

PREFACE

It gives me great pleasure to present the Annual Report of this year 2006-2007. India achieved Elimination of Leprosy successfully by the end of 2005 and I and my staff take immense pride in the fact that as Central Leprosy Teaching and Research Institute we have the years played a significant role in achieving this target. We intend to continue maintaining this same tempo as our next target.

MDT continues to play a major role in bringing down the new case load with only 82 new cases having been reported at our Institute during the year. The same is true with regards to deformity with a significant drop in the figures for RCS as reflected at our Institute.

In the context of integration with General Health Care Services, C.L.T. & R.I. continued to play a significant role in Training both Medical and Para Medical personnel in the Institute and also by rendering Consultancy Services in different states.

Bed occupancy figures do not show much change. Patients are referred to C.L.T. & R.I for management of complications of leprosy from all over the country.

The staff of the various divisions in C.L.T. & R.I. have without hesitation put forth their best in providing the best services in the Institute as also elsewhere when called for. My due appreciation to all the staff for extending their wholehearted cooperation with sincerity and dedication.

Continued encouragement and support by the Ministry of Health and Family Welfare, Govt. of India, Director General of Health Services especially Deputy Director General of Health Services (Leprosy) is gratefully acknowledged.

My special thanks to Dr.B.Sekar, Joint Director (Microbiology) for compiling this Annual Report and staff of Training and Computer Sections of this Institute for assistance rendered in the printing and production of this report.

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D I R E C T O R
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I. ROUTINE PERFORMANCE FOR THE YEAR 2006-07

SURGICAL DIVISION

The Surgical Division comprises the Surgical Unit, Physiotherapy Section, Artificial Limbs and Footwear Section, X-ray Section and Micro-cellular Rubber Sheets manufacturing Unit.

Attached to the Surgical Unit is a well-equipped Operation Theatre. There is a male Surgical ward comprising 24 beds, where male patients undergoing elective surgical procedures like tendon transfers are admitted. Female patients undergoing elective surgical procedures and those with ulcers are admitted to the Women Hospital where 12 of the 18 beds are allotted to the Surgical Unit. Besides the above male patients with ulcers are admitted to Main Hospital comprising 25 beds and Sick Room comprising 27 beds. Investigation Ward comprising 24 beds is also used for admitting surgical patients with neuritis and for elective surgical procedures. On an average of the total of 124 beds approximately 100-110 beds are occupied by patients under the direct care of the surgical team.

The functions of the Surgical Division can be grouped as shown viz.:

- I) Patient care activities.
- II) Teaching and Training Programs.
- III) Research.

(I). PATIENT CARE ACTIVITIES:

The Surgical Division provides both Out-Patients and In-Patients services for leprosy patients who come from different parts of the country besides surrounding regions. Treatment in the areas of deformities and deformity prone conditions are extended. Both surgical and non-surgical methods are applied for treating patients so that permanent disabilities and handicaps are prevented. The surgical out-patient service is provided daily and on an average 40 to 50 patients attend daily. During the period 1-4-2006 to 31-3-2007 there were 49 admissions to the Surgical Ward and 64 discharges, with no death occurring. The average period of stay per patient was for 45 days.

During the period 1-4-2006 to 31-3-2007, 189 surgical procedures were carried out. The various surgical procedures performed are listed below:

I. RECONSTRUCTIVE SURGERY:

Claw finger correction	:	10
Claw thumb correction	:	1
Drop Foot Correction	:	8

II. SURGICAL DECOMPRESSION OF NERVES:

Ulnar Nerve : 2

III. AMPUTATIONS:

B.K.Amputation 16

IV. ULCER SURGERY : 123

V. MISCELLANEOUS:

Miscellaneous like Biopsy, MTH Resection,
Calcaneal shaving ,lagophthalmus,contracture
release, SSG etc.

Total 37
189

PHYSIOTHERAPY SECTION:

The Physiotherapy Section has continued to play an active and very important role in providing Physiotherapy services to both Out-Patients and In-Patients. Besides patient care activities, the staff of this section has also been involved in the various research projects conducted by the Surgical Division by way of evaluation of deformities, assessment of motor and sensory status and functional assessments. The staff of the section were also involved in the various teaching and training programs conducted by the institute particularly so for the nine months Leprosy Physiotherapy Technicians Course. The staff of Physiotherapy Section were also actively involved in counselling of patients by imparting health education in the care of insensitive hands and feet, an important and decisive factor in the prevention of deformities and disabilities in patients.

During the 12 months period of 1-4-2006 to 31-3-2007, 73 new patients were seen, examined and treated. On an average about 25 patients were attended to daily in Physiotherapy Section.

The treatment modalities employed are hand and foot exercises, wax therapy, oil massage, short wave diathermy, ultra-sound therapy, transcutaneous nerve stimulation, infra-red treatment, interferential therapy and electrical stimulation of muscles and nerves. Various modalities of treatment given as number of sessions for each, are given below.

1	New Case Registration	:	73
2	Hand Exercise	:	1960
3	Foot Exercise	:	734
4	Wax Bath	:	1887
5	Electrical Stimulation	:	528
6	Short-wave Diathermy	:	266
7.	Infra Red Radiation(I.R.R.)	:	85
8.	Interferential Therapy	:	221
9.	Ultrasonic Therapy	:	23
10.	Cervical /Lumbar Traction	:	138
10.	Cylindrical Splinting	:	214
12.	MCP Block	:	17
13.	Thumb-Web Splint	:	21
14.	Functional Position Splint	:	3
15.	Hand Slab	:	28
16.	Foot Slab	:	21
17.	Below Knee Plaster casts (B.K.P.)	:	39
18.	Spiral Splint	:	143
19.	Thumb /Eye/Facial Sling	:	59
20.	Hand Assessment	:	517
21.	Foot Assessment	:	451
22.	General Cases	:	89

RADIOGRAPHY SECTION:

The X-ray Unit attached to the Surgical Section caters to the needs of all clinical units in the institute. A SIEMEN'S 500 m.A. X-ray machine with micro-processor controls, which can be used besides taking routine X-rays for tomography work is functioning, in addition there is also a Portable X-ray Plant (Siemen's 30 m.A).

During the period 1-4-2006 to 31-3-2007, 615 X-rays were taken for 541 patients. They are as follows:-

Lower Extremities	:	357
Upper Extremities	:	58
Chest	:	109
Various spines	:	62
Skull	:	10
Pelvis	:	14
Abdomen and KUB area	:	5

MICRO-CELLULAR RUBBER MILL:

The Micro-Cellular Rubber Mill is a small production unit manufacturing micro-cellular rubber sheets of the quality needed for use in the manufacturing of footwear for leprosy patients. During the period 1-4-2006 to 31-3-2007, this unit has processed 950 nos. of black coloured Micro-cellular rubber sheets to our specifications of 15° Shore hardness. Out of this 616 sheets were used in Footwear Unit of CLTRI and 119 sheets were supplied on demand to other organisations involved in leprosy work under NLEP. At the end of March,2006 there were a balance of 115 sheets and at the end of March,2007 there was a balance of 330 Sheets.

Balance on 31-3-2006	Total number of sheets produced 1-4-2006 to 31-3-2007	No. of sheets issued to FW Section,CLTRI	No. of sheets issued to other organisations	Balance as on 31-3-2007
115	950	616	119	330

The demands from other organisations under NLEP for supply of MCR Sheets are on the increase. However, since our production capacity was limited we were not able to meet all the demand.

The MCR mill machinery donated by British Council Department for International Development is still to become operational.

ARTIFICIAL LIMB AND FOOTWEAR CENTRE:

The Artificial Limb and Footwear Centre supplied 1002 items of footwear and prosthesis. In addition about 10 to 15 minor repair works on footwear is attended to daily. Details of different types of footwear supplied to patients is listed below:-

Simple and Modified Microcellular Rubber Sandals	:	969
Orthosis and Prosthesis	:	33
Arch support and Metatarsal bars	:	173
Major repairs of the Prosthesis and Orthosis	:	<u>2</u>
		<u>1177</u>

Since mid 1992, one of the Cobblers have been deputed to go with the field clinic teams to the villages. This is continuing with at least one visit every month ensuring that during the course of the year all the clinics in the field area are covered. During these visits measurements for footwear for patients is taken and the footwear is supplied during the subsequent visit.

Due to staff shortage footwear and prosthesis are supplied late. On an average a patient has to wait for 3 weeks after measurements are taken before he receives regular footwear. For patients needing P.T.B. prosthesis the waiting period is as long as 1 year. It is hoped that posts requested for, will be filled up so as to reduce the waiting period for patients to collect their footwear and prosthesis.

All trainees attending different training programmes in the institute are assigned time in the footwear section where the orthotic-prosthetic technician demonstrates the use of different types of footwear and prosthesis and how to make them.

CLINICAL DIVISION

Clinical Division comprises of FIVE inpatients wards and OPD, Nursing Section, Sanitary Section and Central Kitchen. About 100-200 patients from the blocks (sanatorium) are under the care of Clinical Division. Total sanctioned bed strength of the Clinical Division is 124. This has been divided into five wards, namely Investigation ward, Surgical ward, Main hospital, Sick room and Women hospital. The Investigation ward has 24 beds and it is mainly used for expertise management of lepra-reactions with steroids/thalidomide, investigation for relapses/drug resistance and for other general medical conditions, acute or chronic nature.

Patient care facilities provided in the Clinical Division are:-

- Out patient care – General/MDT services
- In-patient treatment – General/MDT services
- Expert management of reactions with thalidomide, relapses/drug resistance etc.
- Teaching activities in leprosy to Undergraduates, House Surgeons of local Medical Colleges, Non Medical Supervisors and Nurses.
- Research studies in clinical leprosy (working on standardizing the dose and duration of usage of thalidomide as of steroids in lepra reactions).
- Collaborative research projects with other divisions.
- Collection and study of relapse / recurrence cases in leprosy.

HOSPITAL STATISTICS AS PER MEDICAL RECORDS SECTION: 1.4.2006 TO 31.3.2007

I. IN-PATIENTS (Wards):

1. Patients remaining on 31-3-2007	=	79
2. Patients admitted in the Hospital (wards) during 2006-2007	=	763
3. Total patients treated in the hospital(wards) during 2006-2007	=	842
4. Total Discharges during 2006-2007	=	753

5. Total Deaths during 2006-2007	=	6
6. G.L.C block Admission during 2006-2007	=	227
7. G.L.C. block Discharges during 2006-2007	=	157

II. **OUT-PATIENT SERVICES (2006-2007)**

Particulars	New Cases	Old Cases	No. of patients attended from GLC (Block cases)	Other Cases
Men	49	6183	3014	3271
Women	23	2285		
Boys	6	37		
Girls	4	31		
TOTAL	82	8536	3014	3271

Overall patients attendance in the OPD:-

• New	=	82
• Old	=	8536
• GLC Block Cases	=	3014
• Other cases	=	3271

Total No. of cases seen in OPD	=	14903

DIVISION OF LABORATORIES

Laboratory division is basically involved in the investigations of cases from out and inpatient departments of CLTRI for leprosy related and other routine investigations and also involved in the basic and applied research activities in leprosy. This division has sections like Microbiology, Mycobacteriology, Serology, Clinical pathology, Skin Smear, Histopathology, Molecular-biology Haematology Biochemistry, Immunology and Animal House.

The Lab. Division is well equipped. Facilities for different kinds of microscopic studies like Light, Dark-field, Phase contrast, Fluorescent microscopies are available. Facilities for different immunological studies involving immuno-flourescence tests, different types of electrophoresis, etc. are available. Sophisticated instruments like HPLC, Atomic absorption Unit, Ultra centrifuge, Phast gel system etc. are available. Facilities for isolation, characterization and drug sensitivity tests for cultivable Mycobacteria also exist.

The Molecular Biology section of the Division has been upgraded with the basic facilities for the isolation of DNA, PCR amplification and Gel documentation. These facilities are being utilized for various institutional projects and also in the collaborative and Post Graduate Course projects.

A separate Animal House with different animal colonies with provisions for animal experimental investigations including Mouse Foot Pad inoculation for the viability and drug susceptibility tests for M.leprae is also available. This section carried out WHO sponsored multi centric drug trials involving Mouse Foot Pad inoculation.

The Lab. Division has a separate, isolated and furnished Radioisotope room with facilities for radioisotopic studies. Facility for frozen sectioning of biopsy material also exists, in addition to routine histo-pathological service.

Laboratory Division is also involved in teaching activities. One year Medical Laboratory Technician training course and short-term orientation training course in skin smear technique are offered. In addition to that the teaching / training in laboratory aspects of leprosy is conducted for Medical Officers, Non Medical Supervisors, District Leprosy Officers, CRRRI trainees, etc.

In reporting year, the on-going research projects proposed from Lab. Division and got approved by the Scientific Committee, have been continued. Further Collaborative Projects and Post Graduate Course have been carried out with the due permission of Director, CLT&RI. The observations of these research projects have been presented in National Conferences.

I (a) ROUTINE PERFORMANCE 1-4-2006 TO 31-3-2007

Sl.No.	DEPARTMENTS / SECTIONS WITH NO. OF INVESTIGATIONS ITEM-WISE	TOTAL NO. OF INVESTIGATIONS
A	CLINICAL PATHOLOGY	881
B	SKIN SMEAR	376
C	HAEMATOLOGY & SEROLOGY	4242
D	MICROBIOLOGY	343
E	HISTOPATHOLOGY	56
F	MOLECULARBIOLOGY	1498 (Routine & Research activities)

BIOCHEMISTRY

I (a) ROUTINE PERFORMANCE 1-4-2006 TO 31-3-2007

Sl.No.	DEPARTMENTS / SECTIONS WITH NO. OF INVESTIGATIONS ITEM-WISE	TOTAL NO. OF INVESTIGATIONS
A	BIOPSY CASES UNDERTAKEN	13
B	NO. OF CASES UNDERTAKEN FOR DRUG RESISTANCE AND BACTERIAL VIABILITY	35
C	OTHER INVESTIGATIONS 1. BIOCHEMISTRY 2. IMMUNOLOGY	2860 -

ANIMAL HOUSE STOCK POSITION AS ON 31-3-2007

<u>ANIMAL HOUSE (Animal Stock position)</u>		
<u>ANIMAL POSITION</u>		757
BALB/C Mice inbred strain		-
A. Litters		24
B. Young Male		150
C. Young Female		421
D. Mating Male		64
E. Mating Female		98
<u>SWISS ALBINO MICE INBRED STRAIN</u>		938
A. Litters		27
B. Young Male		317
C. Young Female		569
D. Mating Male		10
E. Mating Female		20
<u>INNOCULATED MICE</u>		1385
Control (A)		351
Dapsone – 0.01% (B)		150
Dapsone – 0.001% (C)		153
Dapsone - 0.0001% (D)		147
Rifampicin – 0.03 % (R I)		145
Rifampicin - 0.003% (R II)		154
Lamprene - 0.01% (L I)		153
Lamprene - 0.001% (L II)		132
<u>RABBIT</u>		6
<u>SHEEP</u>		2
<u>WHISTAR RAT</u>		10

DIVISION OF EPIDEMIOLOGY AND STATISTICS

There are 3 sections functioning in this division. They are

1. Monitoring and Evaluation Unit
2. Training Section
3. Rural Field Operational Area

1) MONITORING AND EVALUATION

Monitoring and Evaluation unit has developed two softwares for implementation of Computerised Simplified Information System(CSIS) under NLEP at State Leprosy Office and Central Leprosy Division, New Delhi.

1. 1. Introduction of CSIS

The Leprosy Division of DGHS has requested CLTRI, Chengalpattu to develop a *Computerised Simplified Information System* based on Simplified Information System (SIS) introduced in 2002 by DGHS. The SIS is designed considering the integration of leprosy programme with General Health System. Computers are generally being used in all State Leprosy Office for Project Financial Management System (PFMS) and other applications. However there is no computerized system for compiling and generation of feedback based on NLEP monthly progress reports. In spite of the provision of computer, it is not used for data processing and analysis. Errors are bound to creep in manual method of compiling MPR and calculation of indicators. The Central Leprosy Teaching and Research Institute (CLTRI), Chengalpattu in consultation with WHO, SEARO under the guidance of Leprosy Division of DGHS, New Delhi has developed a two-tier Computerised Simplified Information System (CSIS) – one for State Leprosy Unit (SLU) and other for Central Leprosy Division (CLD) for processing and analysis of Monthly Progress Reports that is being sent by Districts / States. This manual describes the system to be used at CLD.

1.2. About CSIS

The application software for Computerised Simplified Information System (CSIS) has been developed using Microsoft Visual Basic software and Microsoft Access database. The CSIS is a system wherein the MPR of States / Districts can be entered, processed and various outputs generated viz. compilation of State MPR as well as indicators. This system can be implemented at CLD level for strengthening monitoring and evaluation of the leprosy programme. It contains 4 modules viz. i) Data Entry, ii) Reports iii) Tools and iv) Help. The Data Entry modules allows entry of State / District monthly progress reports. The entry of one MPR takes about 2 to 3 minutes. The consolidated MPR for National / State level can be easily printed. This system provides generation of various period reports viz. NLEP statistics, Indicators etc. The drug stock management reports in the form of i) Drug stock and ii) Expiry status can also be generated. The special feature is the provision of inbuilt graphs based on the processed data. The data security is ensured by automatic back-up on day basis and it can be restored if the existing data base gets corrupted or damaged.

1.3. Objectives of CSIS

1. To strengthen Monitoring and Evaluation of NLEP
2. To facilitate CLD level NLEP in consolidating monthly progress reports
3. To facilitate electronic transmission of MPRs from state to national level
4. To generate feedback reports from National level to States / Districts
5. To generate drug stock management reports

1.4. Workshop of Training for state functionaries in implementation of Computerised Simplified Information System in NLEP – 7-8 & 12-13 March 2007.

A workshop was organized to implement the CSIS at all State Leprosy Office by CLTRI with support of WHO and DGHS at New Delhi during 7-8 and 12-13 March 2007 at New Delhi.

The details are as follows.

Organised by:

Central Leprosy Teaching and Research Institute, Chengalpattu, Tamil Nadu

Venue:

National Institute of Health and Family Welfare, New Delhi

Invited Participants:

Statistical Assistant / Data Entry Operators of States viz. U.P., Delhi, M.P., Uttarkhand, Orissa, Rajasthan, Maharashtra, Himachal Pradesh, Punjab, Chandigarh, Chhatisgarh, Tamil Nadu, Andhra Pradesh, Pondicherry, Nagaland, Tripura, Sikkim, Gujarat, Goa, Jammu&Kashmir, Jharkhand, West Bengal, Arunachal Pradesh, Assam, Kerala, Karnataka, Bihar and Haryana.

Duration :

Two days for each batch

Date: 7 – 8 March 2007 (First batch) – 13 States
12 – 13 March 2007 (Second batch) – 15 States

Preparatory Activity:

A letter for fixing the Computer Lab and Hostel of National Institute of Health and Family Welfare, New Delhi was sent on 5-1-2007 and acceptance letter received on 6-2-2007 from NIHFW. The Invitation letters to the assigned 28 States were sent during the first week of February 2007 from Director, Central Leprosy Teaching and Research Institute, Chengalpattu, Tamil Nadu. The training module that was finalized with consultation of CLD/WHO and got it printed through a printing press at Chengalpattu.

Two days Workshop of Training :

The Workshop of Training for two batches was held at National Institute of Health and Family Welfare (Govt. of India), New Delhi. The first batch training started on 7-3-2007 at 9.30 AM with inauguration. Except Bihar state, all invited states have participated the training workshop. Dr.D.M.Thorat, DADG (Lep.) and Dr.Barakakaty, National Consultant (Leprosy) inaugurated the workshop emphasizing the need for successful implementation of the CSIS at all State Leprosy Office for better monitoring and evaluation of NLEP.

The faculties for the workshop of training were Shri.M.Subramanian, Statistical Assistant, Shri.E.Sathish Kumar, DEO and Shri.G.Parthasarathy, DEO from Central Leprosy Teaching and Research Institute, who were developed the system and field-tested it. The participants were given training on introduction about NLEP implementation, Monitoring and Evaluation, installation of software, operation of software in computer, Data Entry of District Monthly Progress Report, Consolidation of MPR for State, Report generation (NLEP Statistics, Indicators, Drug stock position, Drug Expiry status, Trend reports etc). The hands-on training on operation of the software was carried out by assigning one computer to one state. The participants felt the

CSIS is a user friendly and two days training sufficient to put the system in use. The participants were asked to install the software in State Leprosy Office and feed MPR of March 2004, 2005, 2006 and 2007 in the CSIS, so as to maintain uniform databank in all SLO. The columns of revised MPR were also discussed and demonstration of data entry in the revised format was also carried out. It was assured that the revised software based on revised format of MPR will be posted to all SLOs by the third week of April 2007, so that all SLOs can implement the CSIS successfully. The two days workshop of training closed on afternoon 8-3-2007.

Similarly second batch workshop of training began on 12-3-2007 and completed on 13-3-2007.

Feedback:

Out of 28 States invited, except 4 States (Kerala, Karnataka, Haryana and Bihar) all other States have deputed the Statistical Assistant / Data Entry Operators of the state. The participants felt this Computerised Simplified Information System is a user friendly and can be implemented successfully at the office of SLO. The participants expressed satisfaction about the training aspects and place of training. Some of the Data Entry Operators sought clarification about their continuation of contract appointment beyond March 2007.

Outcome:

The Statistical Assistant / DEO are trained and equipped in implementing the CSIS and CLD would receive MPR electronically. The software will be updated based on the revised MPR formats and will be sent to all SLOs by the end of April, so that it can be put into use for entering MPR of all Districts from April 2007 onwards in the revised format.

Follow-up:

CLTRI's staff will undertake monitoring visit during June and July 2007 to assess and resolve any bottlenecks in implementing the CSIS as well as use of the revised format of MPR.

RURAL FIELD OPERATIONAL AREA (RFOA)

The RFOA covers a population of 1,16,718 in 62 villages situated in and around KUNNATHUR of Sriperumpudur Taluk in Kancheepuram District of Tamil Nadu State, in the outskirts of CHENNAI.

The RFOA has been divided into 10 Sectors and each Sector covers approximately 15,000 to 20,000 populations.

The CLTRI Field Office is functioning in the III floor of the Tamil Nadu State Govt. Leprosy Rehabilitation Promotion Unit Office building situated in the G.S.T. Road (next to the National Institute of Sidha), Tambaram Sanatorium, Chennai-47.

The Head of the Division of Epidemiology & Statistics is the Officer in-charge of the Field Office. The Field Investigator in the Field Office is assisting him.

(1) **Staff Position of the Field Office:**

(2) **Activities in the RFOA**

i) I.E.C. (Information, Education and Communication)

I.E.C. activities to create awareness about Leprosy and Pre/Post Evaluation of the Knowledge, Attitude and Practice (K.A.P.) pertaining to Leprosy were carried out in the R.F.O.A., as given below, among the individuals, families, various groups, schools, institutions, etc.,

Tuesdays - I.E.C. Individuals / Families
 Wednesday - I.E.C. Groups / Schools
 Thursday - I.E.C. Pre/Post Evaluation

During 2006-2007

Sl.No.	Posts	Sanctioned	In-position	Vacant
1.	Field Investigator	2	2	0
2.	Junior Field Investigator	2	2	0
3.	Non-Medical Supervisor	2	1	1
4.	Para-Medical Worker	11	6	5

Number of Families contacted for IEC-Awareness - 8,547
 Number of Groups contacted for IEC-Awareness - 26
 Number of Individuals contacted for IEC- Awareness -41,352
 Number of Individuals contacted for IEC-Evaluation - 2,475
 Number of new cases detected during IEC activities - 6

ii). P.O.D. (Prevention of Deformities) Care & Review of Cases:

On Mondays, living Known Leprosy Cases in the RFOA were re-examined and assessments were made about the conditions of Skin Lesions, Nerve Involvements and Deformities.

Cases Requiring the P.O.D. care were examined and assessments were made about their knowledge and Practice about self-care for P.O.D; also Advices were rendered about the proper self-care with demonstration.

During 2006-2007

Number of Known Leprosy cases reviewed	- 1623
Number of cases requiring P.O.D. care	- 69
Number of cases with correct knowledge about self-care	- 13
Number of cases with correct Practice of self-care	- 8
Number of cases given proper Advice about self-care	- 61
Number of Relapse cases during review	- 1

The activities during their Field Training are given below:-

Number of families contacted for IEC-Awareness	- 3,453
Number of Schools contacted for IEC-Awareness	- 6
Number of Individuals contacted for IEC-Awareness	- 12,402
Number of New cases detected during IEC-Awareness	- 6
Number of Persons evaluated for KAP about Leprosy	- 453
Number of Persons with good KAP – Pre I.E.C.	- 245 (54%)
Number of Persons with good KAP – Post I.E.C.	- 403 (89%)
Number of Leprosy Cases reviewed	- 369
Number of cases requiring P.O.D. care	- 23
Number of Relapse cases during review	- 1

iv) Other activities

On Friday, weekly review and planning were carried out in the Field Office.

On the last working day of every month, monthly review and planning of field activities were carried out in the C.L.T.R.I. by the Head of the Division during the monthly meeting.

II (A) ON-GOING RESEARCH PROJECTS

1. SURGICAL DIVISION

Neuritis in leprosy – Comparison of medical and Surgical decompression to effect recovery of nerve damage.

2. CLINICAL DIVISION

NIL

3. LABORATORIES DIVISION

RESEARCH PROJECTS UNDERTAKEN AND CONTINUING

II (A)ON-GOING RESEARCH PROJECTS

1. STUDY ON SURVEILLANCE OF DRUG RESISTANCE, AMONG SMEAR POSITIVE MULTI-BACILLARY LEPROSY CASES OF RELAPSE AND OTHER HIGH-RISK GROUPS.

Work carried out

In the previous years

We have standardized rpoB PCR with a newer set of MLrpo1(forward) and MLrpo2 (reverse) primers and by employing a suitable PCR conditions. This has yielded 305 bp product. We have received skin biopsy samples from suspected cases of relapse, and processed them for Mouse foot pad inoculation and for rpoB PCR.

In the reporting year.

A total of 30 samples have been received from cases of suspected relapse/ new cases/ irregular treatment. Samples were processed for mouse foot pad inoculation and for PCR for rpoB gene. 8 cases completed MFP harvest, out which 6 cases showed significant growth. One case showed resistance to all the three drugs and two cases showed resistance only to dapsone. PCR amplification for rpoB gene yielded products in all the samples. Products have been purified and arrangements have been made to sequence our rpoB PCR products.

Future plan

We plan to sequence the PCR products to detect mutations in the rpoB gene and to standardize amplification of folp1 gene and to correlate the finding with that of SSCP.

(Investigator: Dr. B. Sekar, Co-investigators: Dr. B. Nirmal Kumar, Mr. K. Arunagiri, K. Menaga)

II.(B) UNIVERSITY POST GRADUATE COURSE PROJECT

The following M.Phil/ M.D/ M.Sc post-graduate course projects of different universities were undertaken

a. Standardisation of Nasal Polymerase Chain Reaction (PCR) for Mycobacterium leprae Pra gene to study subclinical infection.

Sugashini P.K Sekar B, Arunagiri K, Menaka K

Leprosy being a chronic infectious disease, the knowledge about sub-clinical infection is important. A laboratory parameter to detect sub-clinical infection in leprosy may play a significant role in identifying infection pool in a community. Nose is the portal of entry and exit of *M.leprae*. Hence an attempt was made to apply PCR to detect the presence of *M.leprae* in nasal cavity among members of community. With due consent from 100 contacts and 100 non-contacts nasal smear were collected and DNA was extracted using enzymatic procedure of Herman et al. Using S13 and S62 primers, *M.leprae pra* gene was amplified as per the procedure of Jadhav et al with minor modifications. . The amplified PCR products of 531 bp were run on agarose gel with ethidium bromide, along with molecular weight marker and visualized under UV transilluminator. Amplification of Human beta globulin gene, yielding PCR products of 212 bp was also carried in all the samples as internal control. Out of the 100 contacts 13 were found positive for *M.leprae pra* gene in nasal PCR, where as none of the non-contacts included in the study were found positive. Thus 13% of contacts of leprosy patients were found to have subclinical infection. Hence Nasal PCR assay for *M.leprae pra* gene may be applied to identify sub-clinical infection of leprosy in larger population of the community.

b. A comparative study on rapid diagnostic methods for the diagnosis of Enteric fever.

Amudhavalli S, Sekar B, Arunagiri K, Menaka K

BACKGROUND & OBJECTIVE The conventional laboratory diagnostic tests for Enteric fever have their own limitations due to lesser sensitivity and specificity. Hence an attempt was made to establish a high sensitive and specific PCR for Salmonella and to compare with other conventional laboratory diagnostic tests.

METHOD: Blood samples from strongly suspected cases of Enteric fever were collected and inoculated into Brain Heart infusion and Buffered Peptone water. At different frequency of intervals samples were aliquoted from the culture bottles. These samples were subjected to subculture onto selective media and a portion of the samples were subjected to PCR using primers targeting invA./ inv E gene of Salmonella. Widal tests were also carried out using serum samples.

RESULTS : A total 94 samples subjected for all the three tests were analyzed. Culture was positive in 5 (5.3%) samples where as PCR was positive in 10 samples (10.6%). All the culture positive samples except for one were positive by PCR also. Out of the 6 samples positive by PCR but negative by culture, 2 were found positive by Widal tests.

PCR was generally found positive in 8 aliquots collected after overnight incubation, in one sample after 4 hours samples and one sample after 2 hrs of incubation

INTERPRETATION: PCR assay was found to be rapid - after minimum of 2 hours and maximum over night of incubation and a more sensitive tool for the laboratory diagnosis of Enteric fever in comparison with other conventional diagnostic tests.

c. Detection of Extended Spectrum Beta- Lactamases in Gram negative clinical isolates.

Selvi.B., Sekar B, Arunagiri K, Menaka K and Lalitha P

Extended Spectrum beta lactamases(ESBL) are a rapidly evolving group of β -lactamases which share the ability to hydrolyse third generation cephalosporin. AmpC β -lactamases are group I cephalosporinases that confer resistance to a wide variety of β -lactam antibiotics. The present study was under taken to study the presence of ESBL and AmpC producers among Gram negative isolates. 75 Gram negative isolates were screened for the third and second generation cephalosporins susceptibility. 47(63%) isolates (30 E.coli , 12 Klebseilla, 3 Proteus and 2 Pseudomonas) were resistant to ceftazidime and cefpodoxime .These isolates were subjected to screening test for ESBL by Double Disc Synergy test using Ceftazidime with and without clavulanic acid discs. 36/47(77%) (22 E.coli ,12 Klebseilla, 1 Proteus and 1 Pseudomonas) showed ESBL positive. Confirmation for ESBLs by MIC method (as per NCCLS) showed 26/47 (55%) positive (12 E.coli ,9 Klebseilla, 3 Proteus and 2 Pseudomonas). 30/75 (40%) (21 E.coli ,3 Klebseilla, 3 Proteus and 3 Pseudomonas) isolates found resistant to Cefoxitin (Second generation cephalosporin) and the isolates were subjected to AmpC screening by modified three dimensional enzyme extract test. Among them 16/30 (53%) (9 E.coli ,3 Klebseilla, 2 Proteus and 2 Pseudomonas) were found positive. 14/30 (47%) isolates were co-producers of both ESBL Aand AmpC. This study thus revealed the presence of 55% of ESBLs, 53% AmpC β -lactamases producers and 47% of co-producers of both ESBL and AmpC β -lactamases among the isolates tested. The phenotypic coexistence of both β -lactamases may be due to dissemination of AmpC in combination with ESBLs among Enterobacteriaceae.

d. Molecular typing of Extended Spectrum Beta- Lactamases among Gram negative isolates.

Thangamani. D., Sekar B, Arunagiri K, Menaka K and Lalitha P

Infection due to ESBL producing E.coli and Klebseilla are becoming more prevalent in both hospitalized and non-hospitalized patients. Most of the ESBLs reported to be belonging to TEM and SHV families. Hence a study was proposed to screen for bla_{TEM} and bla_{SHV} among Gram negative isolates. 75 Gram negative isolates were screened for resistance to third generation cephalosporins and 47 (63%) were found resistant. ESBL detection by Double Disc Synergy test with and without clavulanic acid was carried out

and 36 (77%) were found positive.. Plasmid isolation from these isolates were carried out by Brimboim and Dolly method. The isolated plasmid DNA was amplified by PCR with primers targetting the bla_{TEM} and bla_{SHV} genes. Of the 47 isolates found resistant to third generation cephalosporins 28(60%) of the isolates were found to be positive for bla_{TEM} by PCR and 13(28%) were found to be positive for bla_{SHV}. 6 of bla_{TEM} positive and 6 of bla_{SHV} positive isolates were found negative for ESBL by phenotypic screening test.

This study revealed the presence of 60% of bla_{TEM}, 28% of bla_{SHV} type ESBLs among the Gram negative clinical isolates. In this study 6 of bla_{TEM} positive and 6 of bla_{SHV} positive isolates were found negative for ESBL by phenotypic screening test. - may be due to the presence of other betalactamases, which may interfere with the phenotypic expression of ESBLs,

e. Antibiotyping and Coagulase gene typing of Methicillin Resistant Staphylococcus aureus from clinical isolates using PCR-RFLP method.

Tamizhamudhini A, Sekar B, Arunagiri K, Menaka K

Accurate and rapid typing of Methicillin resistant Staphylococcus aureus (MRSA) is crucial for the control of MRSA outbreaks. Many molecular methods have been developed for typing of MRSA. Sequences variations of the Coagulase (*coa*) gene have been the basis for the most widely used PCR typing for MRSA. Hence a study was attempted to analyze MRSA isolates by genotyping and characterization of *coa* gene by PCR- RFLP methods. A total 60 staphylococcus isolates were processed for Coagulase test, screening for methicillin resistance and Antibiotyping using a panel of 10 antibiotics. All the MRSA isolates were subjected to PCR amplification of the *coa* gene, which resulted in 3 different genotypes - Geno type I (492 ± 20 bp), II (654 ±20 bp) and III (735 ± 20 bp). The PCR products were further digested with AluI enzymes which resulted in 3 different RFLP patterns- Pattern A (220 ± 20, 220 ± 20 bp), B (400 ± 20, 220 ±20 bp) and C (420 ± 20, 220 ± 20 bp). Out of the 45 isolates identified as MRSA, the most common antibiotic type observed were antibiotic type 1 (40 %) and 2 (29%). Most of the *coa* genotyping belonged to Genotype II (49%) followed by Genotype I (33%) and Genotype III (18%). RFLP analysis similarly demonstrated mostly Pattern B (49%), followed by Pattern A (33%) and Pattern C (18%).

Thus Antibiotyping along with *coa* genotyping with RFLP analysis may serve as valuable and rapid methods for the characterization of MRSA.

4. EPIDEMIOLOGY & STATISTICS

II (B) COLLABORATIVE PROJECTS

III. TEACHING AND TRAINING CONDUCTED DURING THE YEAR UNDER REPORT

All four Divisions ie. Clinical, Surgical, Epidemiology & Statistics and Laboratories are actively taking part in the various teaching and training programmes conducted by the Institute. The details of the programmes are as follows:-

III (A) ROUTINE TRAINING PROGRAMME UNDERTAKEN DURING APRIL 2006 TO MARCH 2007.

S.No	Category of Service	Number of participants attended the training
1	District Leprosy Officer Training Course	1 Candidate (12-12-06 to 15-12-06) Meghalaya Govt.
2	Medical Officer Training Course	---
3	Non-Medical Health Supervisor's Training Course	12 Candidates (03-07-06 to 31-08-06) Tamilnadu Govt. 13 Candidates (03-10-06 to 30-11-06) 12 from Tamil Nadu Govt 1 from Chandigardgh Govt. 10 Candidates from Tamilnadu Govt. (02-01-07 to 28-02-07)
4	Health Workers Training Course	---
5	Laboratory Technician Training Course	1) 11 Candidates have completed their training were relieved on 30-06-06 2) 13 New candidates joined training from 03-07-06
6	Physiotherapy Technician Training Course	1) 9 Candidates have completed their training were relieved on 30-03-07
7	Reconstructive Surgery Training Course	---

III (B) STUDY VISIT MADE BY MEDICAL AND NON-MEDICAL STUDENTS FROM OUTSIDE

S.No	Name of Training	Date / Period of Training
1	41 BPT Students from Adhiparasakthi College of Physiotherapy, Melmaruvathur	One day Visit – 15-05-06 - 21-11-06
2	50 Diploma in Nursing Students from School of Nursing, Govt. Head Quarters Hospital, Kancheepuram	One day Visit – 05-06-06 - 06-06-06
3	48 B.Sc. Nursing students from Adhiparasakthi College of Physiotherapy, Melmaruvathur	One day Visit – 21-03-07
4	48 CRRIs of Chengalpattu Medical College	5 days training
5	44 BPT Students from Aalim Muhammed Salegh College of Paramedical Sciences, Chennai	One day visit – 12-07-06 - 27-12-06
6	20 Diploma in Nursing students from Anbarasu Institute of Para Medical Sciences, Chennai	One day visit – 29-08-06
7	23 Students from Department of Bio-Chemistry, Adhiparasakthi college of Arts & Science, Kalavai	One day visit – 08-08-06
8	50 Microbiology Students from Adhiparasakthi college of Arts & Science, Kalavai	One day visit – 12-09-06
9	20 Diploma in Nursing Students from Chengalpattu Medical College	One day Visit – 10-09-06
10	78 MBBS Students from Chengalpattu Medical College, Chengalpattu	One day visit -
11	20 DMLT Students from Dr.Raj Paramedical Institute, Chrompet, Chennai	One day visit – 15-03-07
12	22 Diploma in Nursing Students from AMJ college of Nursing	One day Visit – 17-01-07
13	24 DMLT Students from Chennai Institute of Medical & Laboratory Technology	One day visit – 30-05-06
14	50 Bio chemistry students from Acharya Arts & Para Medical Sciences, Villianur	One day visit – 07-03-07
15	22 Students from Velum mayelum siddha Medical Research foundation	One day visit – 15-09-06
16	40 Students from Balaji college of Physiotherapy and Rehabilitation Centre, Chennai	One day visit – 20-12-06 - 21-12-06
17	60 Students from SRM Medical College Hospital and Research Centre	One day Visit

III (c) SPECIAL TRAINING OFFERED BY THE DIVISION OF LABORATORIES

IV. W.H.O. ASSISTED RESEARCH OROJECTS

NIL

V. PUBLICATION / PRESENTATION

V. (A) PUBLICATION IN JOURNAL

Epidemiological trends of leprosy elimination in CLTRI rural field operation area, Tamil Nadu, India – M.Subramanian, D.M.Thorat, C.Balakrishnan, A.Aleem Baig, I.Prabakaran, T.F.Hassan, P.K.Oommen – Indian Journal of Leprosy – Vol 78(2) 2006-203 – 214

V. (B) PRESENTATION

(a) 2 papers presented on 7th October 2007 in the IAL meeting held in Mumbai by Dr.P.K.Oommen, Consultant(Ortho) & Director , C.L.T.R.I.

- i) Leprosy Free India – NLEP Perspective
- ii) Leprosy Free India – Surgical Perspective

(b) Papers presented in XXX National Conference of Indian Association of Medical Microbiologist held at Govt. Medical college, Nagpur, from 27th to 29th October 2006.

1. “**Detection and Characterization of bla-CTX-M gene by PCR-RFLP analysis among third generation cephalosporins resistant Gram negative isolates**”.

Sekar. B, Shwetha. R, Arunagiri. K, Menaka. K, Lalitha. P and Oommen P.K.

2. “**Detection of MEC A gene by PCR among Staphylococcus Clinical isolates**”

Arunagiri. K, Sekar. B, Anandhi. P, Menaka. K, Lalitha. P and Oommen. P.K

1.	Four B.Tech (Industrial Biotechnology) students from Govt. College of Technology, Dept. of Biotechnology, Coimbatore underwent training in Molecular Biology, Haematology & Bacteriology Sections of the Lab. Division from 15-5-2006 to 24-5-2006.
2.	Four B.Tech (Food Technology) students from Anna University, Chennai underwent training in Molecular Biology, Haematology & Bacteriology Sections of the Lab. Division from 15-5-2006 to 26-5-2006.
3.	III year B.Sc Biochemistry Students from Acharya Arts & Science College, Villianur made one day study visit on 7-3-2007

3. “Comparison of PCR and Conventional laboratory tests in the Diagnosis of Enteric fever”.

Amudhavalli.S, Sekar. B, Arunagiri. K, Menaka. K and Oommen. P.K

4. “Identification of AmpC β - lactamases and Extended Spectrum β -Lactamases among second and third generation cephalosporins resistant Gram negative clinical isolates’.

Aparna. V, Sekar. B, Menaka. K, Lalitha. P, Arunagiri. K and Oommen. P.K.

VI. WORKSHOPS / CONFERENCES / SEMINARS / MEETINGS / SEMINARS / TRAINING / CME ATTENDED BY OFFICERS AND STAFF FROM APRIL 1ST 2006 TO 31ST MARCH 2007

DR.P.K.OOMMEN, CONSULTANT(ORTHO) & DIRECTOR , C.L.T.R.I.

7th and 8th July,2006

Attended meeting in T.L.M. Office in New Delhi with regards to conducting R.C.S. in leprosy in 9 Physical Medicine and Rehabilitation institutes.

I was allotted Gulbarga Medical College to visit and assess feasibility of conducting R.Cs.

21st July to 24th July,2006

Visited Gulbarga Medical College and Hospital to assess feasibility for conducting R.C.S. in leprosy.

7th September,2006

Visited Delhi to attend meeting with Health Secretary to discuss C.L.T.R.I. land issue. Meeting Cancelled.

9th September,2006 (Saturday)

Health Secretary Mr.Prasanna Hota visited C.L.T.R.I. in the afternoon with regards to land issue.

20th September,2006

Attended meeting with Health Secretary on C.L.T.R.I. lands. Meeting was attended by Hindustan Latex Limited representatives also. Documents with regards to lands shown to Secretary Health.

26th – 27th September,2006

Meeting at C.N.I. Bhawan, New Delhi 26th and 27th. Finalized details along with Dr.Jerry Joshua and on 28th meeting of Core Group Members for introducing R.C.S. into PMR institutes finalized Report submitted on 29th.

5th October,2006

Meeting at C.L.T.R.I. with Dr.Goyal, Addl. Director General, Dr.Athani – Director, AIIPMER, and Dr.G.P.S. Dhillon – DDG(L) along with officers held to discuss introducing Polio surgery in C.L.T.R.I

7th October,2006

Attended IAL meeting in Mumbai.

12th October,2006

Met Prof.Adhi, HOD and Dr.Ismail Ortho Unit of Chengalpattu Medical College and Hospital to discuss feasibility of facilitating PMR work in C.L.T.R.I., Chengalpattu.

6th – 7th November,2006

Attended Combined Scientific Advisory Committee meeting of JALMA, Agra and TRC, Chennai held at Agra.

22nd – 23rd November,2006

Visited Gandhi Medical College, Bhopal to assess feasibility of conducting RCS in leprosy.

7th to 11th January,2007

Meeting with DDG(L) to finalize R.C.S. in leprosy in PMR institutes. Drew up final report and submitted the same.

26th January,2007

Invited to attend 35th Annual Conference of IADVL in Chennai where a meeting was held to discuss the role of Dermatologists in Leprosy in the present integrated Scenario.

8th February,2007

Attended meeting of Health Secretary along with CHEF members to discuss issues regarding Supervisor-cum-Chemist, Mixing Man and Pressing Man and their hierarchy in MCR unit in C.L.T.R.I.

19th -24th March,2007

Attended Training Program in Polio surgery at AIIPMER, Mumbai. Dr.Kamble from R.L.T.R.I., Raipur also attended.

Dr.B. SEKAR, JOINT DIRECTOR (MICROBIOLOGY)

May 6th - 13th 2006

Attended the Molecularbiological techniques training at Madurai Kamaraj University, Madurai.

September 5th 2006

As Examiner evaluated “Endowment Prize Exam in Leprosy” for Medical students- organized by Dr. M.G.R. Medical University in association with the DFIT, Chennai,

September 13th 2006

Participated as Expert Panel Member for the topic “Recent Advances in the Lab. Diagnosis of Leprosy” in the PG seminar on Leprosy jointly organized by Damien Foundation India Trust, Chennai and Madurai Medical College at Madurai Medical College, Madurai.

December 5th 2006

Organized CME on Aids conducted by IMA and CLTRI at CLTRI campus

January 31st 2007

Organized CME on Multi drug resistance and DOTS conducted by CLTRI in association with DFIT at CLTRI campus

March 15th 2007

As an External examiner of Madras University conducted Methodology exam Part- II and III for the Ph.D candidate of Tuberculosis Research Centre, Chetput, Chennai

March 20th 2007

Participated in the National Seminar on “Microbial Infection” at Dr. ALM PG Institute of Basic Medical Sciences, Taramani and gave a lecture on the topic “Recent trends in the diagnosis of M.leprae infection”.

All five Medical Officers of Clinical Division have associated/attended CMEs on:-

September 13th 2006

Associated with DFIT in conducting an Endowment Prize examination for Final Year MBBS students of the Tamilnadu Dr. MGR Medical University at CLTRI .

December 5th 2006

CME on Aids conducted by IMA and CLTRI at CLTRI campus

January 31st 2007

CME on Multi drug resistance and DOTS conducted by CLTRI in association with DFIT at CLTRI campus

Shri. C.S. SURI BABU, ASST. DIRECTOR (BIO.)

October 12th 2006

Participated in the discussion with Dr.Dharmalingam at Madurai Kamarajar University, Madurai regarding the collaborative project “Haptogloblins and 18 kda Protein in Mice (after mouse foot pad inoculation)

November 1st & 2nd 2006

Attended the CPCSEA Meeting held at Hyderabad

Shri.M. RAJENDRAN, SENIOR TECHNICAL ASSISTANT

November 1st & 2nd 2006

Attended the CPCSEA Meeting held at Hyderabad

Shri.S. SENTHIL KUMAR, SENIOR TECHNICAL ASSISTANT

October 12th 2006

Participated in the discussion with Dr.Dharmalingam at Madurai Kamarajar University, Madurai on 12-10-2006 regarding the collaborative project “Haptogloblins and 18 kda Protein in Mice (after mouse foot pad inoculation)

SHRI. M.SUBRAMANIAN, STATISTICAL ASSISTANT

October 3rd -13th 2006

Participated in the “Induction Training Programme-I, Module-I” at NSSO, DPD, Kolkata.

Shri.K. Arunagiri, Technical Assistant

May 3rd - 13th 2006

Attended the Molecularbiological techniques training at Madurai Kamaraj University, Madurai.

VII. THE OFFICERS WORKED IN C.L.T & R.I., CHENGALPATTU DURING APRIL 2006 TO MARCH 2007

Sl.No.	NAME OF THE OFFICER	DESIGNATION
1.	Dr.P.K. OOMMEN, M.B.B.S.,Dip.ORTH,M.S.(ORTH)	CONSULTANT (ORTHO) & DIRECTOR
2.	Dr.B. SEKAR, MBBS., MD.,	JOINT DIRECTOR (MICROBIOLOGY)
3.	Dr. P. NARAYANA MURTHY, MBBS, MD (ONCOLOGY)	CHIEF MEDICAL OFFICER (NFSG).
4.	Dr. T.F. HASSAN, MBBS	CHIEF MEDICAL OFFICER (NFSG).
5.	Dr. K. SHAMSUDHEEN, MBBS	CHIEF MEDICAL OFFICER (NFSG).
6.	DR.(MRS) P.SANDHYA MURTHY M.B.B.S.	CHIEF MEDICAL OFFICER (NFSG).
7.	Shri. C.S. SURI BABU, M.Sc.,	ASST. DIRECTOR (BIO.)
8.	Dr.T.S.GEETHA, M.B.B.S., DDVL,	CHIEF MEDICAL OFFICER
9.	Dr.R.VEERAKUMARAN, M.B.B.S.	SENIOR MEDICAL OFFICER – On Study Leave
10.	Dr. B. NIRMAL KUMAR, MBBS, MD (General. Medicine)	SENIOR MEDICAL OFFICER
11.	DR.G.DINESH KANNAN, M.B.B.S.	MEDICAL OFFICER
12.	DR.M.PUNITHA, M.B.B.S.	MEDICAL OFFICER
13.	DR.L.LATHA, M.B.B.S. D.O.	MEDICAL OFFICER

VIII. FELLOWSHIP OF W.H.O / NATIONAL / INTERNATIONAL / ANY OTHER ORGANIZATION GRANTED TO AND AVAILED OF BY OFFICERS AND STAFF MEMBERS

NIL

IX. EQUIPMENTS ACQUIRED, BOOKS AND PERIODICALS PURCHASED AND VISITORS VISITED C.L.T & R.I.

(a). EQUIPMENT ACQUIRED FOR LABORATORY DIVISION

Sl.No.	Equipment / Machinery acquired – 2006-07	Nos.
1.	Biophotometer	1
2.	Refrigerated Microfuge	1
3.	Electrophoresis Power Pack	1
4.	Electronic Balance	1

II. EQUIPMENT ACQUIRED BIOCHEMISTRY SECTION

S.No.	Equipment / Machinery purchased	Nos.
1.	Ultra low temperature Cabinet - 20°C with Stabilizer	1
2.	ELISA Reader with a computer	1
3.	RM 12°C Microcentrifuge	1
4.	Eppendorf Personal Cycler	1
5.	pH Meter digital	1
6.	Computer with one flat screen monitor and a laser get printer.	1

(b) BOOKS AND PERIODICALS PURCHASED FOR OUR CENTRAL SCIENTIFIC LIBRARY

During the year 2006-07, CLTRI added to its stock in the Central Scientific Library 291 books and 256 Bound Volumes of periodicals. The Library subscribed to 63 foreign and 8 Indian Journals on behalf of CLTRI. In addition 4 foreign and Indian Journals are being received on gratis.

The total collection of CLTRI Central Library is 3043 books and 4766 Bound volumes of periodicals, 154 Microfilm copies of articles and 420 Reprint of articles. The Library received 40 foreign, Indian periodicals and WHO Publications on subscription basis and 5 as gratis.

Library Utilization:

During the period under report 3451 books and 3684 periodicals have been issued to the readers and about 9 different topics of bibliographies on leprosy have been prepared and issued to Medical officers / Zonal Officers and trainees.

Inter-Library Loan System

The Library has Inter-library Loan arrangement with all medical Institutions and British Council Library, Chennai.

Literature References Facilities:

As in previous year, the library continues to extend its facilities for reading and references to the scientific and research personnel working in various disciplines.

Special Publication

The Institute brought out the annual report of CLTRI every year. A Library references Manual giving the consolidated list of back and current volumes of periodicals available in the Library of CLTRI with full details.

X. ANY OTHER RELEVANT INFORMATION

NIL

BUDGET

	Allotment	Expenditure
Plan	1,50,00,000	1,15,36,536
Non-Plan	5,11,00,000	3,30,50,659
Total	6,61,00,000	4,45,87,195