Clifford H. Cabrus, Venrol & Sensory Dis. Programme.
Washington, D.C., U.S.A., January '67

"This is a tremendous undertaking and I wish you every success in reaching your goal and assisting in the lines of otherwise helpless individuals".

Rehmut Fazelbhoy. Bombay, March 27, 1967.

"I visited this Institution last April (1966) and to-day. I see that it has made tremendous headway. Every attempt is being made to help the students etc. to live full happy lives by becoming economically independent and socially acceptable. I wish you every success for your undertakings. May you grow from strength to strength".

Mr. Garfield, American Peace Corps Volunteer, June 9, 1967

"It is good to see American money and Indian hard efforts put to such a worthy and rewarding project. I hope

this five year pilot project is a great success as India needs institutions and instructors for the blind of the excellent quality seen here".

Mr. Joseph LaRocca, The George Washington University Washington, D.C.U.S.A. 27-6-67

"Congratulations for the fine progress made in the short period the centre has been in operation. May you continue to grow and to bring hope and dignity to all the blind people who need your excellent services.

Mr. William M. Eshelman, Chief, VRA. Dn. of State Programme Administration, Washington, U.S.A. 27-6-67

"I appreciate so very much the opportunity of visiting your excellent Centre for the Blind. You are making a substantial contribution to the well-being of seriously handicapped people and I am sure your efforts will continue to show even greater results in returning blind persons to a contributing role in their communities".

Mr. C. S. Patel, President Indian Medical Council, New Delhi 1-8-67

"I really appreciate the rehabilitation work by the blind in pursuit of their livelihood. The work done by them is admirable and praiseworthy. The earning capacity that they create by their rehabilitation efforts is really commendable. I congratulate all those who involve themselves in training the blind, and I particularly thank the Director in pursuing this rehabilitation work. This deserves all consideration of many who come to visit.

Mr. N. Anbuchezhian, Member of Parliament, 9-9-67

"I have visited the Pilot Demonstration Rehabilitation Centre for the Blind today with the kind help of Dr. G. Venkataswamy, Professor of Ophthalmic Department, Govt. Medical College, Madurai. This is being run under the P. L. 480 scheme.

The blind girls and boys are working well. They are producing baskets, towels, furnitures and all things. I really wonder on seeing this. If the State Government helps, Dr. G. Venkataswamy will make use of it and he will improve this Centre in a very progressive manner".

Dr. S. T. Puttanna, Dean of Minto Ophthalmic Hospital, Bangalore, 21-9-67

"I congratulate the staff and Director of this Rehabilitation Centre for the blind for making use of the blind in gainful labour and restoring them back to society as useful individuals of the society. I hope every State Government will seriously think of these physically handicapped individuals and afford them all facilities to rehabilitate these individuals belonging to the sightless world. The employers of Industrial factories will be sane enough to appreciate the useful labour turned out by these individuals and appoint them as useful workers for their factories. I wish the institution every success in the path of progress."

Mr. Randa'll J. Thompson, New Delhi, American Embassy, 23-9-67

"What has been done in developing the centre for the Blind in such a short time is most impressive. The outstanding feature appears to be stress on the individual and his capacity to become self-sufficient, may this not be true for all in India.

Mr. Ruston L-Ruhtax, Hon. Secretary, Tata Agri & Rural Training Centre for the Blind, Gujarat, India 29-9-67

"I am very much pleased with the work being done at this institution, and I am sure all people with welfare of the blind at heart will appreciate deeply the work done here. I wish it more rapid progress and may it expand its activities in future.

Dr. R. H. Cooper, President, Indian Speech and Hearing Association and Emeritus Professor, Bombay, 19-10-67

Dr. Venkataswamy and his colleagues have scored wonderfully in a short period. An institution like this can bring joy, hope, confidence and sense of usefulness to forlorn and dejected. I wish the self devoted band of workers all success and a long life to continue their useful service.

Dr. P. Siva Reddy, Supdt. & Director of Institute, Sarojini Hospital, Hyderabad 21-10-67

"It gives me great pleasure to record my great appreciation of the yeoman service being rendered by my colleague

Dr. Venkataswamy in the newly established rehabilitation centre for the blind. I see signs of very good foundation for the future development of this institution. I wish Dr. G. Venkataswamy and his able assistants god-speed in their excellent work”.

Mrs. S. S. Padbirthry, Principal V. M. School for the Blind, Bombay, 28—10—67

“It was really a great pleasure to visit this Pilot Centre and go through its various activities which are being carried on here so wonderfully. We found the authorities full of new ideas and enthusiasm. The inmates also were found quite cheerful and confident to face the challenge in life. We wish them all a bright future and god speed”.

Miss. Person, Head of the School for the Blind, Tiruppattur, Ramnad District, 3—11—67

“It was a great joy to follow the work in the Centre for a short while. I do wish you still greater success in all your undertakings and plans for the future.

Sri N. Ravanadoss, Divisional Accounts Officer, Southern Railway, Madurai, 3—10—69.

“On entering the weaving and tailoring sections, I never had the slightest idea that the men and women in action were blind. They were all like any other man/woman with perfect eye sight. That is the extent to which they have been trained and taught. I wish that such institutions increase in number and prosper in their activities”.

Sri Kunji Bihari Lal Butail, Chairman, Estimates Committee, Himachal Pradesh. 2—12—69

“It was delightful and instructive to see the Centre, which shows evidence of sophistication. The work done by the trainee is clearly of a high quality. The Centre has additionally taken upon itself to provide employment to the trainees as far as possible. Further the aim is to enable them to be absorbed in society in the normal way”.

“I will carry with me the impression gained here so that the Himachal State also can profit by this pioneering venture.

I am grateful to the Director for showing the Estimates Committee of the Himachala Pradesh Vidhan Sabha round”.

Sri Omar R. Sadick, Rotary International President's Representative. 2nd — 4th Jan. '70.

“I visited this Centre in the company of Dr. Venkataswamy and I have no hesitation to heartily congratulate him and his officers for the humanitarian work he is doing for the sightless. As a matter of suggestion, I have appealed to the District Governor, Rajasabai for his consideration to donate a few fans in the steel shed as added amenities for those trainees in this Centre.

I sincerely wish this Pilot Scheme continued success.”

Sri T. S. Rajam, Chairman, (T.V.S. Charities) T.V. Sundaram Iyengar & Sons, Private Ltd., Madurai — 28—3—70

“It was so good of Dr. Venkataswamy to invite me to visit the Centre. I was very much impressed with the training given to the blind to learn a craft and earn the living. I congratulate the officers in charge of this project for their achievements so far and I am sure this will pave the way for starting similar projects in Tamilnadu and other states”.

Mr. Henry, Managing Director, Madura Mills Ltd., Madurai. 24—4—70.

“The whole establishment is admirable and the accent on rehabilitation excellent. With a small hostel, it should be possible to train those from outlying districts to the point where they should be able to return home and earn a reasonable living in a normal environment.”

Mr. M. J. Cox, 7 Wanbrow Ave. Walle Park, Adelaide. South Australia. 30—7—68.

“I am most impressed with the work I have seen in the Centre. Best wishes for its great success of the work”.

Dr. S. Natesan, M.B.B.S. General Secretary, Tamil Nadu Cooperative Union, Madras 1—8—68

“It is really a great pleasure to visit this camp where blind people are rehabilitated into active occupations which they are discharging with great dexterity and skill. The

Management of the Centre Unit rests in the hands of a devoted selfless personality, and the success of the institution is entirely due to that devotion. It is my experience that wherever there is honesty, enthusiasm and efficiency all combined simultaneously, that institution is sure to strike with brilliance. I wish the institution all success!

Mr. Amil Maddison. *Sydney University, Australia.*
8—8—68.

"I am grateful for the opportunity to see an enlightened and successful programme and I am most impressed by the systematic recording of the centre's rationale and achievements."

Mr. Harold Ridley. *M.D., F.R.C.S., London, 7—3—69*

"This is a very well run training centre for the blind which enables people to compete in the outside world and stand on their own feet again. Every one looks fit and happy. Well done!"

Mr. P. K. Duriaswamy, *Director General of Health Services, Govt. of India, New Delhi. 17—6—69*

"I have nothing but admiration for the excellent work done in the Pilot Rehabilitation Centre for the Blind. I do hope that the requisite assistance will be forthcoming to ensure not only the continuance of this Centre but also its expansion."

Mr. Karl Buther,
Theoder REUSCH,
West Germany, 26—6—69.

"With pleasure, we have seen such wonderful work going on here. We depart with our best wishes. Wherever we shall find opportunity we shall help to make the work known. With best wishes."

DISTINGUISHED VISITORS, VISITED THE CENTRE DURING THE PROJECT PERIOD, FROM JANUARY 1966 to DECEMBER 1970.

1966. Mr. Suresh, C. Ahuja, Executive Officer, National Association for the Blind, Bombay.

Dr. George O. Hellinger New York, U.S.A.

1967. Dr. Clifford H. Cole, M. D., Arlington, U.S.A.

Mrs. Fazul bhoy, National Association for the Blind, Bombay.

Mr. Joseph M. LaRocca, Rehabilitation Research & Training Division Washington University.

Mr. William M. Eshelman, Chief, Division of State Programme Administration.

Dr. C. S. Patel. President, Indian Council of Medical Research, New Delhi.

Dr. Rajendra T. Vyas, Development Officer, National Association for the Blind, Bombay.

Mr. Ralph M. Rust, Ph.D., Co-ordinator, Counselling Centre, San Francisco State College.

Major D. R. Bridges, Director, Far East Regional Office, American Foundation for the Overseas Blind, Kuala Lumpur, Malaysia.

Dr. Randall L. Thompson, M. D., D.Sc. Science Representative, National Institute of Health, American Embassy, New Delhi.

Mr. S. T. Sadiq Pasha, Minister for Health, Government of Tamil Nadu.

Dr. P. Siva Reddy, Superintendent and Director of Institute of Ophthalmology, Sarojini Eye Hospital, Hyderabad.

Mr. S. Anantha Padmanabhan, Secretary, Health Department, Government of Tamil Nadu.

1968. Mr. B. S. Murthy. Deputy Minister for Health,
Government of India.
Mr. Michael Sidney Smith, Corsier Port, Geneva
Switzerland.
Dr. S. Jagannath, Assistant Director of Medical Educa-
tion, Government of Tamil Nadu.
Mr. Robert, C. Jaekle, Mobility Consultant, A.F.O.B.,
Kuala Lumpur, Malaysia.
Mr. Edward D. Jonathan, Principal, School for the
Blind, Palamcottah.
Dr. Louis. A. Finney, Amarillo, Texas.
1969. Dr. Harold Ridley, M. D., London.
Mrs. Ruth Stewart, Jamaica, West Indies.
Dr. Martin E. Mc Cavitt, Chief, International Division
of Rehabilitation Activities, Washington, U.S.A.
Mrs. Judith Turner. Department of Social Rehabilita-
tion Service, U.S.A.
Mr. Ellis Turner, Vocational Rehabilitation Consultant,
A.F.O.B., Kuala Lumpur, Malaysia,
Dr. B. S. Murthy, Additional Director of Medical
Services, Hyderabad.
Dr. A. N. K. Menon, Director of Medical Education,
Government of Tamil Nadu.
Sri. V. V. Giri. President of India.
Sri. Dharma Vira, Governor of Mysore.
Sri. V. R. Nedunchezian, Minister for Health & Educa-
tion, Government of Tamil Nadu.

PREFACE

The establishment of the Pilot Demonstration Rehabilitation Centre for the Blind is a new chapter added to the history of Blind Welfare in India, thanks to the generous help and encouragement of the Social Rehabilitation Service, U.S. Department of Health, Education and Welfare. Providing rehabilitation services to the blind is, in effect, restoring to them the rights and status due to them in the society.

The Pilot Demonstration Rehabilitation Centre for the Blind from its inception in 1966 to the end in 1970 had successfully surmounted all the developmental problems of a new venture. The experience gained through these years is quite satisfying and rewarding. The awakening it has created both among the blind and the public is a noteworthy feature of the programme.

The experiences resulting out of the implementation of the project are narrated descriptively in this report. The introduction deals with the magnitude of the problem, the genesis and growth of this Centre. Chapter II gives an account of the selection of staff. Chapter III analyses the admission of clients and their background. The content of the training programme is also elaborated in this chapter. The methodology regarding Mobility Training, Psychological Services and Evaluation & Assessment are dealt with in chapters IV, V and VI respectively. Chapter VII deals with the potential for the employment of the blind, Chapter VIII highlights the problems encountered and the achievements gained during the period. The last chapter summarizes the findings of the project.

Part II deals with Optical Aid Evaluation Unit. With an introduction to Low Vision Aids, it analyses the various aspects with necessary data.

The Financial Plan and Grant Analysis are given in the Appendix.

It is our fervent hope that this Final Report based upon our experience gained by the implementation of this pilot project on Rehabilitation of the Blind will prove useful to those who evince interest in the establishment of similar Centres for the Blind.

Dr. G. Venkataswamy

Madurai.

Chapter I.

INTRODUCTION

I. THE BACKGROUND

On the basis of the sample survey conducted by the Trachoma Control Project, under the auspices of the Indian Council of Medical Research, it was estimated that 1% of the population or 4.39 million would be regarded as blind, based on 1961 census. Taking the projected population figures of 1968, the blind population constitutes 5.3 million. This calculation is based upon internationally accepted definition of blindness i.e., vision 6/60 or less with the best possible correction in the better eye or a field of vision less than 20 degrees. According to the above study, the blindness rate is nearly 1000 per one lakh population. But this seems to be a gross underestimation. A recent survey conducted in Sindhi and Dayalpur villages of Haryana State estimates the blindness rate as 2,200 or 2.2% while a similar survey in Lambian village of Punjab State estimates the rate as 8.4%. A survey conducted by the ophthalmology department of Government Erskine Hospital in 1969 in Varichur and Vilampatti villages in Madurai district of Tamil Nadu fixes the rate at 1.5%. These figures indicate the magnitude of the problem. The incidence of blindness in India is the highest with the possible exception of Egypt and some parts of Africa.

The problem of the blind persons in India differs from that of any other country not only in magnitude and causes but also on the socio-economic impact on the nation. It is stated that in India a large percentage of the blind persons belong to the school age and the working age group, whereas in the U.K. and U.S.A., the percentage of blindness is high among those who are 60 years and above. According to Dr. G. Venkataswamy⁽¹⁾ in U.S.A. 50% of the blindness occurs above the age of 65 while only 10% is under 21 years

1. Dr. G. Venkataswamy, key note address on "The Visually handicapped in India" at the National Seminar on Rehabilitation Services & Research, 1967, Trivandrum.

of age. In the U. K. 84% of blindness occurs above the age of 50 yrs. Blindness in India has affected the most vulnerable age group and thereby deprived the family of the income of a member which is vital to balance the budget of the family. The problem is further aggravated in rural areas where most of them are engaged as farm labourers. The loss of income of the individual due to blindness tells heavily upon the economic and social life of the family.

Lal Advani⁽²⁾ in his article "Blind Welfare in India" has described the characteristics of the Blind population in India as follows :—

"1. The proportion of totally blind persons in this country is much larger. This is largely due to the inadequacy of medical care.

2. On account of widespread malnutrition, insanitation and the repeated occurrence of such virus diseases as small-pox, the incidence of blindness among children and youth is far higher.

3. The joint family system continues to offer a voluntary system of social security for many a blind person. This tends to blunt the motivation for rehabilitation.

4. In the absence of a statutory system of social security and adequate educational and employment opportunities, many a blind person, not supported by his family, faces the spectre of starvation.

5. The large majority of blind persons come from rural areas. Conditions in agriculture do not always permit them even if they are trained, to play an effective role in agriculture which is our major industry."

It is to be noted in this context, due to the slow but steady breakdown of the joint family and caste system in India, which was providing some kind of social security to the disabled, the problem of the disabled in general and the problem of the blind in particular is becoming more serious.

II. IMPORTANCE OF INVESTIGATION :

The above portrays the magnitude and characteristics of the problem of blindness in India. To survey the existing

² Lal Advani, article "Blind Welfare in India" Silver Jubilee Souvenir of Blind Relief Association, New Delhi. 1969,

facilities for education and training of the blind, it is stated that there are 140 institutions⁽³⁾ for the blind all over the country and there are only 15 institutions which cater to the education and vocational needs of the adult blind. At the national level, there is only one Government of India institution, the Training Centre for the Adult Blind, at Dehra Dun in North India, which incidentally, is nearly 2000 k.m. from Tamil Nadu. Till 1966, the blind persons from Tamil Nadu have to go to Dehra Dun to get vocational training. But comprehensive rehabilitation training for the blind, which has gained momentum in other countries after World War II, is yet to be organised anywhere in India. In the absence of facilities for training, the general public do not believe that the blind persons can be made useful both to the family and to the nation. Dr. Jivraj Mehta⁴ at a United Nations Conference has vividly described the existing condition of the physically handicapped including the blind. He says "In the East, with its vast population and under-developed resources, coupled with ignorance and lack of education, human life is at a discount and an attitude of determinism prevents any efforts being made to understand and rehabilitate the physically handicapped. There is also a lack of consciousness that such rehabilitation is possible and necessary."

The national picture, when sliced down to the State level, gives the following profile. With a total population of 40 million, Tamil Nadu has nearly 4 lakhs of blind people. Educational facilities are available at least for 1% of the school-age blind children. Vocational training for adult blind is provided in a few educational institutions like Blind School, Palamcottah and Government School for the Blind, Poonamalle. The vocational training is also mainly on the conventional crafts like weaving and ratan work. Thus the benefits of the existing services are available to very negligible percentage, while the rest are obliged to depend on relatives, private or public charities or on begging. This stark realistic situation calls for a thinking in a new direc-

³ Ibid. Page 29.

⁴ Dr. Jivraj Mehta, Report of the U. N. Conference of Experts on Physically Handicapped Children for the Countries of South East Asia, 1951, page 3.

tion. The needs of the blind persons for equipping themselves with skills for gainful employment just like the sighted have to be recognised and enough opportunities have to be provided for the same. Hence with dual objects of providing opportunities for training the blind and introducing the concept of rehabilitation of the blind among the public, this project was ushered.

III. GENESIS OF THE PROJECT:

In this context, Dr. G. Venkataswamy, Professor of Ophthalmology, Madurai Medical College, was invited to attend the Third General Assembly of the World Council for the Welfare of the Blind, in U.S.A., in 1964. During his visit, he volunteered to start rehabilitation work in the southern part of India and his offer found ready acceptance with the International Rehabilitation Division of the Social Rehabilitation Service, Department of Health, Education and Welfare, U.S.A. On his return to India, he submitted a proposal to the U. S. Government which had been approved by the Indian Council of Medical Research and the Government of Tamil Nadu. An agreement was signed in 1965 and the project, "Pilot Demonstration Rehabilitation Centre for the Blind and Optical Aid Evaluation Unit" was sanctioned with a grant of Rs. 5,97,000 for a period of 4 years.

IV. FRAMEWORK:

1. Organisation conducting the Project.

The department of Ophthalmology, Madurai Medical College, Madurai, has been entrusted with the task of implementation of the project. The Madurai Medical College is run by the Government of Tamil Nadu and it is affiliated to Madurai University. Besides teaching the undergraduate and post-graduate students, the department of Ophthalmology undertakes research. A mobile Ophthalmic Unit is attached to this department.

2. Project Director.

Dr. G. Venkataswamy, B.A., M.S., D.O., Professor of Ophthalmology and Vice-Principal, Madurai Medical College was appointed as Honorary Project Director. He has vast

experience in the field of Ophthalmology and in conducting and guiding research and his special field of interest has been blindness, both curable and incurable. His observation and study tour to different countries for getting first hand information on blind welfare programmes has given him wide perspective. He has been a member of the Expert Committee for Ophthalmology of the Indian Council of Medical Research, New Delhi, for a number of years.

3. Financial Officer.

The Dean, Madurai Medical College, Madurai, was empowered to draw the money for expenditure from the special account maintained for the Madurai Medical College at the State Bank of India.

4. Title of the Project.

The establishment of a Pilot Demonstration Rehabilitation Centre for the Blind and Optical Aids Evaluation Unit.

5. Duration of the Project.

The duration of the project was fixed as 4 years from January 1966 to December 1969. But during the middle of 1969, surplus fund was found to be available due to judicious spending. Hence, the sponsoring authorities were requested permission to continue the work for one year with the available fund and with no additional grant. In accordance with the request, permission was granted to continue the work for another year till December, 1970.

6. Objectives.

1. To assist blind people to develop personal and social skills necessary to overcome problems brought about by blindness.

2. To give systematic pre-vocational training to help blind people become efficient in the use of tools and to develop good working habits and attitudes.

3. To help blind people plan for their vocational roles in competitive employment and / or trade leading to self-employment.

4. To improve the residual acuity of visually handicapped persons through the use of low vision aid devices.

7. Methodology.

Blind people in the age group of 18-40 years are admitted from and around Madurai. Criteria like general health conditions, home environment, aptitude for work are considered for selection of trainees. Services provided at the Rehabilitation Centre are directed towards helping the trainees to adjust to the handicap of blindness. Instructions are given in the following areas.

1. Mobility (independent travel with a cane)
2. Communication Skills (Braille, typing)
3. Personal Hygiene (Dress, grooming, health habits)
4. Other personal adjustments necessary to activities of daily living.

Pre-vocational training is given to the trainees to achieve their maximum potential and to assist them to develop good work habits and attitudes. The training is geared to make the blind trainees learn ways of doing things without sight, acquainting them with various tools and materials.

Vocational training in weaving, tailoring and cane work is imparted in order to infuse confidence in them and also to equip them with necessary skills for gainful employment. The home environment and opportunity to work independently on the above trades are the chief factors considered for recommending a particular vocational training. Periodical vocational counselling is given to all the trainees so that they are motivated to bestow interest on the training to make it more purposeful.

8. Duration of the training.

The originally fixed duration of six months was found inadequate and subsequently it was fixed from 8 to 10 months.

9. Location of the Centre.

The Optical Aid Evaluation Unit has been located in the Ophthalmic department of the Government Erskine Hospital, Madurai.

The Pilot Demonstration Rehabilitation Centre for the Blind is located in a plot belonging to the Madurai Muni-

cipality. It is 6½ acres in extent and has 3 small buildings of 20 × 20 each. The nominal rent for the site including the 3 buildings is Rs. 10/- per year.

10. Construction of Worksheds.

As there was no workshed, a workshed, measuring 70' × 35' was constructed in 1966 at a cost of Rs. 20,690, for imparting vocational training. With the increase in the number of trainees, 3 more worksheds, each measuring 50' × 25' were added during these years. The entire cost of construction of these sheds have been met from the donations received from the temples, industrialists, and the public.

The Rotary Club of Madurai constructed and donated a building at a cost of Rs. 10,000 as a token of their appreciation for the pioneering work done by the Centre. This building is being used for training in home management.

Chapter II.

RECRUITMENT AND TRAINING OF STAFF

The next step in the implementation of the project was the recruitment of staff. This turned out to be a very difficult task. Welfare work with the physically handicapped in general and the blind in particular is only of recent origin in the country. Hence suitably qualified technical personnel with some experience are not readily available. It may be mentioned in particular that there is no institution in the country to train instructors for the mobility training programme. It may also be mentioned that young persons are not inclined to make a career in working with the blind or physically handicapped in general, either because they have no comprehension of the problems and prospects or because of shyness or stigma or taboo.

The Directorate of Employment and Training, Government of Tamil Nadu was approached to suggest suitable candidates for the different technical positions for the Centre. On the suggestion of the Director of Employment and Training, Mr. G. Jayaraman, a blind, was appointed as Superintendent of the Centre. He had obtained a diploma in teaching the Blind from Perkins School for Blind, Boston (Mass), U.S.A., besides having a post-graduate degree in literature. His special knowledge and experience in the field were of considerable help, in preparing an outline for the training programme. The posts of Office Assistant and Stenographer were filled with two suitable persons with vast experience Mr. S. Ramdoss and Mr. T. A. Venkateswaran. This small team of administrative personnel under the over-all guidance of the Director paved the way for the smooth and effective functioning of the Centre right from the very beginning.

On the professional side, real difficulty was experienced in the selection of Mobility Instructor and Home Management Instructress. The only candidate who had the requisite qualification for the post of Mobility Instructor ex-

pressed his reluctance to work with the blind, during interview. Hence Mr. Antonimuthu, a retired Principal, College of Physical Education with a post-graduate degree in literature, a diploma in teaching and also in Physical Education was posted as Mobility Instructor. His two assistants Mr. R. Veerasamy and Mr. M. Ismail were also looking after physical training and recreational activities in addition to Mobility training.

The realization of importance of having a suitably trained person as Mobility Instructor led to the appointment of Mr. P. Kulandairaj, a graduate with a diploma in Physical Education, and in being deputed for the training programme organised by the Far East Regional Office of American Foundation for Overseas Blind. As for the post of Instructress in Home Management, the Employment Officer was requested to furnish a list of qualified candidates. The two qualified candidates turned up for interview expressed their unwillingness to accept the offer of appointment probably because the work involved working with the blind. Consequently, a lady graduate was appointed for the post who also left after a few months. This clearly shows the unwillingness and resistance on the part of many to work with the blind.

The other posts viz., Vocational Counsellor, Vocational Instructor and Psychologist were filled with suitably qualified and experienced persons, Mr. T. K. Venugopal, Mr. R. Kirubanithi and Mr. Sethuraman respectively. The services of Mr. T. K. Venugopal, a former Labour Enforcement Officer were valuable. His contact with the industries facilitated the placement of the trained blind in industries. Mr. Kirubanithi with his background in mechanical engineering and who was later sent for training in Industrial vocational Instructors' course at the Far East Regional Office of American Foundation for Overseas Blind, has been rendering valuable service. Mr. S. Sethuraman with his post-graduate degree in psychology and with his special experience in guidance and counselling, teaching, training and research has been of real value to the Centre.

The team of Mobility staff was strengthened with the addition of Mrs. Gnanasoundari, who has the background of teaching, when women blind were admitted for training.

On the resignation of Mr. Jayaraman, the Superintendent, for reasons of health, Mr. S. Veeraswamy Naidu, a retired Police official was appointed to the post. His wide contacts with the public and the officials and his zeal for working with the blind have been of great value to the Centre. Further, the donations he collected from the public enabled the construction of three work sheds which were badly needed.

Staff Training.

As mobility training is a new field, the Mobility Instructor had to depend on the available literature. The experience of the Superintendent who had specialized training in U. S. A., also helped in organizing the training programme, for mobility. When the Far East Regional Office of the American Foundation For the Overseas Blind, commenced the training courses for Mobility Instructors, the opportunity was seized and the Mobility Instructor Mr. P. Kulandai Raj was sent for training to Kuala Lumpur in 1968. He underwent training for 3½ months and with his return, the Centre became the first in the country to have a trained Mobility Instructor. The knowledge and skills acquired from the training were utilized for the reorganization of the mobility training at the Centre. This gave a scientific accent to the whole rehabilitation programme. Mr. Robert C. Jaekle, Mobility Consultant, A.F.O.B. during his week long stay at the Centre helped in the reorganization of mobility training. After an interval of six months after the training, the Mobility Instructor trained his assistants and this training equipped them with scientific knowledge and methods.

During 1969, Far East Regional Office of A.F.O.B. arranged a course for Industrial and vocational training. Mr. Kirubanidhi, the Vocational Instructor was deputed for the training for a period of 3½ months. The training was beneficial to him in acquainting himself with the techniques of training the blind in machine work. The training was also of immense value for him, as he gained knowledge in the evaluation and assessment of the blind. After his return, he organized a unit for the above purpose and the training programme was modified to give importance to Evaluation and Assessment, through which every newly admitted had to pass.

DETAILED JOB DESCRIPTION FOR THE PROFESSIONAL STAFF

I. MOBILITY INSTRUCTOR :

1. Interviewing the client for his suitability of admission for planning a training schedule for mobility.
2. Teaching Orientation and Mobility.
3. Allotment of duties to the Assistant Mobility Instructors and help them to solve their problems.
4. Determining a client's completion of Mobility training.
5. Maintaining individual case records and checking the same of the Assistant Mobility Instructors.
6. Counselling the trainees on mobility problems during and after Mobility training.
7. Teaching techniques of daily living.
8. Conducting recreational programme with the help of Assistant Mobility Instructors.

II. PSYCHOLOGIST:

1. Interviewing the applicants to determine their suitability for admission to the training programme.
2. Instruction in Social adjustment.
3. Maintenance of personal file for each client.
4. Individual counselling with trainees concerning personal or social problems which hampers their learning.
5. Group counselling to modify or change the unfavourable attitudes of the clients.
6. Conducting research studies on problems of the blind and training the blind.
7. Preparing reports on the training programme.

III. VOCATIONAL INSTRUCTOR:

1. Preliminary interview with the candidates seeking admission.
2. Pre-vocational assessment and evaluation.
3. Supervision of the vocational training.
4. Contacting industries and factories for placement.

Chapter III.

ADMISSION AND TRAINING

The Rehabilitation Centre, the first and only one of its kind in the country had to carry on sustained publicity to attract the blind persons for training. ALL sources of communication media were utilized to spread the concept of rehabilitation not only in Madurai city but in the other districts of Tamil Nadu also. The press and the radio proved very effective in communicating the message to the people. Other methods were also followed. The blind persons who attended the Eye Department of the Government Hospital, Madurai, were induced to join the Rehabilitation Centre. Similarly, the Psychologist of the Centre persuaded the blind persons at the Free Eye Camps conducted in rural areas by the Eye Department to join the Centre for training, explaining the advantages of such training. During 1967 and 1968, the Psychologist attended camps in 11 places and interviewed 1057 blind persons on the whole. Among these 1057, there were 265 blind persons of rehabilitation age group, i.e., from 18 to 40 years. Out of these 265 blind persons eligible for rehabilitation training, only 66 persons or 25% expressed their willingness to undergo training. Rest of them were not for it. The common factors of resistance are family encumbrance, reluctance to leave home and skepticism about the rehabilitation training. Only about 10 persons joined the Centre acting on the advice given during the camps. These diversified efforts resulted in the application for admission from many blind persons who had their education in blind schools. It needs to be pointed out that illiterate blind persons and adventitious blind persons were hesitant to join the Centre in the initial stages.

The training programme commenced with the selection of 4 clients in April 1966. The original plan to give training had to be given up since all those desirous of undergoing

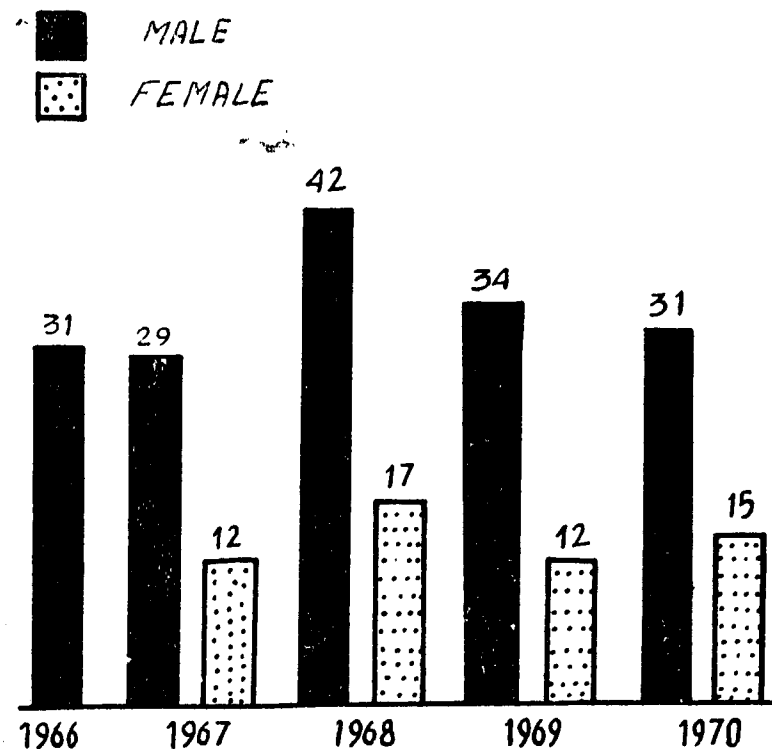
training were not coming at the same time. This naturally resulted in a strain on the staff. Admissions were therefore made as and when the applications were received.

The criteria for the selection of candidates were :

1. The applicant should not have any other handicap except blindness.
2. He should be between 18 and 40 years of age.
3. He should be physically fit to do hard work and
4. He should not be a destitute or an orphan.

The reason for observing the last criterion was that the blind adult should have a home to return to, where he will be able to establish his position and make others to realise their responsibilities towards him. At the end of 1966, the admission figures stood at 31 with 2 discharges and 5 drop-

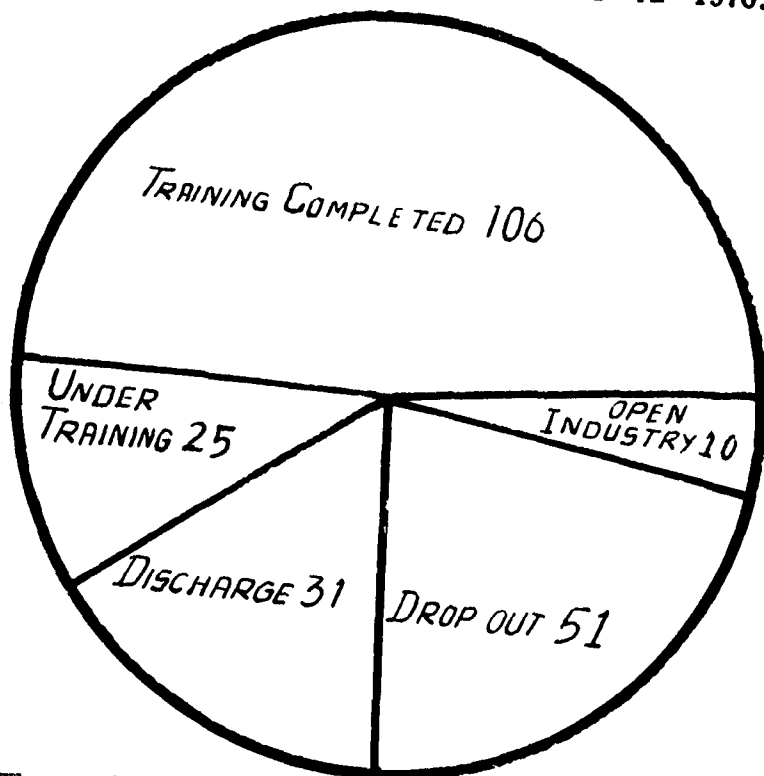
DIAGRAM I. Yearwise Admission Figures.



out. The causes for discharge were lack of progress, anti-social activities like stealing and begging and chronic and infectious diseases.

The heavy demand from blind women for admission necessitated the starting of a section for them in 1967. The number of men and women clients admitted each year from 1966 to 1970 is given in the diagram I. The average admission figures for men and women were 35 and 14 respectively.

DIAGRAM II. Break-up of 223 clients admitted between 1-4-66 to 31-12-1970.



The yearly admission figures did not show much fluctuation from the average except in 1968. The reason for receiving maximum number of applications in 1968 was a feature broadcast by the Radio about the activities of the Centre. Numerous applications were received from blind orphans. There were not admitted because of criterion No. 4 listed earlier. Applications were also received from those who had had their training in other vocational centres. Since their main object for seeking admission was to avail of the free facilities, like food and shelter, they were also not admitted.

Diagram II gives the number of drop-outs, discharge and training completed. From the diagram, it is evident that the problem of drop-out was a cause for anxiety. This led to a study of that problem. The study revealed that the percentage of drop-out was very high among men when compared to women. Difficulty in forming work habits during long period of idleness, diffidence about the capacity to work and the tendency to hop from one centre to another were some of the causes for drop-out. Quite a number of blind men who left the centre have joined other vocational centres and this movement encouraged by the liberal attitude of these centres. This revealing factor has come out of a follow-up study.

While 116 clients have completed the training, 25 are undergoing training at the close of the project. Among those who completed training, 10 have been placed in open industry and 52 have been given employment at the separate work unit attached to the Centre, pending placement in open industry. A follow-up on the remaining 54 clients is in process.

SOCIO-ECONOMIC BACKGROUND

Age :

Of the 223 clients admitted in the Centre, 150 men and 51 women were below 30 years of age. 16 men and 4 women were between 30 and 40 years of age, while 2 clients were above 40 years. The last mentioned two were admitted as exceptional cases. They were admitted because they became blind at the beginning of their forties and with their vast experience of teaching, they pleaded for training to become economically independent. The impact of age on the training and acquisition of skills was felt in the above two cases as they could not gain speed in efficiency in Braille and Vocational Training. This experiment would seem to justify the policy of not admitting in the Centre who are above 40 years of age.

Education :

Out of the 223, 76 were illiterate blind, 70 had their education or training in blind institutions, 32 were adventitious blind with education in sighted schools, six were adventitious blind with teacher training or collegiate edu-

cation. Among the remaining 39 partially sighted persons, 15 were illiterate, five had studied in blind institutions and 19 had their education in sighted schools. The literacy percentage of the whole group was 59.2 and the percentage of those who had education in blind schools was 33. Spread of knowledge about the facilities available for educating and training the blind, more especially in the rural areas, would increase the percentage of literacy amongst the blind.

Marital Status :

Out of the total 223, only 15 clients, 11 men and four women, had married. But blindness had resulted in desertion in the case of four men and three women clients. Two men and one woman had lost their spouses. Five men clients continue to live with their families, though the handicap had its impact on their economic condition. Only two clients, one male and one female had married after the occurrence of blindness. In the case of the female client who was partially sighted, the husband had deserted her after a month of marital life, while the male client who had defective vision from birth was living with his wife and three children. It would seem that financial handicap was an influencing factor than the physical handicap, in the harmonious relations of the married people.

Occupation :

The following table gives details regarding the type of work and average earnings of the clients before the onset of blindness :

S.No.	Nature of work	No.	Income Rs.
1	Pump Driver	1	80/- per mensem
2	Petty merchant	2	100/- "
3	Dyeing Supervisor	1	100/- "
4	High School teacher	1	180/- "
5	Secondary grade teacher	4	100/- "
6	Bill collector	1	110/- "
7	Agricultural labourer	4	60/- "
8	Carpenter	1	80/- "
9	Geologist	1	250/- "
10	Welding	1	75/- "
11	Weaving	3	80/- "

While 160 clients who were not pursuing any occupation were helping the parents in household work or agricultural work like tending the cattle, drawing water for irrigation, cleaning the vessels in the home, grinding floor. 18 clients, according to them, were idling at home, and 25 had come to the Centre immediately after completing their education at blind schools.

Family background :

Nearly 50% of the clients were supported either by their mothers or by their siblings. In the case of a few, the main source of income was agriculture or petty trade. Most of the clients were from families engaged in casual labour.

As regards the economic family background, the percentage of each category of income group is given below :-

Income of the Family	Clients in percentage
1. Below Rs. 600/- per annum.	58%
2. Between Rs. 600/- to 1200/- per annum	26%
3. Above Rs. 1200/- per annum	16%
Total	100%

The motivating factors on the part of the client for seeking admission to the Centre were loss of parents and ill-treatment by relatives, negligence by parents and poor economic condition of the family. So far as the parents or relatives of the clients were concerned, the motivating factors were economic, securing free food and shelter for the afflicted. Several of the clients mentioned that the cause of economic deterioration of their families was the expenditure involved in the treatment with the hope of getting back vision. In many other cases, the clients happen to be the eldest members of their families and their loss of sight had resulted in additional strain on the economic condition of their families.

Social Condition :

Blindness affected the social life of the clients considerably. About 40% of the clients did not evince any interest in joining other members of their families during functions and festivals. Some clients clearly expressed that their

parents did not like them to attend festivals and functions, probably due to the social stigma attached to blindness and the clumsy behaviour of the blind. This has resulted in the congenitally blind developing strong contempt for the relatives in particular and the sighted in general. Further it has resulted in strong inferiority feeling among the clients leading to complete withdrawal from the sighted public.

TRAINING PROGRAMME

The training programme was a comprehensive one, directly related to the needs of the blind. The specialised knowledge of training the blind and the experience gained from observation of various centres abroad by the Superintendent and the Director respectively enabled the framing of a detailed syllabus for the entire period of training programme. During the first six or seven months, training was imparted only in Braille, Mobility and Vocation. With the appointment of professional staff, the full-fledged training programme was implemented. The training programme consists of the following subjects :

1. Mobility
2. Braille.
3. Social Adjustment
4. History of Blind Welfare.
5. Personal Care
6. Home Management (For women).
7. Evaluation and assessment.
8. Vocation

1. MOBILITY :

The first step in this training is campus and hostel orientation. After giving a verbal description of the locality and the lay-out of the building, they were taken round the different parts of the building, and made to touch, feel, locate, visualise and grasp the complete lay-out. This was followed by giving experience with relief map. This relief map was very helpful for campus orientation. By passing through the lay-out with their fingers, the clients were able to remember it better. Rhythm technique, posture training, sound localisation, indoor and out-door travel, sighted guides were other aspects of the training programme. When

Mobility Instructor returned after his training at Kuala Lumpur, Malaysia, organised by the Far East Regional Office at the American Foundation for Overseas Blind, the Mobility programme was reorganised on a more scientific basis with an emphasis on out-door work.

Physical exercises and games were organised thrice a week, in order to correct their posture and develop co-ordination of movements and actions. The clients, especially, the congenital blind participated in the games, with much enthusiasm as it was quite a new experience for them.

The organisation of Mobility Training and the problems encountered during the training period are discussed in detail in Chapter IV.

BRAILLE:

As Braille is the only means of written communication for blind persons, all the clients who had not studied in Blind schools were provided opportunities to become literate in Braille. 80% of the clients who had completed the training had acquired the knowledge of Braille and they could communicate through this system. Those who came for rural areas showed resistance and pleaded for exemption from this part of the training. It was found that those who had never studied before found it difficult to get the alphabet than in Braille (dot system). Teaching of Braille became a real problem in the case of persons with residual vision, since they were unable to reconcile to the concept of reading with their hands. In a few cases of partially sighted clients blind-fold method was tried but that was also resisted. Learning of Braille was spectacular in the case of educated adventitious blind because of their sustained interest and adequate concentration.

3. SOCIAL ADJUSTMENT:

Due importance was given for developing social adequacy in blind clients, since social behaviour of the blind individual was very much affected by blindness. Topics

like blindness and its impact on the personality of the blind person, interaction between the individual and society, social factors influencing personality, behaviour pattern for different occasions like working, recreation, social functions, meetings etc., and mental hygiene, were dealt with in a lucid manner so that they were within the understanding of the illiterate clients. Greater involvement in discussion was observed in the case of clients with education at blind schools and adventitious clients. More than the theoretical lectures and discussions, enough opportunities were provided to try out the theoretical concepts in the practical situations, during the social meets, the clients were given broad outline regarding their mode of behaviour on such occasions. Subsequently, the difficulties experienced and correct approach were discussed. It was found out that the clients value greatly such experiences gained during the social meets.

The efforts taken for psychosocial development of the clients are discussed in detailed in Chapter V.

4. HISTORY OF BLIND WELFARE:

This subject was included to equip them with knowledge regarding the condition of the blind in the past, the present and the future expectations. The origin and growth of welfare services in India and other countries were discussed. Further, the facilities existing for the blind were also analysed. The ideas gained from these discussions were quite revealing and novel to the illiterate blind persons who had never moved out of their homes.

5. PERSONAL CARE:

It is well-known that a working knowledge on personal care or activities of daily living is a fundamental requisite for any blind person, especially for an adventitious blind. Instructions were given in grooming hair, washing clothes, correct food habits, shaving, and maintaining the surroundings clean. In the case of a few women clients it had been

necessary to teach them the proper way of wearing a saree. They were used to dress in a rural style but for the sake of conformity, they were taught the more modern way. The congenital illiterate blind persons from rural areas were used to have shaving along with hair dressing once a month. But those who wanted to have a shave earlier than that, had to depend on the community barber. But the clients were taught the technique of using safety razor and they kept their faces clean just like the sighted.

6. HOME MANAGEMENT:

This was included in the training for women clients to make them self-supporting to the maximum extent possible. Most of the clients did not have any experience in lighting fire for cooking. As the common items of fuel are firewood and kerosene in the rural areas, the parents of the blind were over-cautious to see that they did not go anywhere near that. Hence, these clients, though they had experience in household work, did not have even basic knowledge of cooking. Hence they were taught various steps in cooking and almost all the clients evinced keen interest in this aspect. The knowledge of Home Management was useful in the case of adventitious blind women more particularly to the married women. There were some cases where the adventitiously blind married women were deserted by their husbands due to the former's inability to perform household work. Restoration of skill in this area was of immense value for the married blind women.

7. EVALUATION AND ASSESSMENT:

With the return of the vocational instructor from his training in industrial and vocational instructor's course at Kuala Lumpur, Malaysia, organised by the Far East Regional Office of the American Foundation for Overseas Blind, this section started functioning. All clients after admission, passed through this period of ten to twelve weeks. During this period, the clients underwent various

tests through which their abilities and limitations were assessed and they were recommended to vocational training. Since its functioning from January '70, 29 clients were assessed. A descriptive analysis of this section is included as Chapter VI.

8. VOCATIONAL TRAINING:

Vocational Training in weaving, tailoring and recaning of furniture was given. These vocations were selected due to the following reasons. Handloom weaving is a common cottage industry in this part of the country. Tailoring was introduced as an unconventional venture. The Government offices and commercial and industrial establishments used largely chairs woven with cane or nylon wires. Hence enough scope was there for the trained clients to engage themselves in this trade. Intensive vocational training was given for a period between 8 to 10 months. At the end of the training, they were evaluated to find out their earning capacity depending upon the quality and quantity of the products.

Chapter IV.

ORIENTATION AND MOBILITY TRAINING

When the Pilot Demonstration Rehabilitation Centre for the Blind, Madurai started functioning in 1966, there was no suitably qualified man to take up the post of Mobility Instructor. Therefore, a retired principal of a Physical Education College was selected. He learnt the subject by reading available literature and with the help of Mr. Jayaraman (then Superintendent in the Centre) who had some experience in this field at Perkins School for the Blind (U.S.A.), prepared a syllabus consisting of 50 lessons to be taught in 16 weeks.

The former Mobility Instructor and his assistants had no training for that work. Therefore, the Mobility Instructor by his trial and error method had to evolve his own techniques. Out-door training, out of necessity was limited. The training did not cater to the individual's need, ability and interest. Instead of training the clients on a one-to-one basis, the training was given on group basis. Many of the techniques of the Mobility programme were taught in the following manner.

In the use of human-guide, the client was holding either the fore-arm or fingers of the guide. There were many setbacks when a client tried to use his guide in such a manner. He had a tendency to walk parallel to the guide and might not exactly feel the actual movement of his guide.

The method of guide stretching backwards his left forearm and the client's stretching forward his left forearm and holding on to the client's forearm was not without disadvantages, more particularly while walking along crowded and narrow streets. The strain on the part of both the client and the guide in having to keep the forearm stretched over a period of time and possibility of their stumbling down if the two of them did not step simultaneously were the major disadvantages in this method.

During indoor orientation, the clients were taken in groups instead of individually. Sometimes, the partially sighted and the trained clients were used to help the new clients for this purpose.

In the absence of scientific training, the former Mobility Instructor was unable to properly understand the cross-body technique in which the cane was used. The client would never extend his cane-hand forward but close to his body. The same hand grip of rhythm technique was followed. There were many disadvantages if the cross-body technique was to be followed in this way. Since the cane-hand was not extended fully, the client had no time to stop if by chance he encountered an obstacle. Collision was inevitable, when this type of handgrip was followed. So the cane could not be extended diagonally but forward. So there would be no protection to the client. The most important touch-technique was taught in the following way. The cane-hand was brought parallel to the side of the body and the forearm swinging the cane right to left. The arc did not cover the entire body. A person using the right hand in his anxiety to cover the left side of his body would extend too much to that side. This led to deviation from his direction and the right side of his body was not covered fully. Further, there was not sufficient time to stop when an obstacle was contacted by the cane.

While ascending stairs, the hand grip of rhythm technique was followed. This grip inflicted pain in the wrist of the client and he had chance to deviate from his direction.

Re-organisation of Mobility Programme :

The first and foremost task of the Mobility Instructor on his return after training in Orientation and Mobility at Kuala Lumpur, Malaysia, was to prepare a new orientation and Mobility training programme, based on the experience gained. The new programme was introduced in the Mobility Training and many of the techniques were suitably altered to suit local conditions. The Assistant Mobility Instructors and the Instructress were also given scientific Mobility training by the trained Mobility Instructor.

Revised Method of Training :

In any scientific approach for training, the individual variation in the learning and executing processes must be well-re-organised. The new Orientation and Mobility Training programme was imparted on a one-to-one basis. The course was made more flexible to meet the individual needs of the clients, than on the previous scheme. It was observed that most of the clients were not able to walk properly. This was probably due to their movements having been very much restricted resulting in very poor posture and body balances. This was found to be especially with the case of the clients of the uneducated who come from rural areas. Therefore it became necessary first to train them in regular walking habits before starting on the regular Mobility Training programme. The daily performance of the individual clients both in the guided and independent trips of the clients, the development of their skills and their evaluation were recorded in the observation case sheet.

Details of clients trained in Mobility :

- a. 1. Number given complete orientation and Mobility training : 130
2. Number given partial training : 24
3. Number refused to have mobility and orientation training : 6
4. Number under training : 14
- b. 1. Number given orientation in an industrial setting : 5
2. Number utilising their training to go to and from their jobs : 4
3. Number trained in their home settings : 4
- c. 1. Number congenitally blind had orientation and mobility training : 106
2. Number adventitiously blind had orientation and mobility training : 30
3. Number partially blind trained with blind-folds : 16
- d. 1. Average number of hours per individual to cover full orientation and mobility course : 77
2. Maximum number of hours to any individual : 132
3. Minimum number of hours spent with any individual : 42

Evolution of Cane in the Centre :

The use of cane was entirely a new venture and hence we were in a dilemma as to what type of cane was to be chosen for training the clients. The traditional rattan cane which had a crook at the top was used for sometime, but had to be abandoned due to its lack of conductibility. Then bamboo cane of a particular variety was experimented with. It was found that besides lacking in conductibility, it was very hard to get that variety of bamboo canes of uniform size and shape. Finally, a special variety of bamboo cane was selected for the use.

Merits of the Special bamboo cane (painted white) :

1. It possesses conductibility
2. It is of light-weight
3. It is long enough to caution the user
4. It is locally available.
5. It is inexpensive

Demerits of the Special Bamboo cane :

1. This cane lacks in durability, but this is not a major demerit in view of Nos. 4 and 5 above.
2. A tip cannot be fixed to the end of the cane. The user finds it hard to use on the rough surface as the cane gets stuck up for every step. The result was that the client deviated from his direction.
3. In order to avoid the cane being jabbed, the user raised his cane above 6 to 12 inches above the surface.

Aluminium Cane :

The locally available aluminium cane is relatively very heavy and expensive (each costing Rs. 8=50) and not durable. Light-weight aluminium canes are not available in the country. Hence the special variety of bamboo cane continues to be used.

Clients' attitude towards Mobility Training :

1. Most of those who came to the Rehabilitation Centre were interested in the economic rehabilitation as such and not in the Mobility Training Programme.

2. Some clients argued that they, having been mobile to some extent in the past, there was no need for such training.

3. Those clients who had been in other vocational centres for the blind showed a strong aversion to Mobility training, probably due to a sense of false prestige.

4. Some clients were of the opinion that they were not old enough to resort to the use of a cane probably due to the general notion that only old people use the cane. This would amount to ignoring the limitations imposed on them by their physical handicap i.e., blindness.

5. In the case of women clients fear, size of cane, and poor stamina were found to be impediments towards a positive approach towards Mobility Training.

6. The illiterate blind persons were found to be of strong conviction that whatever subject was taught in the Rehabilitation Centre was meant to help them and they did not show any hesitation towards the Mobility training. The educated clients also understood the importance of such training and were eager to learn and showed an enthusiastic response. The following two cases illustrate these clearly :

- a) Mr. V., aged 33 had no schooling and was working as a cooly till he lost his sight. He is married and has three children. After losing his sight, he never went alone but was always accompanied by one of his daughters. His positive response towards Mobility Training may be clearly seen from the fact that he finished this training within 2½ months and regularly visits his wife and children during the week-ends.
- b) Mr. S, aged 27 lost his eye sight in an auto-rickshaw accident. He has a post-graduate degree. He came to this Centre particularly to undergo training in Mobility and Communication. He was able to go through the whole programme within 8 weeks.

Clients' reaction towards Mobility Training :

It was found that after completion of Mobility training programme, even those clients who had first resisted became convinced about the usefulness and necessity of the training

to the blind person. One client remarked that "the cane is my eye". Many senior clients recommend that mobility training should be given irrespective of their wishes.

Behaviour during independent trips :

Unlike other training programme, Mobility training was given on a one-to-one basis. In every phase of the training schedule, the client was given a complete orientation of the new route. A verbal picture of the area, important landmarks and clues were given. Then the Instructor actually took the client on the new route and gave a detailed picture of the environment and the difficult situations, if any. He helped the client whenever his assistance was needed. After one or two trips to the same place, the client was in a better position than before to use other natural aids to reach his destination. Then the client was asked to make an independent trip using every help available. On such occasions, the client was observed without his knowledge to help him to avoid dangers and to effect the necessary corrections in them based on the observations.

Attitude of the public during journey :

Men clients did not come across any problem during their travel either in bus or train. They were of the opinion that public showed a helping tendency towards the sightless. Women clients differed in their opinion. They preferred to board the common compartment in the train rather than the bogie exclusively meant for ladies. According to them, men were very sympathetic and offered all assistance to them. Women passengers in the Ladies compartment, rarely helped them and would not even talk to them freely. One of them remarked that "it is rare to see a sympathetic women passenger".

White Cane movement at Madurai :

The Mobility Training Instructor of the Centre was asked by several organisations and associations to explain to their members about the Mobility Training Programme to the Blind. These organisations have become very much interested in the work of the Centre and some of them contributed towards purchase of cane for use of the blind persons in the Centre.

During the two years, efforts were made to educate the community by inviting them to the Rehabilitation Centre and demonstrating various activities including Mobility Training. The Junior Chamber, The Round Table, The Rotary Club, The Lions Club, The University women's Association, the Gujarathi women's association held their annual meeting at the Centre. On those occasions, we explained to them the various aspects of rehabilitation with a special reference to Mobility Training. The Rehabilitation Centre became one of the important places in the City to be visited by the public specially school children and teacher trainees.

Mobility Training and the Public :

Since the Mobility Training was given in the community, people had ample chances to have personal contact with blind persons. They were much impressed by the clients walking like the sighted persons avoiding all hazards on their travel.

Mobility Training in Rural areas :

Mobility training in Rural surroundings was also arranged for the benefit of those clients who came from rural areas. Achambathu village about 10 miles from Madurai was chosen for Mobility in a rural setting. Public transport was used to go to the village. From the village, the client had to walk a distance of one mile to reach a popular picnic spot Pulloothu, which is situated on the slope of a hillock. The client walked four furlongs on metal road, three furlongs on muddy road and one furlong on beaten foot-path. The road has number of curvets, culverts and a bridge. While travelling on the metal road, the edge of grass became guide line. On the muddy road, the client walked in between the cart tracks. These tracks became the guide line. A big ordeal for the client was to scamper aside when a herd of cattle passed on the same road. The degree of ordeal became acute when a herd of buffaloes moved on the road. It was easy for any client to locate the animals by their movements or bellowing or jingling of the bells tied around their necks. This course of training was attuned to the practical life of the rural blind,

Physical Training and sports :

In order to boost up the clients' self confidence, development of sense of direction and courage to move about, they were given opportunities to participate in physical training, group games and sports.

Thrice a week, the clients did simple callisthenics in the evening hours. They did these exercises all together and rhythmically to counts. That improved their posture and developed co-ordination of movements and actions and added ease and grace to their movements. The formal exercises were followed by simple recreational and competitive group games in which they took part with enthusiasm.

As the Rehabilitation Centre is a wing of Madurai Medical College, the Annual Sports-Meet of the Centre was held along with that of the Medical College. The following were the special events for the clients.

- | | | | |
|----------------------|-----|---------|------------|
| 1) Running Race. | ... | 50 M | (Seniors). |
| 2) " " | ... | 50 M | (Juniors). |
| 3) " " | ... | 50 yds. | (Women). |
| 4) Tunnel Ball Relay | ... | — | (Men). |
| 5) Musical Chair | ... | — | (Women). |

It so happened that the lady Principal of the Sri. Meenakshi College, who happened to be the chief Guest of the Sports-Day of Madurai Medical College, in 1969, seeing the blind persons on the Sports Field, invited them to participate in the Annual Sports-Meet of that College held later that year.

Difficulties encountered:

It was found that those clients who had used orthopaedic or collapsible cane before coming to the Centre had great difficulty in holding the cane in the proper position. Sustained special attention had to be given to them.

Training area :

Madurai, the Temple City of India has a rich heritage. Town planning was at its zenith during the sixteenth century. The temple forms the nucleus of the City. Around the temple, there are four streets forming a concentric

square. Likewise, there are four other streets running parallel to the former. All these streets have broad pavements. These places are ideal places for Mobility training but we are unable to utilise such facilities to the maximum level. These pavements are used as parking lots for lorries, carts etc. In certain places, they are used as market. Besides, number of stray cows take shelter on these pavements. Added to these hardships, there are number of tress, electric posts with supporting wires on the pavements. Municipality also takes a major share in using the side walks as the stocking place for sand and gravel. Tramps and hawkers take shelter under these side walks. The shopkeepers without acquiring licence fix posts and erect pandals. Pedestrians rarely make use of the pavements. Only sighted people knock our clients and break their canes. So it was very difficult for us to train our clients in the interior part of the city.

Travel problems :

There are some problem areas which are common in India which must be considered when planning Mobility and Orientation Programme. Bare-foot travelling is one such area. There are many localities where it is the custom to go without foot-wear. For the blind, there may be one slight advantage in bare-foot for identifying the type of surface on which one is walking. The disadvantages are many. However, the bare-foot is liable to be injured from broken glass, stones and refuse on the walk-way ; and when carelessly crossing a hot pavement, one can lose all track of direction or even be in a danger from traffic. Some clients feel strongly that shoes are restrictive ; patience and direction can overcome this feeling.

Another common problem arises in teaching cane mobility. The light-weight in aluminium cane is not yet totally available in India. The cane used most often is of bamboo or rattan. Either this cane is heavy for the client to carry and does not conduct cent per cent sensation from the surface which it strikes, or is light-weight and breaks easily. Further because of the difficulty of plugging the hole in the end, the cane will often "catch" in dirt or pavement and make rhythmic walking impossible, and prevent the client

for making a correct arc, thereby leading to deviations from his proper course.

Techniques modified to suit local condition :

Our Centre had success with the bamboo cane by having the clients use a "loose" grip so that the hole in the cane tip does not jab into the surface from the force of thrust.

We have also had success in teaching the "arc" and "touch-technique" to clients who are illiterate or through other reasons do not understand the meaning and sense of those terms. By placing two stones in front of the client — the length of his cane and hand away, and the width of his shoulders part — a "barrier" is set up and the client can accustom himself to the proper feel of the arc in swinging the cane right and left ; at the same time correct his own mistakes through the feel of the cane-tip striking (or missing) the insides of the stones. At the end of a day of sessions of 10 minutes practice and 3 minutes rest, the client has understanding and a degree of skills in arc technique.

PROFORMA

EVALUATION REPORT FOR ORIENTATION AND MOBILITY

Name of the client :

Period

From.... To....

Rating Scale :

- A. Exceptional B. Above Average C. Average
D. Below Average B. Unsatisfactory.

Subject	Grade
I. A. <i>Physical Orientation:-</i>	
1. Orientation to Training facilities :	..
2. Ability to use points of reference effectively :	..
3. Ability to walk in a steady and assured manner :	..
4. Ability to walk and make turns without faltering :	..

Subject	Grade
B. <i>Cane Technique :</i>	
1. Ability to use cane as a bumper, feeler and a sign of recognition	..
2. Ability to stop immediately when cane shows danger :	..
3. Ability to handle the cane properly :	..
4. Ability to maintain the correct rhythm of the cane :	..
5. Ability to maintain proper angle of the cane :	..
6. Ability to maintain proper arc :	..
7. Ability to use cane properly in ascending and descending stairs :	..
C. <i>Travel Techniques :</i>	
1. Ability to maintain proper body posture :	..
2. Ability to learn directions :	..
3. Ability to follow designated routes :	..
4. Ability to use rhythm technique in following shore line :	..
5. Ability to use cane effectively in crossing intersections :	..
6. Ability to enlist the aid of a sighted person in crossing intersections :	..
7. Ability to use common transportation facilities such as bus, cycle-rickshaw etc., with self confidence and safety :	..
8. Ability to travel in unfamiliar areas with the use of a cane :	..
9. Ability to use the other senses effectively in travelling independently with the use of a cane :	..
Signature of the Mobility Instructor	

Chapter V

PSYCHOLOGICAL SERVICES

Psychological rehabilitation commenced from the time of admission of the client to the Centre and permeated throughout their stay at the Centre. The suspicious nature of the blind towards the sighted, lack of capacity to judge men and matters and the like were the initial obstacles to overcome in establishing rapport. This generally lasted for about 2 to 4 weeks.

The characteristics of the clients regarding their background, education and age at onset of blindness varied so much that the group was a heterogenous one. The only common factor which bound them into a group was their blindness. The clients who had been admitted to the Centre were broadly classified into 5 groups. The total number of clients admitted to this Centre, i.e., 223, consisted of 76 illiterate and congenitally blind or blinded during early childhood, 70 who had their education or training in blind institutions, 32 adventitiously blind, 6 adventitiously blind with teacher training or collegiate education and 39 partially sighted. Each group had a specific problem or problems and they were dealt with separately. The main problem with the first group was that they exhibited total apathy towards the training programme and they required constant stimulation. They had to pass through the stages of motivation, teaching and training. This apathy was found to be due to the past idleness at home because of blindness. While the above problem did not exist with the second group, viz., early blind with education at blind institutions, the clients of this group showed resistance towards any attitudinal change. The study made of the women clients who had been educated at blind schools illustrated this clearly. With regard to the adventitiously blind group, the problem was mainly non-acceptance of the handicap and a strong hope of getting back vision. Though there were only 38 in this group, their problems proved the main hurdle for rehabilitation.

Regarding the adventitiously blind with secondary and collegiate education, only two graduates were admitted so far, but four trained teachers with many years of experience also came in this group. The problem looming large before them was one of finding suitable employment after the training. The very limited scope for their employment made them reflect on the affliction and its impact on their career. As for last group, i.e., the partially sighted, the main problem was the residual vision itself. The residual vision was too little for them to learn the vocation just as the sighted, but too much for them to consider themselves blind. This residual vision hampered their learning of Braille. Besides, these clients with residual vision hindered the mobility training of other clients by offering themselves as their guides and thereby not providing opportunity to use the cane. But this residual vision was helpful to them to gain more friends by rendering help and providing information about the movement of the staff to the totally blind clients.

Generally, group counselling was given separately for the above groups but they were provided opportunity to come together with other groups when topics of general interest were taken for discussion. Group counselling or social adjustment classes were held thrice a week. In the initial stages, mostly information on blindness and its impact on the individual was given to the clients. The topics taken for discussion were the causes for the low status of the blind, attitude of the blind towards the sighted and of the sighted towards the blind, sex and marriage problems etc. While the blind with education at blind institution and adventitiously blind clients actively participated in the discussion, the illiterate clients did not get involved in it.

These discussions acquired vital importance in the training programme because one-third of the clients admitted were illiterate and blinded early. Hence they were deprived of socialisation and the absence of this process was glaringly perceptible in the case of a few clients who were exhibiting characteristics of mal-adjustment. These people never had the opportunity for social interaction. Though adventitious blind clients also had difficulties in adjusting with the sighted, there was distinct difference between the attitudes of the former and the latter, towards the sighted community. In

the case of adventitiously blind clients, only fear withheld them from moving towards the society, whereas it was apathy and ignorance that held the congenitally blind back from the society. During discussion, the congenitally blind clients, though educated, reiterated that they preferred to live with the blind only if they were given a choice. They argued that they felt quite at home in their own group because they would be a mockery in the sighted group as an object of curiosity, especially when they performed their daily activities. Though group discussion and counselling for attitudinal change had favourable influence on the clients, the effect diminished when it was not reciprocated by the society. If this impact was to have lasting effect, the present attitude of the sighted towards the blind must necessarily undergo a change, from one of contempt to understanding, sympathy and encouragement. The clients freely mentioned about this aspect.

In group counselling, apart from the specific problems of respective groups, common problems were also taken up. One of the problems was found to be taking of frequent leave and extending the same without intimation. Realizing that the feeling of insecurity due to new environment, long years of idleness leading to irregular habits, tendency to escape temporarily from the routine of the Centre were generally the causes. This problem was dealt in great detail, during group counselling.

Individual Counselling :

Individual counselling sessions were arranged once a week to every client, but additional sessions were planned in the case of those who had special problems. Through individual counselling, efforts were taken to eliminate blindisms which some of the clients had acquired due to blindness. The individual problems taken for counselling were economic, vocational, sexual in nature.

One of the common problem observed during the initial stage was their anxiety to go back to their homes even within a period of one or two weeks. This occurred mostly in the case of illiterate and congenitally blind clients. This was probably due to the fact that they developed a feeling of insecurity when taken to a new place from their familiar

and familial surrounding. Sometimes it became necessary to request the parents to visit the clients, so that their anxiety was reduced.

Of late, sex problem gained attention. As both men and women clients were taken for training, it had given scope and opportunity for friendship. It was to be mentioned that the clients did not pronounce their sex feelings during the period of training but only when they completed the training and attained the stage of self supporting individuals. Probably this gave them the confidence to think of their biological urge. This sensitive problem required delicate and careful handling. Five clients had to be discharged as they had decided to get married. Though they could foresee the difficulties cropping up in their married life, especially in bringing up children, they had succumbed to the strong sex urge. As a matter of policy of the Centre, the blind clients were not encouraged to get married if both are blind, in view of the economic and social problems anticipated in their marital life. A follow-up study reveals that the clients who got married, after discharge from the Centre, found it highly impossible to maintain the family and were compelled to live a life of semi-starvation.

But four clients, two men and two women who accepted counselling continued to work as before. Of course, they were trying through their parents, to get married to sighted partners. The following cases can be cited as samples of problems prevailing among the clients.

Case I.

An eighteen-year old male client lost his vision when he was 13 years. He had his primary education. After being admitted at the Centre, he couldn't show any improvement even after 2 months. The Vocational Counsellor felt that he had no desire to learn the vocation and hence he was referred to the Psychologist with a recommendation for discharge. The diagnosis by the Psychologist revealed that he has not recovered from the shock due to blindness and he was in a depressive stage. Since the blindness has affected the client during adolescent period, the problems of adolescence also were added to the prevailing condition. A close observation indicated his strong homo sexual tendencies.

Though he was average in intelligence, his progress in the training was slow. Counselling sessions were arranged. Though much could not be done during the first two sessions due to his reluctance to speak out, the subsequent sessions helped him a lot and for the first time he expressed a desire to learn a vocation. Periodical encouragement and special attention made him a trained weaver in 6 months. When one of the staff members doubted his capacity to earn, he took it as a challenge and earned Rs. 60/- in a month. His performance in later period was quite satisfactory.

Case II.

A 24 year old partially sighted man from Kerala State joined the training course. During the middle of the course, he wanted to be discharged. At the beginning, he refused to give out the reason for his request. On persuasion, he said that he had been talking to a woman client often and it resulted in friendship with a promise of getting married. Relying too much upon her assurance, he rejected the proposal of his marriage with his uncle's daughter. But one day he saw this woman client flirting with another male client. This shifting of loyalty was too much for him to bear and he wanted to get away from the place once for all.

Counselling was given continuously for some days. He was allowed to examine the pros and cons of his decision, especially as he was in the middle of the training. The counselling had its desired effect. He not only completed his training but became a self-supporting worker earning more than Rs. 60/- per month.

The following two cases of women clients who became blind during the adult period emphasise the need and importance of counselling for adventitious blind. While counselling had favourable result on one client, it was not successful in the case of other.

Case III.

A woman client, aged 27, had studied VI standard, and married when she was 19 years old. Husband gambled away property and jewels, died after 5 years of married life. She has a son who is aged 7 years. She has no other relatives

except uncle and aunt who are not favourably disposed towards her. She became blind when she was 25 years.

Background Analysis :

An analysis of her background throws some light for her present behaviour problem. The following events taking place successively have been responsible for moulding her into the present type.

1. Death of mother when she was very young.
2. Lack of protection and affection from her father who left for Malaya and got married to a lady of that country.
3. Father's death at Malaya due to poisoning by her step mother.
4. Marrying a distant relative much against her will.
5. Lack of peace and happiness in marital life due to the vices of her husband. This resulted in utmost contempt for him.
6. Death of husband without leaving any property for her.
7. Lack of interest on the part of her aunt in her welfare.
8. Finally her blindness.

These various factors have developed aggression and emotional instability in her. Probably she never had opportunity to be in the midst of relatives and also there was none to guide her towards adjustment to others. Her inability to adjust posed a problem at the hostel. Lack of experience in getting adjusted to different situations and people resulted in constant bickering.

She has none to fall back upon and this insecurity adds to her aggressive behaviour. Her sharp tongue using vituperative language isolated her from others.

Though constant guidance and counselling had its temporary effect, her emotional and aggressive outbursts finally resulted in her discharge from the Centre.

Case IV.

A woman client, aged 39, had studied VIII standard and had been trained as a teacher and worked for 14 years.

She got married when she was fifteen years but lived with her husband for 2 years only. She was living alone due to ill-treatment of her mother-in-law, working as a teacher. She lost her vision when she was 35 years old. When her uncle, who was taking some interest in her welfare, expired, she became a destitute. Blindness has impaired her health considerably.

Background Analysis :

Her background information reveals that she was disappointed by her married life, since she could not get the affection and care from her husband for which she was yearning so much due to loss of parents at an early age. Fortunately this aspect has not resulted in bringing forth any psychological symptoms, mainly because she derived satisfaction from teaching the children, for which she has devoted her time and energy. Though blindness as such is not the basic cause for her neurotic condition, the cumulative effect is discerned from her feelings regarding the loss of her teaching career.

Of course, it should be possible for her to regain her physical as well as mental health once she gets an assignment for teaching as before. This assumption proved correct when she was given the job of teaching Braille to the new clients at the centre. The assignment had therapeutic effect on her.

Appendix

Study projects are undertaken by the Psychologist to analyse the problems existing with the blind. Some of the studies completed are stated below with inferences drawn from them.

I. ATTITUDE OF THE BLIND TOWARDS REHABILITATION.

This study was made by the Psychologist during the Eye Camps conducted in rural areas.

The study brings forth the following social and psychological causes for resistance to rehabilitation.

1. Strong hope of getting back vision prevalent among many people stands in the way of getting trained in some craft. In other words, reluctance to accept blindness appears to be a major cause for lack of motivation in rehabilitation.

2. Concept of rehabilitation seems to be quite new to them. It is beyond the understanding of the rural people to think of blind people being trained in some vocation and becoming independent for their livelihood.

3. Rural womenfolk are reluctant to send the adolescent girls away from home to the rehabilitation Centre.

4. What is needed is not rehabilitation but asylum especially by very poor people. This has been reinforced by the statements of some parents that they want to admit their sons or daughters in some institutions which can look after them for their life.

5. Fear and indifference to come out of the home atmosphere to which he is used and which affords him security.

6. Ignorance due to illiteracy.

II. PROBLEM OF DROP-OUT AT THE CENTRE.

This study was planned to probe into the causes for drop-out.

1. Difficulty in forming work habit, due to long period of idleness. Some of the trainees are not able to withstand the strain of busy working life. They leave the training centre at the transition period from idleness to work oriented life.

2. The long period of idleness at home has developed strong conviction in them that they can not learn anything with their handicap.

3. They feel satisfied with their feeling of dependence on others for help which affords them security. Training in vocation makes them independent.

4. Lack of sufficient and correct information about the vocation and scope for employment seem to be a negative incentive for their interest in vocational training.

5. Lack of confidence in their capacity to earn their wages as workers.

III. AN ANALYTICAL STUDY OF THE BLIND WOMEN.

This study was made out of 27 clients admitted at this Centre and it has brought forth the following conclusions.

1. Most of the clients who have sought admission at this Centre have studied in the schools for the blind. In other words, there are only a few clients from rural areas who have been admitted straight away from their home.

2. Adventitious blind or blinded at later years are less in number when compared to the number of blind women at this Centre.

3. Economic distress does not appear to be the cause for seeking admission in a large number of clients.

4. They seem to have fixed and definite views about marriage supported by valid argument.

5. Limited openings for their vocational career have lowered their level of aspiration.

6. The problem of drop-out does not arise at all in the case of women clients. But it is surprising that it is nearly 50% in the case of men clients.

7. Though they appreciate the idea of integrating the blind with the society, they prefer to keep away from the sighted until such time when the society changes its outlook towards the blind.

8. Above all, the study stresses the need to educate the public simultaneously when the blind are trained to move into the sighted society.

Chapter VI

EVALUATION & ASSESSMENT PROGRAMME

It is absolutely necessary that the existing skills, abilities and the aptitude of the blind clients are assessed before attempting any counselling for choosing a vocation. With this hypothesis, this evaluation and assessment has been included in the Rehabilitation training programme. The experience gained by the Vocational Instructor in this field at the training Course organised by Far East Regional Office of the American Foundation for Overseas Blind, has been helpful in planning this part.

A preliminary assessment was made at the time of interview by the team of staff individually. But a correct estimation of the capacity and skills was made only after adopting the scientific method of administering the following tests. The tests implied that certain skills were necessary to achieve success in these tests and also provided a clue to the extent and scope of improving the residual skills or developing new ones.

The Evaluation and Assessment consisted of five tests and they are described below :-

1. Peg board :

It is a wooden board having 25 holes of different sizes. There are 25 aluminium pegs to be fitted into the holes according to their sizes. There are 10 boards in total.

2. Geometrical patterns:

In this test, there are seven aluminium flats of different shapes, each flat having a pair of dowel pins on one side and a pair of holes on various sides. There are six wooden master patterns. The client is expected to connect the aluminium flats and make the different wooden patterns.

3. *Manual dexterity board :*

A wooden board has holes made at equal distance. The board is fixed vertically and the bolt is placed on one side of the board while nut and washer for the bolt is placed on the other side. The client is expected to use both hands to fix up the bolt on the hole with nut and washer.

4. *Fraction indicator blocks :*

Aluminium plates and sheets of various thickness are placed on a cross bar through the slots of the plates and sheets in such a way that they can be moved right or left. The client is expected to assemble the given pieces to make a piece of given thickness.

5. *Mecano Assembly :*

A box contains small metal sheets and strips, bolts, washers and nuts. The metal sheets and strips should be assembled with the help of a screw driver and spanner provided in the box.

Administration of tests :

These tests were administered during the initial period of 10 to 12 weeks. The clients were divided into batches, each batch consisting of 6 clients. The tests were arranged for 3-½ hours a day. When the client completed the first set, viz., peg board, he was given the second test, geometrical pattern and then third manual dexterity. This was the final test in the case of illiterate blind. But opportunities were given for the educated blind to complete all the five tests. Among the 17 illiterate clients, only two clients completed the third test, viz., geometrical pattern while 15 clients failed in their attempts. This was quite natural since the test required a basic knowledge of arithmetic. Even in the case of 8 educated clients, none completed all the five tests.

Purpose of the tests :

These tests aimed to evaluate the existing skills and abilities of the clients. The continuous experience extended for a period of 10 to 12 weeks with these tests provided the clients with opportunity to strengthen the existing skills

and develop new ones. These tests expected to evaluate and strengthen the following skills and abilities.

Manual dexterity.
Spatial orientation.
Co-ordination.
Memory.
Tactile sense.
Hearing.
Perseverance.

Observation :

The Instructor had to observe the seating arrangement of the client and his method of manipulation of the tests. Care had to be taken that the client developed a systematic approach to the problem instead of random approach. The client's behaviour during the tests was noted and recorded. The time taken to complete the test was also recorded. Based on the observations, instructions were given to modify the method, if necessary, or to acquire speed in the performance.

The adventitious blind and educated blind clients evinced interest in the above tests but illiterate clients generally were averse for these tests, more so the women clients. The repetitive nature of the first test, viz., Peg board made the clients feel monotonous about it.

Results :

Since the commencement of Evaluation and Assessment, 29 clients were admitted in this unit but four clients dropped out before completion. The following recommendations were made in the case of other clients.

	Male	Female
Recommended for training in		
weaving	7	6
Cane work	3	—
For discharge	5	4
	15	10

Case study of two clients:

(1) Name: N. Rajendran. Age 19. Education: Nil. He was admitted in the evaluation section on 4-2-'70. He began to do the peg board test *in his own method* from 4-2-70 to 16-2-70. During the period, he was very much interested in doing the test. He completed the first attempt within 15 minutes on Board No. A. 3. In the above period of 12 days, he completed four boards. They are A. 3; 4; 2; 4. The maximum time taken by him was 15 minutes, the minimum 3-5 minutes. During the test (own method) his working posture was satisfactory. He followed horizontal method. When we made wrong insertion he compared the pegs on hand and the inserted the correct one. He revealed his intelligence; working speed was satisfactory. He understood the instruction very clearly and quickly.

When the client finished his own method, correct procedure was taught, with the reasons why it was done. From 18-2-70 to 9-4-70, he followed the correct method and made 65 total attempts in all boards. The time taken by him was maximum 7.3 minutes and minimum 3.4 minutes. The average came to 4.9 minutes. His efficiency was found out to be 71%.

In geometrical pattern he took more than half a day but he could not complete it. I taught him step by step. He found it to be very difficult and refused to do the type of test. Then I told him the reason why the test was given and how it would be useful for him in future. He accepted the points and agreed to do the test with guidance. He finished the first test in 15 minutes. After that he reduced the time to 1.5 minutes on fifth attempt. Like the above, he finished all the patterns. The maximum time taken was 48 minutes, the minimum 0.5 minutes. He was recommended to undergo vocational training in weaving.

Name : P. Kalimuthu Age : 18. Education : Nil.

From 2-2-70 to 9-2-70. The above client was allowed to do peg board test *in his own method*. He finished the board No. B. 3 in 54.5 minutes. Twenty attempts were made on that board and the time was gradually reduced from 54.5 to 7.5 minutes. Then the board A.1 was given.

He made twenty attempts and the time was reduced from 11.25 to 7.00 minutes. The repetitive working procedure is the only reason for reduction in time. Except this, he did not show any improvement in the performance of the test and he adopted the same procedure.

The correct procedure was taught with the reason why it was done. He took 4 days to understand the procedure. Then from 16-2-70 to 13-4-70, he adopted the correct procedure. During that period, he was given instructions but he did not reduce the time. He was allowed 85 attempts in all boards, the maximum time taken was 16.2 minutes and the minimum 6.2 minutes. The average comes to 10.5 minutes. For the above test, the allotted time is only 3 minutes.

He could not assemble the geometrical patterns though he took 3 days for shape No. 1. He was not able to recognise the shape. He has no ability to form mental picture about an article given.

He had only 15% of efficiency; wrist and finger dexterity etc., were poor. So he was recommended to be discharged.

The reason for his poor performance is that he has been blind for the past 18 years, since he lost his sight when he was six months old. He has no education and he is coming from an illiterate poor family from a village, and spent all his time sitting idle.

Chapter VII. EMPLOYMENT

The potential for employment of the trained blind in the context of prevailing conditions in the country, in Tamil Nadu and in Madurai City is discussed in this chapter.

There has been increasing realisation on the part of the Government to provide suitable employment to the physically handicapped including the blind. At the national level, the Government of India took initiative in this regard by establishing Special Employment offices in nine important centres in the country, including the one in Madras. The first of these was established in Bombay in 1959. These nine special employment offices have been able to find employment to only about 650 blind persons during the past ten years.¹ Returning to Tamil Nadu, the Special Employment office for the physically handicapped was established in April, 1961. According to the Census of India, 1961 report² "as on 31st July, 1963, 205 males and 55 females have registered in the Employment Exchange at Madras.

The majority of the registrants are orthopaedically handicapped and the next largest group of the blind." It would be seen that out of a total of 650 blind persons who have been placed in different occupations, thanks to the efforts of these special employment offices for the physically handicapped till the end of 1969, 117 are through the special employment office in the Madras Centre and there are still 156 blind persons on the active rolls of the Special Employment Office.³ It may be observed that of the estimated 5.3

1. "Government of India and Work for the Blind" — Article by Lal Advani in *Blind Welfare*, October, 1969, Page 47.
2. Census of India, 1961 — Vol. IX — Part XI-E, physically Handicapped of Madras State.
3. "Nationalisation of Disabled" paper presented by P. N. Vedarayanan, I.A.S. Director of Employment & Training, Tamil Nadu State at "World Day of the Disabled, Madras, 1970.

million blind persons in the country, trained and untrained, an insignificant number of 650 only have been in a way rehabilitated.

The condition existing in India is described in a nutshell in the report on the Third Asian Conference and work for the Blind. In the progress report of India, it is said on Employment.⁴ "In India, it would not be true to say that there is resistance to the placement of the Blind, but it would be right to say that there is a hesitant attitude and apathy on the part of employers and the general public. This is partly based on a traditional view of the blind who are regarded as completely dependent and incapable and partly due to an abundance of skilled and semi-skilled sighted workers. Unions and sighted workers are sceptical but not antagonistic."

It may be stated that the three main problems in the economic rehabilitation of the trained blind are :

1. The attitudes and values of the blind who have neither the education and the experience nor the skills required for an industrial worker, constitute a major obstacle. Most of the blind persons seem to think that blindness means legitimate dependency on others, absolved of responsibilities as an independent member of the society.
2. The attitude of the employers who tend to look only at the loss of abilities due to blindness but not on the residual skill and scope for development of new skills, is another major obstacle.
3. The increasing rate of unemployment even among the sighted people, skilled, semi-skilled and unskilled, is a third major obstacle.

Turning to Madurai City in which the Pilot Demonstration Rehabilitation Centre for the Blind is located, textile manufacture is the major industry. There are several textile mills, big and small in and around Madurai. Handloom weaving is the most important cottage or family industry. There are very many handloom factories big and small located in Madurai and suburbs. The textile mills which

4. Report on the Third Asian Conference on work for the Blind, Section VII — Page 223.

are well organised industrial establishments, have workers' union and the employers follow closed shop policy in the matter of recruitment which is usually restricted to sons and dependents of employees. It will therefore be seen that the conditions existing at national, state and local level regarding the placement of trained blind in industries are not very favourable till now.

Efforts were made to place the trained blind in such of those industrial concerns where the Trade Union Movement has not made any serious impact. The Industrial Estate at Madurai provided scope for this type of contact on a limited scale. This Estate with 28 private and six public sector undertakings provide a cross section of the Industrial activity of this town.

M/s. Jaya Murugan Industries in the Industrial Estate manufacturing polythene bags and employing about 70 men agreed to employ first one and then two blind clients at a time. The work was of a repetitive nature without involving any industrial hazards. Folding to size, cutting, counting and packing are jobs which the blind person could undertake easily. The placement provided training in factory atmosphere to the blind. During the period from October '66 to March '67, five clients were placed in succession. None of the clients placed in this factory had any earning capacity prior to admission in the Centre. Thus the earning capacity was good attainment in their case, though the wage rate was only one rupee per day.

The Madurai Mosaic Industries produce mosaic tiles in the Industrial Estate. A dozen workers are employed in the factory. A blind client was placed as an unskilled worker on a wage of Rupee one per day. His work consisted of cleaning and drying sand, breaking chips to size and generally helping other sighted workers. Prior to admission in the Centre, he was an agricultural worker.

The Madurai Metal Products, manufacturing aluminium vessels employs about 100 workers. One client was placed as a packer after four months' training. Prior to becoming blind two years ago, he was casual labourer earning one rupee per day. But he is earning Rs. 1.25 per day and he has put in four years of service and he is getting all the benefits like the sighted worker.

The Government Glass Factory manufactures chimneys and despatch them to various places. Three clients were placed there and their job was to pack the chimneys with straw. They were given twentyfive paise for packing one grass (144) of chimneys. At the most, they were able to earn seventyfive paise to one rupee per day. Their total monthly income was very poor, as they had no work on Sundays, holidays and some other day when packing material would not be available. Because of these difficulties, one of them returned to the weaving section of the Centre.

M/s. Sundaram Private Ltd., manufacture of Automobile parts has a furnace, moulding section and a machine shop where turret automatic lathes are in operation. The owner, an eminent industrialist and a member of the Rotary Club promised co-operation but declined to allow persons into his factory for fear of accidents, as he was of the view that they cannot move among machine parts. The specific area of their co-operation is yet to be discussed and decided.

The main difficulties or problems for finding suitable placement for the trained blind in Madurai city area are :

1. The hesitancy on the part of employers due to their doubt about the capacity of the blind persons to work like the sighted.
2. The low wage structure in those industries in which the trained blind can be placed.
3. The lack of training facilities to train the blind for light engineering occupation.
4. The lack of facilities to train the blind in such of those spheres that will be suitable for rural setting.

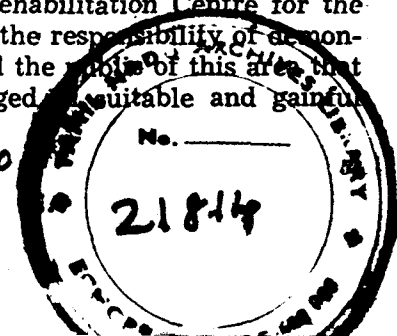
In spite of these limitations, ten clients were placed in employment. Among the educated blind who have been given training, one is working in a school for the blind, while the other is a Braille Instructor in a light engineering project.

Workshop for the Blind in the Centre :

The Pilot Demonstration Rehabilitation Centre for the Blind could not shy away from the responsibility of demonstrating to the industrialists and the public of this area that the trained blind can be engaged in suitable and gainful

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occupation. Further, the Centre has to take some initiative to provide gainful occupation to those for whom placement could not be found immediately in the open industry, lest the very training given should become a total waste. Moreover something had to be done to prevent the frustration to the trained blind resulting from unemployment. As a result, it was decided to open a small workshop as a stop-gap arrangement for providing employment to those who could not be placed in open industry immediately after their training. A workshop with weaving, tailoring and cane work sections was set up in 1967. As of now, there are 52 trained blind employed in the workshop with their income ranging from Rs. 40/- to 100/- per month. It is hoped a good many of these trained blind working in this workshop could move on to suitable employment in the open industry shortly. Efforts are also being made to encourage some of them to become self-employed, like having their own handlooms. A follow-up study is under progress relating to the 55 trained blind who have left the centre and the workshop.

It is to be mentioned in this context according to a study made on the trained blind employed in this workshop by a student of the Madurai Institute of Social work, 50% of the workers prefer to work in the sheltered employment. The reasons given by them are lack of facilities for the blind to live independently, the relatively low wages and the still lurking diffidence to work on par with the sighted.

The usefulness of the workshop was recognised by the Industrialists, the Government of Tamil Nadu and the public of Madurai City. As a token of appreciation for the work, the Madura Mills, one of the leading textile manufacturers of the city offered the cotton yarn and the cloth at ex-mill price to provide work for the weaving and the tailoring sections effectively. The Government of Tamil Nadu issued an order directing all the Government hospitals in the southern districts to purchase their requirements from the workshop of the Centre. This enabled the trained blind to get sufficient work and wages. The exhibitions and sales arranged in this Centre as well as in Madurai City drew very good response from the public, and they provided an opportunity to the public to see the blind in working condition. So the workshop had a demonstration effect.

Chapter VIII

PROBLEMS AND ACHIEVEMENTS

The Pilot Rehabilitation Centre for the Blind, like any other institution, had to face several problems right from its inception. Various methods were adopted to find solution to the problem that showed up in different areas and stages of development. Some of the major problems encountered were:

1) As stated earlier in Chapter II, blind welfare is a new field of service in India. Hence it was a real problem to get suitably qualified and trained personnel to work for and with the blind. There is a general reluctance on the part of young persons to get qualified and trained in this area, and, what is worse, proper training facilities, particularly in Mobility training are not available.

2) The general attitude of the blind trainees, more so in the case of those from rural areas, that they cannot be independent and economically useful was both a problem and a challenge. This, incidentally, points out to the need to dispel in the minds of the blind, the notion that they, out of necessity, because of their handicap, have to be dependent on their relatives or the community.

3) The objective of the Centre was to give such a type of training that would enable them to take up open industry or to be self-employed. While this was a suitable programme for the blind trainees from urban areas, it was not so to those from rural areas. This proved to be an important handicap. It must be observed at the same time that it was not practicable to give training in occupations suitable for the rural areas since the Centre was located in a metropolitan area. It must also be observed that admission in the Centre was not restricted to urban blind alone.

4) The heterogenous character of each batch of trainees resulted in specific difficulties in the planning and implementation of the programme. That admissions were

not made for each batch for one and the same time was also another problem to be contended with.

5) A special problem encountered at the time of admission was to distinguish between those who were interested in rehabilitation and those interested in food and shelter. The Centre was not to be reduced to an asylum for the poor.

6) The high incidence of drop-out, 51 out of the total admission of 223 was also a problem in the sense full utilization of the available resources could not be achieved.

7) The philosophy of the Centre was not to restrict the responsibility with the training only; placement of as many as the trained blind in suitable occupation was also considered to be part of the responsibility of the Centre. Finding suitable occupations in the open industry, as has been discussed in detail in an earlier context was also one of the problems encountered.

If the problems encountered were several and varied, the achievements were also many and impressive. Some of the major achievements are :

1. The Centre gained recognition from service organisation, the Rotary Club, even during the first year of the Centre's existence. This resulted in constructing a building for home-management at a cost of about Rs. 10,000/- Various other service organisations and bodies showed their interest in the work of the Centre by donating funds for the construction of work-sheds, by helping in the sale of the manufactured products of the Centre and in various other ways.

2. The work of the Centre gained recognition in many other states as well. Various voluntary organisations from the States of Haryana, Kerala, Andhra Pradesh and Mysore, evinced keen interest in the work of the Centre and sought suggestions and guidance relating to rehabilitation of the blind.

3. The useful work of the Centre drew visits from the President of India Sri V. V. Giri, the Governors of Tamil Nadu and Mysore, Sardar Ujjal Singh and Sri Dharma Veera respectively, Sri M. Karunanidhi Chief Minister of Tamil Nadu and several other Indian and foreign dignitaries.

4. The realisation of the reality situation that it is not possible to secure suitable employment to the trained blind immediately after the training is over and the realisation that if the trained blind were not provided with gainful occupation the entire training would become a sheer waste, led to the opening of the workshop to provide employment to the trained blind as a stop-gap arrangement till such time they could be placed in open industry. As of now, 52 trained blind are employed in the tailoring, weaving and cane work sections of the workshop. They have become self-supporting individuals with an average monthly earning of about Rs. 50/-.

5. The usefulness of the workshop as a "demonstration Centre" for the public and the Government, that the blind, when trained, can be independent, gainfully employed and useful citizens, cannot be over-emphasised. The frequent exhibitions held in the Centre had drawn large numbers to visit. It may safely be said that the need for and usefulness of a Centre like this to rehabilitate the blind have come to be well recognised and appreciated.

6. Within a short span of about five years, 116 of the 223 admitted in the Centre have been enabled to acquire courage and confidence to become self-supporting workers. But for the services of the Centre, they would have continued to be dependent on others and economically useless.

7. The supreme achievement of this Centre is the realisation on the part of the Govt. of Tamil Nadu of the importance of rehabilitation programme for the blind and its decision to continue the work of the Centre on a permanent basis by making the Centre a Government Institution. By this, the State of Tamil Nadu achieves the unique distinction of being the first State in the country to have its own rehabilitation centre.

It could be seen from the achievements that the demonstrative purpose of this Pilot Demonstration Rehabilitation Centre for the Blind has been well served.

Chapter IX

FINDINGS

The great many significant contributions of the Social Sciences and Technology have led to several new concepts and new types of services in the welfare field. It follows that specialized welfare services have to be administered for those who are professionally equipped to administer, the professionals.

Professional :

Regarding the rehabilitation of the blind, four categories of professionals, excluding the administration, are necessary. They are :

1. Psychologists
2. Vocational Counsellors
3. Vocational Instructors and
4. Mobility Instructors.

1. Many in India, graduate from educational institutions at the college and university level with psychology as a major or psychology as a specialization. For the purposes of a rehabilitation centre for the blind it is not imperative that a Psychologist must be a clinical one. It would be enough if he has a good grasp of the principles of psychology and has the aptitude to work with handicapped persons, physical, social or moral. Securing the services of a suitable Psychologist is therefore not a problem.

2. Many seem to think that the functions of a Vocational Counsellor and Vocational Instructor are the same. In an ideal set-up their functions, out of necessity, cannot be identical. The role of a Vocational Counsellor is to assess the aptitude of the individual client for a particular vocational training through pre-vocational tests. Consequently a person who is selected for the post of a Vocational Counsellor must have some general knowledge about the diffe-

rent vocations. It is not difficult in India to get persons with that kind of background.

3. Vocational Instructors are to be the experts in their respective vocation, capable of imparting training to others in those vocations. There are many institutions in the country which train persons in various vocations. Hence there is no difficulty in securing this category of professionals.

4. To get a suitably trained Mobility Instructor in India is an impossibility. There is not a single institution in the country which imparts this kind of training. This Centre was fortunate enough to get a person trained in mobility instruction by deputing him to Orientation & Mobility course in Kuala Lumpur, Malaysia. It would therefore be seen that it is not merely desirable but also necessary to start institutions which could impart training in mobility instruction. If our national objective is to be to rehabilitate even half of the estimated number of the blind at present in India, which is a little more than five million, a few special institutions to impart training in mobility instruction is essential. Five or six such institutions on a regional basis may serve the purpose. It may be added that without suitably trained persons in mobility training, the rehabilitation programme for the blind cannot be a success.

Education of the Public.

In the final analysis, the success of any welfare programme, especially like the blind welfare, is to some extent or other, related to the attitude of the public towards that programme. Educating the public, therefore, assumes great importance.

Regarding the blind, it must be impressed on the public that the blind can be trained to become gainfully employed and useful citizens within their limitations, and that the blind are not to be objects of ridicule and contempt. Many amongst even the well educated in the country do not seem to realize the difference between a school for the blind and an institution for the rehabilitation of the blind. Further the traditional attitude of the industrial and engineering concerns, big and small, that the blind persons cannot be of any use to them needs to be modified through sustained efforts.

There is also the aspect of disseminating knowledge about the available facilities for education and rehabilitation to the blind, more particularly to those in the rural areas. Further attempts must be made to enable them to discard that by being blind they have to be necessarily dependent on others.

Need for Workshop:

Based on our experience that a rehabilitation centre for the blind in the country, must, out of necessity, have a workshop attached to it. Employment opportunities for the trained blind not being readily and easily available in the country a period of time is required to find suitable employment for the trained blind. There is also other aspect that several of the trained blind are not quite ready to accept employment in the open industry. These two aspects create a time lag. Turning out of the rehabilitation centre those who have been trained immediately after the training programme is completed, would not only result in the utter wastage of the training itself but also in serious frustrations. A workshop attached to a rehabilitation centre to provide sheltered employment pending placement in open industry, therefore, becomes a necessity to avoid the above mentioned pitfalls or dangers. It needs to be emphasized that this kind of a workshop is to be only a temporary or stop-gap arrangement. This workshop also serves another important purpose. It can be used as a good demonstration centre to the public as to how the blind can be trained to become gainfully employed. It was observed that frequent holding of exhibitions, which attracted large numbers from among the public led to a great impact on them. That the blind can be rehabilitated in this manner was a revelation to them. It may safely be said that the Tamil Nadu government became very much interested in continuing the rehabilitation centre by taking it over, was largely due to the demonstration held in the workshop attached to the Centre. But for the timely decision of the State government to continue the Centre, the pioneering work of this Centre during its five year period may have gone to waste.

Rural Blind :

In the rehabilitation of the blind it is paramount to keep in mind the particular type of training to be given

to the blind coming from the urban areas and the blind hailing from rural areas. The training must be such that they can function adequately in their familial set-up or surroundings. In other words, two different programmes are to be evolved for the rehabilitation of the blind of the urban and the rural areas. A uniform training programme is bound to result in creating misfits.

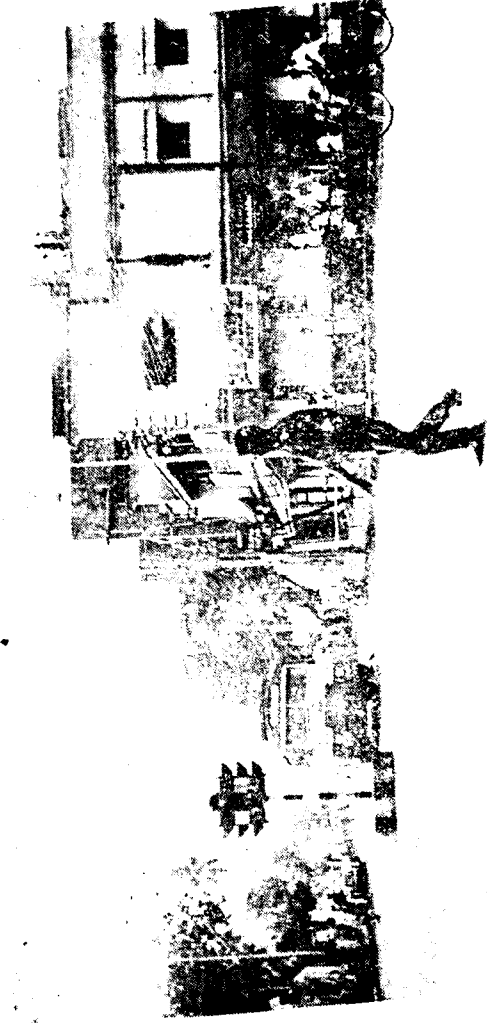
A Study of the Rural Blind, conducted by this Centre, recently in 1970, revealed many significant things, pointing to the need for a different type of programme for their rehabilitation. Some of the significant findings are:¹

1. With the simultaneous starting of the schools for the blind, wide publicity is to be given for making use of such facilities. A large section of the rural population still believe that education and training are beyond the capacity of the blind.

2. There is great scope to improve the abilities of the rural people to make them more useful to their families. The training for the rural blind should necessarily be based on their present usefulness to their families and it should be near to their home.

3. Though the rural blind people are mobile to some extent, blindness has restricted their mobility to the extent that they are compelled to avoid social functions. Hence it is essential that mobility training should be given to them to instill confidence and courage in them.

1. Report of the Study of the Rural Blind — conducted by the Pilot Demonstration Rehabilitation Centre for the Blind, Madurai, 1970.



Training is given to cross the road where there is
automatic signal



Posting a letter — part of mobility training



Mobility training in rural areas. The bullock-cart track serves as the guidelines.



Evaluation & Assessment unit — Newly admitted clients are given tests.



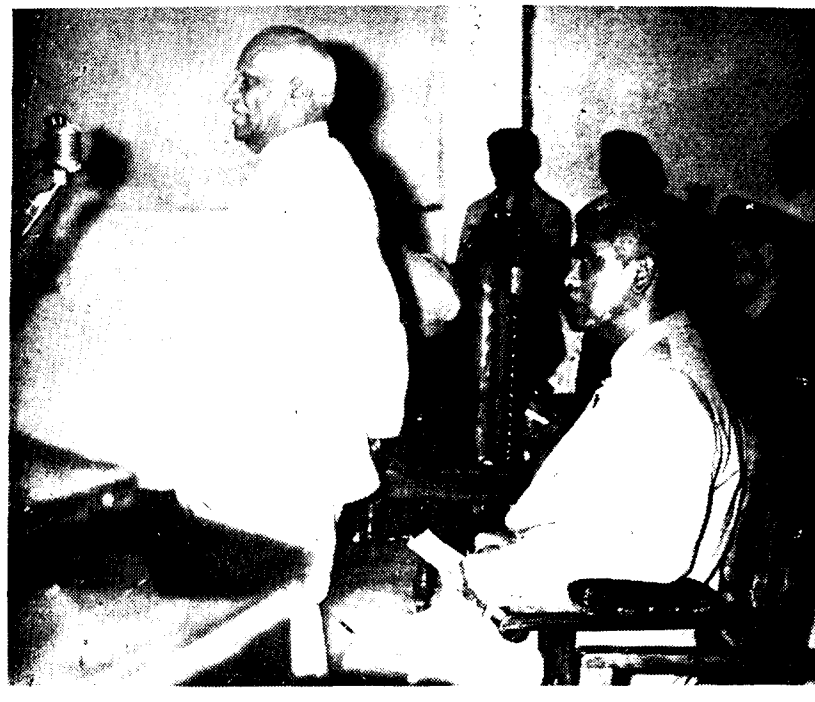
Employment in Open industry — 3 clients are packing glass chimneys with straw



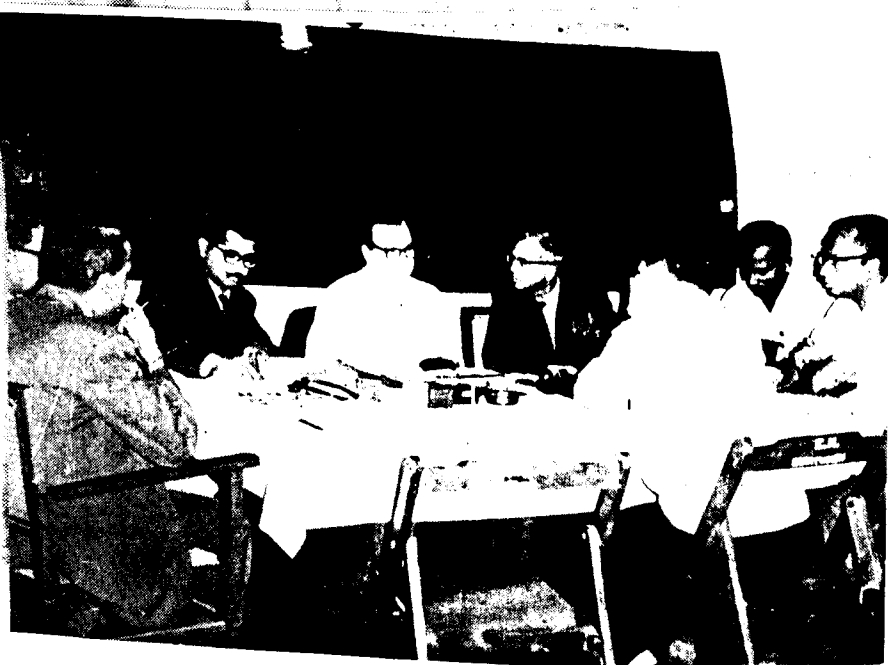
Sri Dharma Vira, Governor of Mysore is watching the woman client stitching a garment



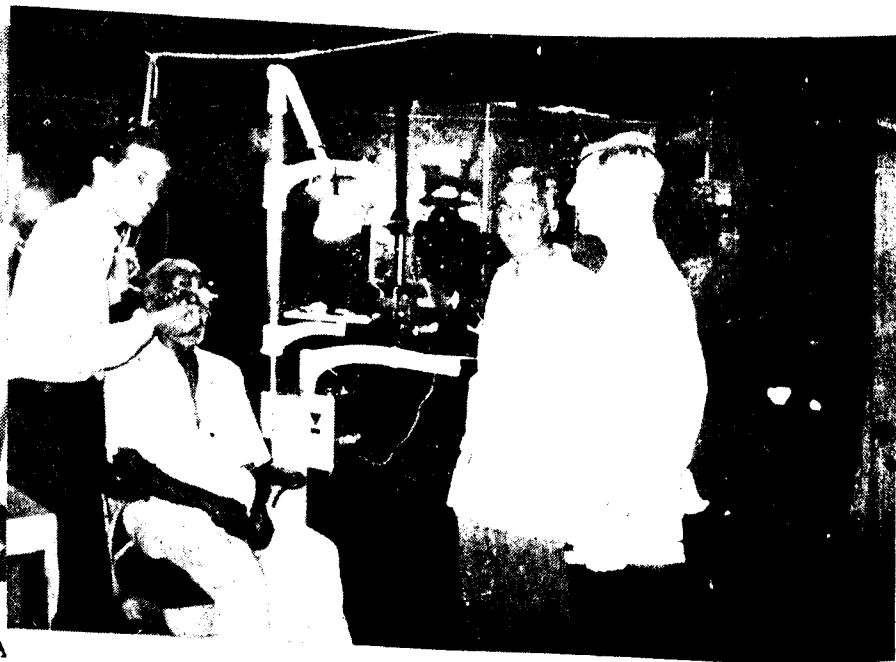
Mr. Martin E. McCavitt, Chief, Division of International Activities, U.S.A. and Major D. R. Bridges, Director, A F O B, Far East Regional Office, Malaysia discusses the progress with the Director of the Centre.



Sri V. V. Giri, President of India visited the centre on 17—11—69



All India Seminar on Low Vision Aids 1968



Major D. R. Bridges, Director, AFOB, Malaysia
In the L.V.A. clinic



The Chief Minister of Tamil Nadu Thiru M. Karunanidhi
is looking through one of the Low Vision Aids

Part II

OPTICAL AIDS EVALUATION UNIT

(Low Vision Aid Clinic)

LOW VISION AID CLINIC — REPORT

Introduction :

The development of Low Vision Aid is a new step in the progress of Ophthalmology. For the past fifteen years virtual revolution has taken place in visual rehabilitation with these aids. It was in 1953 the first Low Vision Aid Clinic was started in Brooklyn Hospital, New York and thanks to the Pioneers in this field, within this fifteen years it has attained an important place in Ophthalmology. Though the invention of some of these aids like telescope dates back to antiquity, the implication of such devices for visual Rehabilitation has been realised only now. The establishment of more than five hundred such clinics in over 20 countries all over the world will mark its importance and is a testimonial to its efficiency in helping the partially sighted patients.

Many patients with sub-normal vision who have been condemned to blind life can be rehabilitated with these magnifying lenses. It must be born in mind that almost all these devices are designed for and used for near vision only except few like telescopes and contact lenses which could be used to improve upon the distant vision with limited value. There is nothing new or mysterious about the principles and applications of magnification in the problem of low vision. According to Dr. M. Gordon, it has been one of the neglected fields in Ophthalmology.

Need for the clinic :

It is a well known fact that not more than 25% of those who are classified as legally blind are totally without sight. The remaining 75% have some residual vision ranging from light perception to the upper limit of legal blindness. Recently it has been estimated that there are probably 5 million legally blind persons in India. Of those, about 3.5 million

would be having some residual vision and should have the opportunity to discover whether they can be helped by Low Vision services. Each blind individual with residual vision must be subjected to proper examination and should be trained to develop and use that vision to the greater possible degree. To those with severe visual impairment, even a little gain in visual efficiency can be invaluable although to the normal person this gain would seem so slight as to be of no importance.

Classification :

Blindness can be classified as totally blind and partially sighted. Gerald Fonda has classified the patients with sub-normal vision into 4 groups according to the amount of vision they have :-

- Group I: P.L. to 1/200
- Group II: 2/200 to 4/200
- Group III: 5/200 to 20/300
- Group IV: 20/250 to 20/60

Patients in Group I must be taken to blind school for education in Braille. Group II people, with certain difficulty, may be trained to read large type letters. Group III and IV are the suitable candidates for low vision aids.

Definition :

People who have vision below 6/60 in both eyes or peripheral field of vision is restricted to 20° all round are considered as cases of subnormal vision. Eventhough the central vision is normal, if the field vision is narrow and tubular, they are said to be having subnormal vision. Gerald Fonda has included, patients having vision 6/18 in both eyes who are not able to read with normal reading addition, under this Group.

Principle :

There is a false belief that these special glasses would make the patients to regain their normal vision. It should be emphasized that the aim of this scheme is to make best use of the remaining vision however small it may be and not to give the vision back.

The whole principle of low vision aids is based on magnification of the images of the objects. This magnification may be by means of glasses or by non-optical methods. The magnification is the property of lenses and each +4 D.sph gives a magnification of two times and is equivalent to one power microscope.

The non-optical method consists in enlarging the image in the retina by bringing the objects closer to the eye or moving towards the objects. This is best exemplified in a myopic patient who is not able to see the black-board at a distance of 20 feet, will be able to see at 10 feet and the magnification is two times.

Magnification :

For the magnification to be effective and useful certain parts of the retina must be normal and functioning. In cases of macular diseases, the principle of magnification will prove to be beneficial if the paramacular area is normal. The power of lenses must increase for higher magnifications. As the magnification increases.

1. the working distance decreases and so the reading material must be held very close to face.
2. depth of focus decreases.
3. field of vision decreases and
4. Illumination may be inadequate as the distance is very close to face. This may be obviated by providing illuminated magnifiers.

Selection of cases for Low Vision Aids :

Selection of suitable patients who will be benefited by these aids is a difficult job. It may require two or three visits before an ophthalmologist decides about the suitable aid for the patient. Moreover, these aids are costly and they should not be prescribed from a single visit. In other countries, certain firms lend their aids to the patients for trial and if the patients were satisfied, they can continue using these aids. Otherwise it will be replaced by other form of aids.

Selection of patients is as important as fitting the Low Vision Aids. For patients with progressive diseases, though

they are benefited by these aids at present it will become useless in no time. In diseases like Diabetic Retinopathy where loss of vision may occur rather rapidly due to recurrent haemorrhages, rehabilitation by these glasses is tedious job, as they need increasing amount of magnification in a short time.

The important factors which are to be considered in selecting the cases are :

1. Diagnosis
2. Duration of illness
3. Age
4. Intelligence and educational back-ground
5. Visual acuity for distance and for near.
6. Field of vision.
7. Primary visual need of the patient and
8. Motivation

Diagnosis :

The success with the Low Vision Aid depends on the extent of eye pathology which is responsible for the sub-normal vision. If the condition is progressive one, these aids may not be helpful. As the patient gets used to these aids, which takes a long time, the condition may progress and the low vision aid may become unsuitable. For example, in cases of Diabetic Retinopathy, fresh haemorrhages will cause further deterioration of the vision. So it is necessary to treat these cases and then if the condition becomes stationary, they may be taken for these aids. In diseases where the progress is very slow, these aids will prove to be successful. The favourable cases for low vision aids are :

1. Myopia with or without degeneration
2. Macular choroiditis and degeneration
3. Aniridia
4. Aphakia
5. Keratoconus
6. Leucomas
7. Immature cataract-until the time they get operated and
8. In early glaucoma,

The unfavourable cases are :

1. Advanced cases of glaucoma
2. Retinitis Pigmentosa
3. Optic atrophy
4. Diabetic Retinopathy
5. Other diseases with marked field loss

Duration of Illness :

A patient who has developed this subnormal vision recently would be expecting us to give him a full normal vision as he had previously, or, a patient who has not been using his residual vision at all would not be in a position to recognize the letters, as he has not been oriented to this new environment. He would have been well trained in braille and other systems and would feel better than with new glasses and their use.

Age :

Younger individuals are more suitable candidates for low vision aids than old people. As most of these aids need much practice and motivation before they can be successfully used, the younger people find it easier. When the vision is poor, the magnification needed is more and the printed matter must be kept very close to face so as to be read. In these cases it is necessary to emphasize that the material must be moved sideways keeping the head and eyes in stationary position in order to see better. Owing to tremors and titubation, which are prevalent in older individuals, they will find it very difficult to practise with these aids.

Intelligence and educational background :

Educational background also plays an important role in the treatment with these aids. A patient who has not been able to read for years due to his ailment, if he is made to read the prints he feels much satisfied. Most of these aids are helpful only or near work as reading, knitting, learning, music etc., and some only for distant vision. The art of learning the technique of using these aids needs much more intelligence on the part of the patient. Co-operation of the patient and constant use of these aids may be essential for best results.

Visual acuity, for distance and for near :

When the distant visual acuity is below 2/200, it is better to keep them in blind school and educate them in braille. The patients with vision 2/200 and below 5/200 can be helped for reading bold letters, if they are motivated for the same. If the distant vision is even 6/24, when they are not able to read small prints by younger individuals or with normal reading additions by old people are considered to have subnormal vision.

Field of Vision :

In Retinitis Pigmentosa, Optic Atrophy, Advanced Glaucoma, etc., the field of vision is very much limited and tubular and so these aids too are of limited value. As the magnification increases, the field of vision decreases. People who can go out-door without hitting against or falling down are considered to be having a fairly good field of vision. Even if the central vision is 6/6, when the field of vision is restricted to 20°, they are considered as having low vision.

Primary visual need of the patient :

As soon as the patient comes in, it is better to know the particular need of the patient. This depends upon the occupation of the patient before and after becoming blind and economic status. If the primary visual need of the patient is only for reading or for very close work as knitting, in patients with low-vision, they could be helped by these glasses. But when the illiterate villager comes for such aids, his aim is to get his normal vision to earn his living, and we could not help him. They need proper visual rehabilitation according to the amount of vision they have.

Motivation :

Some patients would not like to change from the state of blindness to the new environment for reading with high power glasses at a close distance. They would have been trained well in braille and so would feel reluctant to use these aids. Such people must be allowed to select their own choice as they will not use them even if they are able to see the letters. We have to find out whether the patient is motivated for using these aids or they forced to use them by his

parents or relatives. Since most of these appliances need much practice and patience before they could be used successfully, it is important that the patient must co-operate and work hard to get used to these glasses.

Illumination in Low Vision Aid :

Alteration of illumination will bring favourable results in some cases depending upon the individual tolerance of light and nature of the diseases. Cases of macular choroditis will feel better with dim light. Optic atrophic cases need bright light. In posterior cortical cataract as all the ophthalmologists aware of, the vision lost is out of proportion to the amount of cataract present because of the central position of the cataract occupying the nodal point. As the periphery of the lens is clear, when the pupil is dilated by means of mydriatics, they see better. Moreover these patients see better before the sun-rise and after sun set, i.e., in dim light. So by suitable adjustment of light, they can be given relief at least until the time they can get operated.

Types of Aids :

Since low vision scheme is getting popularised, all the ophthalmologists must be aware of common aids which are being prescribed. They may be in the spectacle form or other special lenses. The common aids are :

1. Telescopic lenses
2. Microscopic lenses
3. Hand magnifiers
4. Contact lenses
5. Tinted glasses, and
6. Eye shades and high spherical glasses.

Telescopic lenses enlarge the retinal image by bringing the object closer to the eye. But these glasses cannot be used for walking as it reduces the field of vision and produces motion parallax. The patient must be in stationary position. When the vision in both eyes is reduced, the binocular telescope can be used with a special arrangement to correct convergence by means of prisms.

Microscopic lenses are made up of plastic material and they are available as X2, X4, X6, X8, X10, X12 etc., Each

Dr. P. Namperumalsamy and Mr. M. P. Kuriakose had intense training under him for 3 weeks.

Staff :

- 1) Ophthalmologist
- 2) Refractionist
- 3) A Staff Nurse to follow up the cases
- 4) A Record Keeper — To maintain records.

Equipment :

This centre is well equipped. We have keratometer, slit lamp and complete refraction set. In addition there are:

- 1) Low Vision Aid trial set.
- 2) Telescopes
- 3) Microscopic trial set
- 4) Magnifiers
- 5) Contact Lens trial set
- 6) Specially designed charts for near and distant vision.

The cases seen are mainly from other clinics of the same department i.e. glaucoma clinic, Neuroophthalmic clinic etc. In addition we have had cases referred by Ophthalmologists from various parts of India. It is interesting to note that patients have come from far away places as much as 2000 miles away and we were able to help most of them.

Method of examination :

Each case was examined thoroughly and result was noted. The routine examination includes :-

- (1) routine refraction including keratometry retinoscopy etc.
- (2) Refraction with Telescope — Telescope in the trial frame with the subjective trial lenses in the posterior cell of the trial frame.

Contact lenses are helpful in subnormal vision as they increase the size of retinal image. A telescopic system is now used placing a contact lens with power and a convex lens in the spectacles.

Tinted glasses

According to the tolerance of light of the patients, we can prescribe these glasses. People with posterior cortical cataract will see better in dim light and we make use of this, by prescribing a dark glass, with refractive correction. In central corneal opacities and dystrophies, when the pupil dilates, there will be good vision. In Retinitis Pigmentosa, patients feel better with yellow-tinted glasses, as yellow is the bright colour in the spectrum.

Eye Shades :

These can be given to the patients who cannot tolerate bright light. This prevents the light coming from above and makes the patients to see better. These eye shades can be attached to the spectacles.

High Spherical Glasses :

Some patients with subnormal vision will be able to read with simple addition of convex lenses. If the needed power is more than +6 D.Sph. the eye with better vision is corrected for near vision. Only one eye is utilised. In higher corrections, if both eyes are used, there will be more of convergence and eyestrain.

LOW VISION AID CLINIC

The Low Vision Aid Clinic, a part of Pilot Demonstration Rehabilitation Centre for the Blind was set up in November 1966 in the Eye Department, Erskine Hospital, Madurai, with a research grant from the Department of Health, Education and Welfare, Vocational Rehabilitation Administration No. V. R. A., -InD- 15/65 (U. S. A.) The U. S. Government deputed Dr. George O. Hellinger, an eminent optometrist for the task of starting the clinic and two of our staff members

(3) If the distant vision is improved, near vision with high convex lenses suitable to his job, reading etc. are tried. If distant vision is very poor, trial with microscopic lenses is made.

(4) Trial with hand magnifier in selected cases.

The distant vision charts are fixed at 3 metres instead of normal 6 metres distance and the charts also are of special type having letters ranking from 20/200, 20/175, 20/155 etc. to assess the correct visual acuity. The magnification required for near vision is calculated from the distant visual acuity.

Results :

The following tables give the month war statement of patients attended the Low Vision Aid Clinic, with percentage of improvement.

1966 — 1967 :

Month	No. of cases seen	Improved	Percentage
November, '66	137	60	43.7
December	191	71	37.2
January, 1967	151	93	61.6
February	23	90	73.0
March	90	53	58.8
April	79	56	70.8
May	100	53	53.0
June	104	77	74.04
July	101	75	74.25
August	80	58	72.5
September	89	67	71.9
October	63	44	69.8
November	68	51	75.0
December	68	52	76.4

1968

Month	No. of cases seen	Improved	Percentage
January	75	47	62.6
February	71	42	59.1
March	54	40	74.0
April	50	48	80.0
May	113	80	70.7
June	68	55	80.8
July	85	67	78.8
August	99	79	79.7
September	91	77	84.6
October	92	72	78.2
November	90	67	74.4
December	76	68	89.1

1969

Month	No. of cases seen	Improved	Percentage
January	68	51	75.0
February	62	47	75.9
March	63	52	82.5
April	54	45	83.3
May	127	91	71.6
June	90	76	84.4
July	51	38	74.5
August	56	43	76.8
September	81	67	82.7
October	52	40	76.9
November	48	38	79.0
December	27	21	77.7

1970: In 1970 we have seen about 229 cases and 75% of them showed improvement with glasses. (Till Sep. 1970).

It is understood from the tables that we have been able to help 75% of these partly sighted individuals with these aids.

Type of aids :

These may be in the spectacle form or other special lenses. Most of the cases improved by careful refraction — by retinoscopy and subjective examination or by subjective trial with telescope in the trial frame. Microscopic lenses or equivalent high spherical lenses were prescribed for 50 cases. These microscopic lenses are made up of plastic material and each power microscope is equivalent to +4 DSph. and this gives the magnification of two times. These glasses should be used only for one eye. The field of vision is less. The printed matter must be kept very close to face. The spherical and chromatic aberrations are more when the power increases. So, use of these lenses need much practice and rehabilitation. It is said that these aberrations are minimal in patients with subnormal vision.

It would seem that almost 60% of them improved with ordinary refraction. Various kinds of visual aids are tried in various clinics and the type of aid depends upon the individual need as well as the fashion of the clinic. It is a fact that most of these special glasses are not available at present in India. But these glasses have been substituted with ordinary glasses, but with less rewards. The special aids in the form of microscopic lenses and telescopic lenses were prescribed only for 10% of cases.

Selection of cases :

Selection of suitable cases for fitting low vision aid is as important as fitting the aids. It does not mean that a given case is not worth a trial. The favourable cases which have been benefited by the low vision aids as we have found in our study, are immature cataract, myopia, aphakia, macular degeneration and macular choroiditis. The unfavourable cases are retinitis pigmentosa, optic atrophy, retinal detachment and glaucoma. These findings are supported by the reports from New York by Richard Hoover, M.D., and Carl Kupper, M.D., Dr. Gerald Fonda has included congenital abnormalities like albinism, coloboma choroid, coloboma optic disc etc. under favourable group. In our analysis,

we find that most of these cases are associated with other abnormalities like mental disturbances, nystagmus etc., and so improvement was not appreciable in these cases.

Benefits :

1) Vocational : It helps to keep themselves engaged in some work or other and to continue their job or to seek new job fitting with their new visual efficiency.

2) Personal : These aids prove to be more useful in identifying persons, for reading letters, and for seeing bus numbers etc.

3) Educational : For children, most of them would feel better to read with the eyes than with the hands (braille). Most of them can attend normal schools by using these aids.

Conclusion :

Low vision is a part of rehabilitation but not to regain vision which is lost. They are nothing but special glasses based on the principle of magnification, helpful for the patients who have got some residual vision which could not be improved with medicine or operations. They do not cure the disease but help them to see.

- Not useful in progressive diseases.
- They are mostly designed for and used for near vision except few like telescopes and contact lenses.
- The success or failure depends upon the primary visual need of the patient, intelligence, age, and motivation etc.
- It seems that the best form of aid is proper refraction and prescription of conventional glasses.

CONTACT LENS CENTRE

Introduction :

The Contact Lens practice has now become an advanced art and it has attained its place as a regular part of Ophthalmic practice everywhere. In India it is still in an infant stage and there are not enough centres for prescribing and fitting contact lenses. Those who practise in this field will agree with me if I say that it is a simple art when learned, but it has been neglected due to engagement of our ophthalmologists in the practice of various other branches of ophthalmic medicine and surgery. Added to this are, lack of publicity among the public, the high cost of the lenses and nonavailability of the lenses in time. All our gratitude are due to various ophthalmologists, optometrists and other scientists who are responsible for the present day development, in indications of the lenses as well as in lens designs and also the raw material, from the day it was introduced by Saemisch in 1887. It was introduced in the form of scleral contact lenses which we use now only in certain indications. The corneal contact lens came later when Kevin Tuohy introduced them in 1948. The raw material that the modern scientists have evolved is methyl methacrylate, after having passed through the stages of glasses, Dentacol etc.

The Contact Lens Centre was started as part of Low Vision Aid Clinic attached to our Eye Department, Erskine Hospital, Madurai, on 20-11-'68. It has got necessary equipment consisting of a keratometer, Trial Contact Lenses, Ultra Violet Light and of course 2% fluorescein. All our Contact Lens wearers are those who have been referred from our refraction units, who have shown interest in wearing them.

SUMMARY OF CONTACT LENS PRESCRIPTION

Once a patient has been selected as a suitable candidate for contact lens we have to ascertain that he can come to us at least for three sessions before a wearing schedule is given. It is also necessary to explain the advantages of

contact lenses compared to spectacle lenses. In the first session, a careful keratometry is performed following a complete refraction. Trial lenses are inserted to condition the patient, test his reactions and to obtain a rough check on the keratometry. At the end of the first session the decision is made whether or not to proceed with the fitting.

The second session is scheduled after the lenses are received from the Laboratory for fitting the end correction. If the lenses are correct the patient gets training in insertion and removal on subsequent days. Third session consists in wearing the lenses for an hour or so and the patient's reaction to the lens studied and the wearing schedule is given if they are found to be free from any symptoms. Thereafter brief return visit only will be needed.

Watering symptoms :

One of the most important problems is the adaptation of the patient to the use of contact lens — wearing time must be gradually increased by half hour periods, until it can be used throughout the day. The lenses are expensive and fitting is time consuming. Feeling of the foreign body, lacrimation and some congestion are common at first but disappear after sometime. If they persist, it may indicate corneal abrasion or oedema. Some patients may not tolerate the presence of the lens in the eye. They may have difficulty of manipulation of the lens by themselves. All the contact lens patients need periodical follow up. The complications commonly encountered are :

i) Corneal abrasion — due to lens or produced by the wearer during insertion or removal — discontinue lens for sometime.

ii) Symptoms of the corneal abrasions may appear 1 to 2 hours after removal of the contact lens after wearing for long time — Discontinue lens for sometime.

Steps :

1. Accurate K' reading is taken — The flatter curve is used as the base curve. But for high astigmatism we have to use a compromise base curve between the two K readings. In general steeper lenses are used in these cases.

2. Diameter of the lens must be determined. A size 2 mm. less than the corneal diameter is tolerated well with the normal palpebral fissure.

3. The next step is to use a trial lens which is nearly approximate with the patient's required base curve.

4. At this position the fit must be checked with fluorescein. The optimum fit will be a slightly fluorescent apical zone indicating corneal clearances; a darkened paraperipheral ring (area of corneal lens contact) and a arroe peripheral fluorescent ring.

5. Refraction of the patient and transposition to minus cylinder form-Sphere component only is used up to 3 to 4 D.sph. In high astigmatism depending upon the patients' comfort. The power is adjusted between the sphere and cylinder values. If the base curve is changed from normal K' reading in order to have proper fit, power is adjusted accordingly.

6. Correction for vertex distance must be made. Standard conversion tables are available. Calculation may be made from: For convex lenses $1000/FL + Vd = CVD$ and for minus lenses $1000/FL - Vd = CVD$. Fl: Focal length Vd: Vertex distance and CVD = corrected vertex Diopter.

Indications:

The examination and evaluation of a patient for contact lens includes a complete ophthalmological examination which consists of visual acuity, tension, extraocular examination, muscle balance tests, congenital abnormalities etc. It is our prime duty to find out the motivation of the individual for using these lenses and the lens wearers must be informed of the possible difficulties and few complications involved in the practice of insertion and removal and in wearing these lenses. The common indications are:

High Myopia.

Hypermetropia.

Corneal Astigmatism and Keratoconus.

Unilateral and bilateral aphakia.

Aniseikonia and anisometropia.

To correct astigmatism after keratoplasty.

Albinism and Aniridia-Special types of contact lens with tint.

Contra Indications:

For certain cases these should not be prescribed. The conditions are: Glaucoma, Active intraocular or corneal pathological conditions, excessive or insufficient tear flow, allergy particularly to plastic materials, old age and physical disabilities etc.

Results:

Total No. of cases	..	168
Myopia	..	99
Anisometropia	..	23
Aphakia	..	13
Unilateral Aphakia	..	5
Keratoconus	..	10
Corneal Dystrophy	..	4
Leukoma	..	4
Others	..	10
		168 cases

Conclusion:

The Contact Lens practice is a part of Low Vision Aid scheme and it is a simple art when learned. Our experience has shown that many patients who cannot tolerate ordinary glasses, as in keratoconus, will get benefit out of these plastic lenses and it is necessary to have more Contact Lens centres to help the needed.

REPORT ON THE SEMINAR ON LOW VISION AID (Held from January 29th to February, 10, 1968).

Objectives :

With a research grant from the Department of Health, Education and Welfare, Vocational Rehabilitation Administration, N. VRA-IND-15/65 (U.S.A.), a Low Vision Aid Clinic, the first of its kind in India, was set up in November 1966. It attracted great interest among both ophthalmologists and eye patients all over India. Till March, 1968, 1044 persons from several parts of the country such as Bombay, Ahmedabad, Kashmir, etc., visited the Centre and were benefitted by the service. In order to familiarise ophthalmologists in other parts of the country and to popularise the final stage of visual rehabilitation, namely "Low Vision Aid", it was proposed to conduct a "Low Vision Aid Seminar". The Social Rehabilitation Service, VRA, Washington, U.S.A. kindly permitted us to have such a seminar and the services of Dr. George O. Hellinger, New York, U.S.A. were specially made available, for conducting the Seminar.

Information regarding the holding of the Seminar was circulated to States Government Departments and other leading eye hospitals to depute one ophthalmologist from each State all over India. Nine ophthalmologists from six States attended the Seminar. Dr. George O. Hellinger who arrived at Madurai on 24th January, 1968 with necessary equipment planned the course in detail. The course ended on 10-2-1968.

The Seminar was inaugurated by Dr. T. Janardhanan, Director of Medical Education, Government of Tamil Nadu.

List of participants in the Seminar :

1. Dr. C. S. Kalidasan, M.S., Govt. Ophthalmic Hospital,
Residential Medical Madras-8.
Officer.
2. Dr. S. V. Krishnan, M.S., General Hospital, Tumkur,
D.O., Mysore State.
Residential Medical Officer.

3. Dr. A. P. Goswami, B.Sc., NIOR Hospital, Sitapur,
M.B.B.S., D.O., Uttar Pradesh.
4. Dr. A. S. Divatia, Institute of Ophthalmology,
M.B.B.S., M.S., (Oph.), New Civil Hospital,
D.O., M.S., Ahmedabad.
5. Dr. P. S. Subramanian, Railway Headquarters
B.Sc., M.B.B.S., D.O., Hospital, Perambur.
District Medical Officer.
6. Dr. P. Renga Reddy, Sarojini Eye Hospital,
M.B.B.S., M.S., Hyderabad.
Asst. Prof. of Ophthalmology.
7. Dr. A. K. Gupta, M.B.B.S., Moulana Azad Medical
M.S., College, New Delhi.
Lecturer.
8. Dr. K. Subramaniam, Bangalore Medical College,
M.B.B.S., M.S., D.O., Bangalore.
9. Dr. K. S. Subramanian, Ophthalmic Hospital,
M.S., F.R.C.S., D.O., Trivandrum.
Professor of Ophthalmology.

Programme :

Discussions were followed by practical study of cases covered by the course. The occasion was taken advantage of by many low vision patients to consult the best advice available. This also proved a boon for the participants to study the problems of "Low Vision Aid" and methods of offering such aid.

A Certificate was issued to all participants in the Seminar stating that they have undergone the training course in "Low Vision Aid".

It is really proud of us to finish the Seminar on such a scale with an expenditure of Rs. 5,665/-.

SUBJECTS DISCUSSED IN SEMINAR :

1. Discussion of General problem :
National, State programme with vision rehabilitation
Identification of subnormal vision patients and legally blind children.

2. Brief history of subnormal vision work and aids originally telescopic spectacles near vision aids.
3. Causes of Low Vision Analysis of 700 cases —
Dr. P. Namperumal swamy.
4. Optical principles.
Magnification.
5. Classification and descriptions and use of L. V. A.
6. Factors in visual examination of the patient (including psychological factors).
7. Problems of training in Low Vision Aids.
8. Educational needs of the partially blind school children.

EXAMINATION FORMS

9. New Developments.
10. Contact lenses and other aids.
11. Problems of Binocular vision.

CONCLUSION :

To put it in a nut shell, the Seminar has achieved its main objectives of :

1) Offering opportunities to several ophthalmologists to study at first hand the use of Low Vision Aids and the need for the same.

2) It has created in them and some of the State Government Departments, the urge to open such Low Vision Aid Clinics.

3) It has awakened many ophthalmologists to the fact that even after all that is done by Medicine and Surgery, still, the patients with limited vision can be helped by Low Vision Aids.

APPENDIX A

Financial Plan

Total allotment in 4 instalments : Rs. 5,97,000

Allotments under various heads

	Rs.	Ps.
Professional Staff	1,79,106	00
Other Staff	52,431	15
Travelling allowance	12,382	68
Consumable supplies	2,50,869	59
Permanent Equipment	41,463	03
Direct cost	60,747	35
Total	5,97,000	00

Receipts

1st allotment (Received in November '65)	..	1,98,200
2nd allotment (Received in June '67)	..	1,33,600
3rd allotment (Received in May '68)	..	1,32,600
4th and final (Received July '69)	..	1,32,600
Total	..	5,97,000

APPENDIX B. I.

Year-war expenditure from 1966 to December, 1970.

	I. 1966		II. 1967		III. 1968		IV. 1969		V. 1970		VI. Total	
	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.
1. Professional Staff	5,114	-60	38,519	-15	43,630	-90	47,063	-60	44,777	-95	1,79,106	-20
2. Other Staff	7,527	-75	10,342	-70	10,630	-30	10,573	-65	13,356	-75	52,431	-15
3. Travelling allowance	1,957	-24	390	-26	6,758	-18	3,277	-00	—	—	12,382	-68
4. Consumable supplies	48,371	-60	73,561	-76	69,310	-03	44,328	-39	15,297	-81	2,50,869	-59
5. Permanent Equipment	32,221	-31	1,040	-12	3,083	-87	2,145	-76	2,971	-97	41,463	-03
6. Direct cost	6,032	-94	16,163	-33	15,053	-64	16,498	-61	6,998	-83	60,747	-35
Total	1,01,225	-44	1,40,017	-32	1,48,466	-92	1,23,887	-01	83,403	-31	5,97,000	-00

II. Expenditure incurred for trainees (in Rupees).

	1966		1967		1968		1969		1970		Total	
	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.
1. Stipends (Mess charges)	4,156	-70	13,289	-10	15,726	-30	154,94	-75	15,617	-50	64,284	-35
2. Hostel Rent	1,475	-00	6,100	-00	6,600	-00	6,415	-00	4,000	-00	28,090	-00
3. Oil, soap etc.	91	-10	563	-00	624	-00	619	-23	385	-00	2,282	-33
4. Hair cutting & laundry charges.	17	-00	525	-00	604	-80	385	-25	287	-00	1,819	-05
Excursion	—	—	28	-94	244	-65	465	-72	22	-50	781	-81
miscellaneous												
Travelling allowance	303	-75	—	—	—	—	—	—	—	—	303	-75
Total	6,043	-55	20,506	-04	23,819	-75	23,379	-95	20,312	-00	97,561	-29

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