

NATIONAL TUBERCULOSIS INSTITUTE

**ANNUAL REPORT
2000-2001**

**Government of India
NATIONAL TUBERCULOSIS INSTITUTE**



**(Directorate General of Health Services)
'Avalon', No.8, Bellary Road, Bangalore-560 003
INDIA**

<http://ntiindia.kar.nic.in>

Year of Publication: 2001
No of copies: 150

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FOREWORD

We are truly into the new millenium and I am pleased to present the first annual report of the new millenium for the year 2000-2001.

The National Sample Survey to estimate the Annual Risk of Tuberculous Infection in different parts of India (NSS – ARI) is progressing well in the North, South & West zones of the country and nearly 75% of the field work has been completed. The field work in the East zone will be taken up shortly. Drug Resistance Surveillance to monitor drug resistance to primary anti tuberculosis (TB) drugs are under way in the districts of Hoogly (West Bengal), Nagaon (Assam) & Mayurbhanj (Orissa).

With the top priority given to implementation of Revised National Tuberculosis Control Programme (RNTCP) all over the country, training of personnel has gained a lot of importance, and the Institute has risen upto this challenge by increasing the number of training programmes being conducted all through the year.

The MB/BacT-240 system which gives culture and sensitivity results in half the time compared to the conventional system became operational and is functioning well. The projection microscope donated by the World Health Organization (WHO) has also been commissioned and is proving to be very helpful in the training activities.

Five papers were published in various journals and three papers were presented at National and State level conferences on Tuberculosis and Chest diseases. Dr VK Chadha, Sr. Epidemiologist was awarded “Dr C Srinivasa Rao award” for the paper presented at the 55th National Conference on TB & Chest Diseases held at Kolkata from 7th to 10th December 2000 and Dr B Mahadev, Chief Medical Officer (CMO) had the honour of delivering the Dr PV Benjamin Memorial Oration at the 27th Andhra Pradesh State TB and Chest diseases Conference held at Madanapalle on 27th and 28th January 2001.

An important highlight of the year has been the release of the historical document 'Annals of the National Tuberculosis Institute' (NTI) – 40 years of accomplishment. Dr AB Maalaka Raddy, Minister of Health and Family Welfare, Government of Karnataka, in the presence of the WHO Medical Officers (MOs), Consultants and Former Directors, Retired & Present Staff Members of NTI, released this. Health minister in his inaugural speech mentioned that "the NTI has chronicled its work of 40 years in the fields of research, training and monitoring of the TB control programme in the form of an illustrated book titled "ANNALS of the NTI". Any reader will be amazed at the variety of research and training conducted by the Institute". The book is a tribute to the people who have been and are currently involved either directly or indirectly in this venture. The Annals may prove to be a valuable source of inspiration in the future to researchers, programme implementers and policy makers.

The majestic heritage building of NTI, gardens, the sprawling grounds and all other buildings have been spruced up. Establishment of a Negative pressure room in the Bacteriology section for culture work and a Bio-Safety Level III laboratory at the Animal Model Research Unit (AMRU) are the other important construction activities which have been taken up during the course of the year.

The Institute would continue to exert itself for achieving control of TB in the country and I appreciate the hard work and support extended by my colleagues and staff in sincerely carrying out the activities of the Institute. I also congratulate the team for bringing out the Annual Report for the year 2000-2001. I hope this will be a useful reference document for all those involved in TB control.

**August 2001
Bangalore**

**Dr (Mrs) Prabha Jagota
Director**

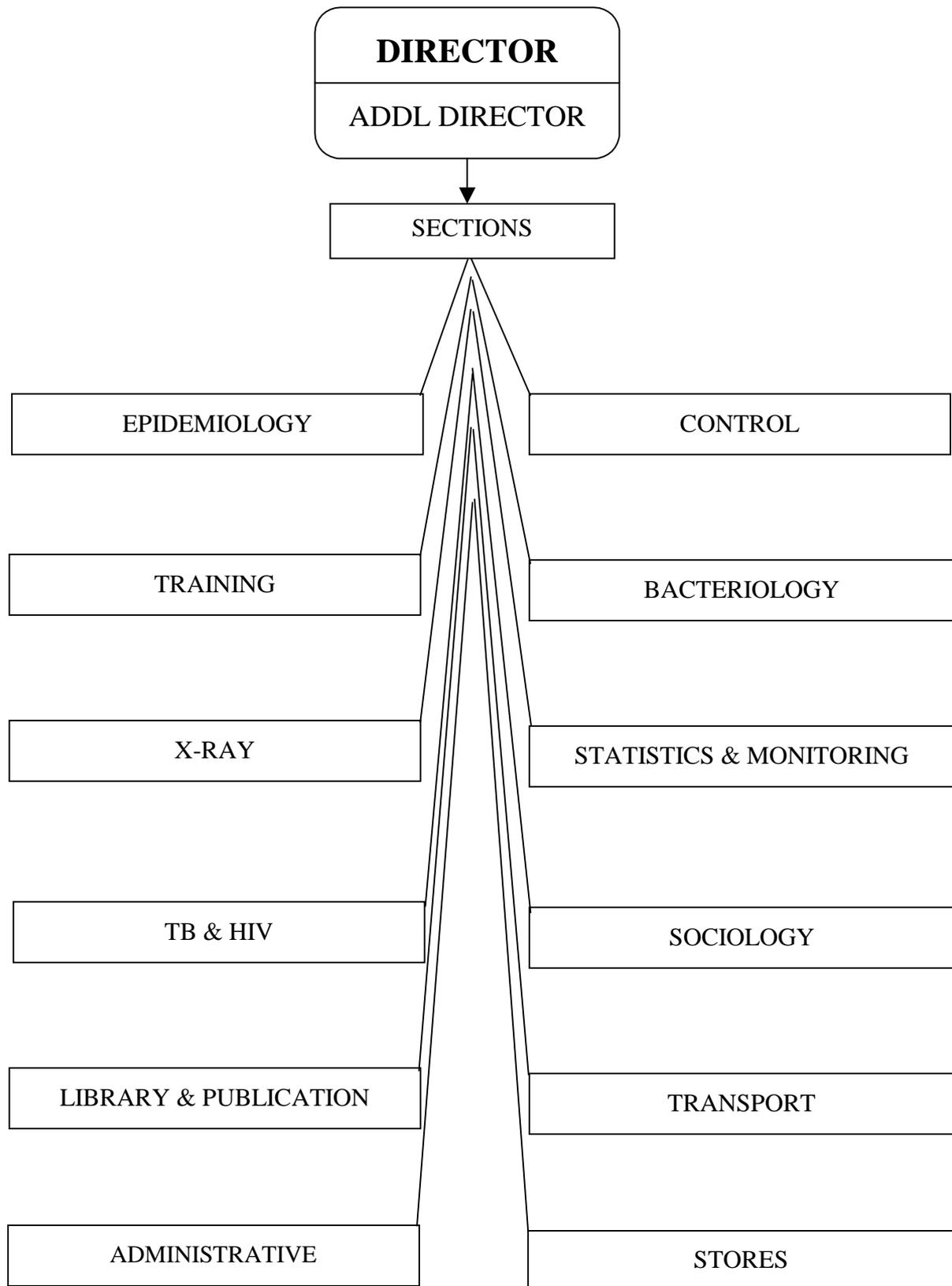
GLOSSARY

• Acquired Immuno Deficiency Syndrome	AIDS
• Animal Model Research Unit	AMRU
• Annual Risk of Tuberculosis Infection	ARI
• Annual Repair & Maintenance	AR & M
• Bangalore Mahanagara Palike	BMP
• Compact Disc	CD
• Centre for Genetic Engineering	CGE
• Chief Medical Officer	CMO
• Central Public Works Department	CPWD
• Compassion Unlimited Plus Action	CUPA
• Continuing Medical Education	CME
• Department for International Development	DFID
• Directly Observed Treatment Short Course	DOTS
• Directorate General of Health Services	DGHS
• Disability Adjusted Life Years	DALY's
• District Tuberculosis Centre	DTC
• District Tuberculosis Officer	DTO
• District Tuberculosis Programme	DTP
• Ethambutol	E
• Field Investigator	FI
• Streptomycin	SM
• Human Immuno deficiency Virus	HIV
• Health Visitor	HV
• Isoniazid	INH
• Indian Institute of Science	IISc
• Lady Willingdon State Tuberculosis Centre	LWSTC

• Mahatma Gandhi Institute of Medical Services	MGIMS
• Minimum Inhibitory Concentration	MIC
• Management Information System	MIS
• Mass Miniature Radiography	MMR
• Medical Officer	MO
• Microscopy Centre	MC
• Multi Drug Resistant Tuberculosis	MDR-TB
• Mycobacterium tuberculosis	M.tb
• National Aids Control Organization	NACO
• National Dairy Development Board	NDDB
• National Institute of Mental Health and Neuro Sciences	NIMHANS
• National Sample Survey	NSS
• National Tuberculosis Institute	NTI
• National Tuberculosis Programme	NTP
• Non Governmental Organization	NGO
• Overhead Projector	OHP
• Peripheral Health Institutions	PHIs
• Public Health Nurse	PHN
• Rifampicin	R
• Revised National Tuberculosis Control Programme	RNTCP
• Short Course Chemotherapy	SCC
• Streptomycin	SM
• Senior Medical Officer	SMO
• Standard Regimen	SR
• State Tuberculosis Centre	STC
• State Tuberculosis Officer	STO
• Statistical Assistant	SA
• Technical Coordination Committee	TCC

- Team Leader TL
- Treatment Organizer TO
- Tuberculosis TB
- Tuberculosis Research Centre TRC
- World Health Organization WHO
- X-ray Technician XT
- Ziehl Neelsen ZN

1. ORGANIZATIONAL SET UP



2. STAFF STRUCTURE

	<u>Sanctioned (S)</u>	<u>Positioned (P)</u>	<u>Vacant (V)</u>
DIRECTOR	1	1	Nil
ADDL DIRECTOR	1	Nil	1

↓

OFFICERS (GROUP 'A')			
	S	P	V
Sr. TB Specialist	1	1	Nil
Medical Officers (All Grades)	4	4	Nil
TB Specialist	2	1*	1
Chief Statistical Officer	1	1	Nil
Sr. Epidemiologist	1	1	Nil
Bacteriologist	1	Nil	1
Sr. Statistical Officer	1	1	Nil
Veterinarian	1	1	Nil
Statistical Officer	1	1	Nil
Sociologist	1	Nil	1
X-ray Engineer	1	Nil	1

*One Medical Officer posted against TB Specialist

↓

GROUP 'B' GAZETTED			
	S	P	V
Administrative Officer	1	Nil	1
Jr. Bacteriologist	1	1*	Nil
Asst. Training Officer	1	Nil	1
Sr. PA to Director	1	Nil	1

↓

GROUP 'B' NON-GAZETTED			
	S	P	V
Sr. Public Health Nurse	1	1	Nil
Asst. Programmer	1	Nil	1
Jr. Statistical Officer	1	Nil	1
Sr. Librarian	1	1	Nil
Sr. Investigator (SOCS)	3	1	2
Sr. Investigator (EPS)	1	Nil	1
Sr. Technical Asst. (Lab)	1	Nil	1
Sr. Technical Asst. (X-ray)	1	Nil	1
Accountant	1	1	Nil

*Unauthorized absence.

GROUP 'C' : TECHNICAL STAFF			
Statistics Section	S	P	V
Statistical Assistant	6	6	Nil
Statistical Assistant (Machine)	1	Nil	1
Sorter Operator	1	1	Nil
Punch Operator	2	Nil	2
Computer	6	5	1
Epidemiology Section			
Investigator	2	2	Nil
Team Leader	1	1	Nil
Field Investigator	7	7	Nil
Control Section			
Sister Tutor	2	2	Nil
Health Visitor	9	7	2
Draughtsman	1	1	Nil
Bacteriology Section			
Lab Technician	12	11	1
Lab Assistant	2	2	Nil
X-ray Section			
X-ray Technician	6	5	1
Sociology Section			
Social Worker	1	1	Nil
TB & HIV Research Section (formed in March 2000)	One Sr. Social Investigator & One Social Worker are re-deployed from Sociology section.		

GROUP 'C' : TRANSPORT SECTION			
	S	P	V
Transport Supervisor	1	1	Nil
Mechanical Supervisor	1	1	Nil
Driver Mechanic	2	1	1
Driver	20	14	6

GROUP 'C' : STORES & HOSTEL			
	S	P	V
Store Keeper	1	1	Nil
Hostel Warden	1	1	Nil

GROUP C : MINISTERIAL STAFF			
	S	P	V
Head Clerk	1	1	Nil
Stenographer Gr. I	1	1	Nil
Stenographer Gr. II	2	2	Nil
Stenographer Gr. III	3	3	Nil
UDC	8	6	2
LDC	9	8	1
Junior Hindi Translator	1	Nil	1
Hindi Typist	1	Nil	1
Telephone Operator	1	1	Nil
Gestetner Operator	1	1	Nil

GROUP D : MINISTERIAL STAFF			
	S	P	V
Lab Attendant	7	6	1
Animal Attendant	5	3	2
Field Assistant	2	1	1
Dark Room Attendant	2	1	1
Daftry	1	1	Nil
Chowkidar	7	7	Nil
Gardener	1	1	Nil
Helper	1	1	Nil
Safaiwala	10	10	Nil
Cook	10	9	1
Bearer	1	1	Nil
Peon	21	20	1

TOTAL STAFF IN EACH GROUP

Sl. No.	Category	Sanctioned (S)	Positioned (P)	Vacant
1.	Group 'A'	17	12	5
2.	Group 'B' (Gazetted)	4	1	3
3.	Group 'B' (Non Gazetted)	11	4	7
4.	Group 'C'	113	93	20
5.	Group 'D'	68	61	7
	Total	213	171	42

3. FINANCIAL OUTLAY & EXPENDITURE

The budget allocation from the Ministry for NTI under plan and non-plan schemes and the expenditure for the last three years (1998-99 to 2000-2001) are shown below:

Revenue generated by the institute for the Government is also given for the year 2000-2001.

PLAN

Year	Budget allocation (Rs)	Total expenditure (Rs)
1998-1999	28,61,000	28,37,000
1999-2000	30,01,000	30,02,000
2000-2001	86,21,000	86,10,000

Note: Under plan 'Major works' budget was sanctioned for Rs. 61.5 lakhs and the entire amount was spent during the financial year 2000-2001.

NON-PLAN

Year	Budget allocation (Rs)	Total expenditure (Rs)
1998-1999	1,98,42,000	1,95,95,000
1999-2000	2,09,25,000	2,04,30,000
2000-2001	2,08,68,000	2,10,38,000

REVENUE GENERATED

Year	Amount generated from various sources (Rs)
2000-2001	1,65,375

GRANT IN AID

Particulars	27 TB Cell
Grant in aid sanctioned	6,47,680

Amount spent as on 31.3.2001	6,47,680
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4. COMPUTER FACILITY

I Hardware Configuration

Computers / Peripherals	Qty. in Nos.	Operating System	Installed at
Local Area Network: Dedicated Server: Intel Pentium/133 MHz/32 MB RAM/ 1.44 FDD/24 X CD drive/820 MB CTD/14" VGA mono monitor/1.2 GB HDD/32 bit Ethernet Card/10 base T- 18 port Active Hub	1	Novell V4.11(10) MSDOS 6.22	Computer Center, Statistics section
Diskless Work Station Intel Pentium/133 MHz/8 MB RAM/ 1.44 & 1.22 FDD/14" VGA Mono monitor/32 bit Ethernet Card	3	IPX/SPX V3.03	- do -
Pentium III /500 MHz/32 MB RAM/Colour Monitor/32 bit Ethernet Card	2	- do -	- do -
<u>Stand alone PCs:</u> Intel Pentium II/350 MHz/32 MB RAM 1.22 & 1.44 FDD/14" colour monitor/ 4.2 GB HDD/HP CD Writer 8200 I/ 2 SP/1 PP	1	- do -	- do -
Intel Pentium-S/100 MHz/32 MB RAM /1.44 FDD/2.1 GB HDD/14" Colour Monitor	1	- do -	- do -
Intel Pentium-mmx - 200 MHz/32 MB RAM /2.1 GB HDD/1.4 FDD/2 SP	1	- do -	- do -
Pentium III -800 MHz/128 MB RAM/ HPCD writer-9100i/15"Colour Monitor/ Multimedia Keyboard/20 GB HDD/ 1.44 MB FDD/320 Watts Speaker/ Pioneer(DVD-105)/Graphic Accelerator Card	1	Windows 98	- do -

Computers / Peripherals	Qty. in Nos.	Operating System	Installed at
IBM Think Pad 390 Pentium MMX/266 MHz/32 MB RAM/4.2 GB HDD	1	- do -	- do -
Intel Pentium II/350 MHz/32 MB RAM 1.22 & 1.44 FDD/14" colour monitor/ 4.2 GB HDD	1	Windows 95	Training section
Intel Pentium-S/100 MHz/32 MB RAM/ 1.44 FDD/2.1 GB HDD/14" colour monitor	1	- do -	TCC room
Intel Pentium II-mmx - 350 MHz/32 MB RAM/1.22 FDD/14" colour monitor/4.2 GB HDD/2SP/1PP	1	- do -	- do -
Intel Pentium-III/450 MHz/32 MB RAM/ 1.44 FDD/4.2 GB HDD/14" Colour Monitor/16 Bit Ethernet Card/ 48 X CD Drive with multimedia kit/ 2 SP/1 PP	1	- do -	Laboratory Section
Intel Pentium /733 MHz/32 MB RAM/ 1.22 & 1.44 FDD/14" colour monitor/ 1.2 GB HDD/32 bit Ethernet Card/ 24 X CD drive with multimedia kit	1	- do -	- do -
Intel Celeron /300 MHz/ 132 MB RAM/ 1.44 FDD/ 2.1 GB HDD/ 14" SVGA Colour Monitor/32 bit Ethernet card	1	- do -	- do -
Intel Pentium III/733 MHz/132 MB SD RAM/15"Colour Monitor/ 1.44 MB, FDD/320Wspeaker cola mike/10.2 GB HDD/32 bit Ethernet card/ 52 X CD drive with multimedia kit/2 SP/1 PP / HP CD writer-8200I	1	- do -	Library Section with facility for e-mail & Internet browsing
Intel Pentium II MMX/233 MHz/64 MB RAM/1.44 FDD/14"colour monitor/2.1 GB HDD/32 bit Ethernet Card/24 x CD drive with multimedia kit	1	- do -	Library Section

Computers / Peripherals	Qty. in Nos.	Operating System	Installed at
Pentium - III /700 MHz-64 MB RAM/1.44 MB FDD/ 8.5 GB HDD/14" Colour Monitor/2 SP/1 PP/56 X CD drive with multimedia kit/ 33.X Modem/Window 95 key board	1	- do -	Director's room
Pentium-mmx /200 MHz/32 MB RAM/2.1 GB HDD/1.44 FDD/HP CD writer 8200i/2SP/1PP/ Colour Monitor	1	- do -	Dr. V.H. Bala-sangameshwara's room
Celeron 300 MHz/32 MB RAM/1.44 MB FDD/ 2.1 GB HDD/ 14" colour monitor /104 key board/2 SP/1 PP	1	- do -	Epidemiology Section
Pentium III -550 MHz/64 MB RAM/10.2 GB HDD/colour monitor/1.44 MB FDD/2 SP/1 PP/50 X CD Drive	1	- do -	- do -
Pentium III -500 MHz/64 MB RAM/8.4 GB HDD/15" colour monitor/1.44 MB FDD/2 SP/1 PP/48 X CD Drive	1	Windows 95	Stores Section
Pentium II - 350 MHz/32 MB RAM/4.3 GB HDD/1.44 MB FDD/14" colour monitor/2 SP/1 PP	1	- do -	Administrative Section
Pentium - III/550 MHz/64 MB RAM/10.2 GB HDD/1.44 MB FDD/14" colour mo-nitor/2 SP/1 PP/50 X CD Drive	1	- do -	- do -
Pentium II - 350 MHz/32 MB RAM/4.3 GB HDD/1.44 MB FDD/14" colour mo-	1	- do -	Accounts Section

nitor/2 SP/1 PP			
Computers / Peripherals	Qty. in Nos.	Operating System	Installed at
<u>Printers :</u>			
Fujitsu DL 3300/3400 Dot Matrix printer	1	--	Library Section
TVSE/MSP 245 dot matrix printer	1	--	- do -
HP-6L Laser printer	1	--	- do -
Wipro LQ-1050+ DX /24 pin printer	1	--	Training section
Wipro Ex-1050 Dot Matrix printer	1	--	TCC room
Wipro LQ 800 80 column printer	1	--	- do -
T V S E MSP-155 Dot Matrix printer	1	--	Statistics section
Cannon Bubble jet Printer - BJ 200ex printer	1	--	- do -
HP-6P Laser printer 600x600 DPI	1	--	- do -
TVSE/Wipro DX 132 column printer	1	--	Stores
Wipro LQ 1050 DX 132 column printer	1	--	Administrative Section
Wipro LQ 1050 DX 132 column printer	1	--	Accounts
HP DJ820 CX Colour Inkjet printer	1	--	Director's room
Epson CQ 132 column printer	1	--	Laboratory
TVSE/MSP 245 dot matrix printer	1	--	-do-

Epson LQ 1070 DX 132 column printer	1	--	Epidemiology Section
Computers / Peripherals	Qty. in Nos.	Operating System	Installed at
Other Equipments			
TVSE Tape Drive 4040/TD 8250 with 31/2 FDD	1	--	Library Section
External Compact Disk Drive (Read only) Make - Creative 32x	1	--	Statistics Section
HP Colour Scanner - 1150 C	1	--	- do -
Epson LCD Projector	1	--	- do -

II. Software:

Sl.No.	Softwares
1	DOS-Ver 6.2
2	Window 95
3	MS Office 97
4	SPSS/PC+ V4.0
5	Quattro Pro V4.0
6	dBase IV V2.0
7	Fox Pro V 2.6
8	WordStar V6.0 Worldlord super
9	Xerox Ventura-V 3.0
10	Stellar Data recovery
11	Dr.Solomon's Anti Virus
12	KAIRALI (Hindi Software)
13	CDS/ISIS (Library Software)
14	Epi Info- ver 6.2
15	Probability & Statistics - Tutor CD
16	Akruthi Hindi Software

INTERNET facilities are provided to the
Library PC and Director's room PC
e-mail address: ntiindia@blr.vsnl.net.in

5. FUNCTIONS OF ADMINISTRATIVE DIVISIONS

ESTABLISHMENT

- i. Upkeep of office.
- ii. Recruitment, posting, transfers, retirements and all other service matters.
- iii. Maintenance of hostel facilities, garden, lawn etc.
- iv. Providing secretarial assistance and Group `D' assistance to all the sections.
- v. Attending to legal matters.
- vi. Correspondence with Directorate General of Health Services (DGHS), & other agencies.
- vii. Attending to administrative matters of the Institute

ACCOUNTS

- i. Preparation of annual budget proposal, estimates and performance budget.
- ii. Drawing and disbursement of salaries, TA, other allowances and expenses.
- iii. Payment for purchases.
- iv. Arrangement and payment of advances like GPF, Festival, TA, Vehicle etc and maintenance of records.
- v. Calculation of income tax in respect of Group A, B and C officials and its submission to income tax department annually.

STORES

- i. Purchases and supply of store items.
- ii. Maintenance of stores ledger/stock.
- iii. Maintenance of electrical and electronic equipments.
- iv. Disposal of condemned items received from different sections as per Government procedure.
- v. Replenishment of stores stock of general requirements in anticipation of demand for immediate supply to sections.

TRANSPORT

- i. Procurement and maintenance of fleet of vehicles.
- ii. Providing vehicles for field visits, training programmes and other official purposes.
- iii. Maintenance of all documents pertaining to the registration of vehicles.
- iv. Processing of papers for condemnation and disposal of vehicles.

HOSTEL

- i. Providing boarding and lodging facilities for medical and paramedical trainees and visitors from DGHS / health departments.
- ii. Supervision and control of chowkidars & safaiwalas.
- iii. House keeping.

6. BUILDING DEVELOPMENT & MAINTENANCE WORK

The Institute took up several building and campus maintenance works during the period under report. The Central Public Works Department (CPWD): Civil and Electrical wings executed most of the works, utilizing the budget of Rs.61.5 lakhs provided to the Institute under PLAN – Major Works. A few civil works were taken up by CPWD under Annual Repair and Maintenance (AR & M) account. The following is the list of works:

CIVIL

1. Premix carpet surfacing to existing roads of the campus.
2. Raising height of compound wall, providing barbed wire fencing and footpath along the side of compound wall.
3. Construction of scooter/cycle stand.
4. Renovation of Gents Toilet in ‘AVALON’ building and Transport workshop.
5. Conversion of Old Ladies Toilet into Class room in ‘AVALON’ building.
6. Cement Concrete Approach road to Garages, path way to PAO, CIAP (Min. of Health & Family Welfare), CPWD (Electrical & Civil) offices.
7. Construction of Watchman’s cabin and providing Dustbins for Residential quarters.
8. Providing Stone Slab behind residential blocks and Mosquito nets for windows and ventilators to NTI quarters.
9. Construction of precast RCC waste pits, in accordance to the requirement of Pollution Control Board, for use by Bacteriology Section.
10. Providing a door to the entrance of the terrace of Paramedical Hostel.
11. Providing Grill work and gate for the Washing machines (for the use of Trainees) at the entrance corridor of Paramedical Hostel.

12. Providing a bigger NTI quarters gate for use of NTI vehicles, whenever there is obstruction to free flow of traffic on the Main road.
13. Scraping of old paint in several rooms of 'AVALON' Heritage building and repainting the same to provide uniform Ivory color. Scraping of old paint and repainting was also undertaken at the Medical Officers Hostel. These works were executed under AR & M account of CPWD.
14. Repairs to NTI staff quarters & providing PVC overhead water tanks in replacement of leaking RCC water tanks, under AR & M account of CPWD.
15. Repainting compound wall pillars and Grill work, under AR & M account of CPWD.
16. Bio-safety level III Lab. Facility (Turnkey project) – Funds partially provided, work to be executed by National Dairy Development Board (NDDB), Ministry of Agriculture, Govt. of India
17. Establishing Negative Pressure room in Bacteriology Section for carrying out Culture work (Turnkey project) – work executed by NDDB, Bangalore (Ministry of Agriculture, Govt. of India). This has been done, out of a separate fund, Grant-in-Aid provided to the Institute.

ELECTRICAL

18. Renovation of Wiring including additions and alterations at 'AVALON' building.
19. Providing ceiling fans and fresh wiring for 'Kalaniketan'.
20. Providing Pump set to Open well.
21. Providing Re-wiring for Medical Officers Hostel (Ground Floor-North wing).
22. Replacing old wiring etc. at AMRU.

In addition to the above the following electrical works were also executed by the CPWD out of the special maintenance fund released to NTI by Superintending Engineer, electrical CPWD, Bangalore.

23. Providing Stand-by HT Cable to the existing Transformer.
24. Replacement of old Industrial board to Cubical Panel.
25. Replacement of DBs with MCB DBs to all residential quarters.

7. COMPOSITION AND FUNCTIONS OF COMMITTEES

A. *Head of Sections*

Dr L Suryanarayana, Control Section & Training Section
Dr (Mrs) Sophia Vijay, Transport Section & DTP Training
Dr VK Chadha, Epidemiology Section and Library & Publication
Dr VH Balasangameshwara, TB & HIV Section & I/C Monitoring Section
Dr B Mahadev, Bacteriology Section & AMRU
Mr KM Vasudevan, Statistics Section & DDO
Dr Preetish S Vaidyanathan, X-ray Section
Dr VK Challu, Stores Officer

- B. Various committees have been formed under the chairmanship of senior officers to examine and recommend the views to the Director to take decisions on various matters. The functions and the composition of various committees are described below:

1. *Technical Co-Ordination Committee (TCC)*

Director is the chairperson of this committee and Gazetted Officers are its members. This committee meets frequently to ensure adequate inter disciplinary discussions, exchange information, plan and co-ordinate research activities. Whenever a new research activity is proposed to be undertaken, it is discussed threadbare among the members. It also reviews progress of fieldwork, the draft report of the research study before it is presented in the conferences/published in the journals. It reviews the contents and scope of the training courses conducted by the institute periodically.

2. *Purchase Committee*

Chairperson: Dr VH Balasangameshwara, CMO, *Members:* Dr. (Mrs) Sophia Vijay, Sr. TB Specialist till 16th November 2000, Dr (Mrs) Chitra Nagaraj, CMO from 16th November 2000 and Mr SJ Savanur, Sr. Statistical Officer.

Functions - Opening of quotations/tenders and their scrutiny, furnish recommendations to the Director for purchase of stores.

3. *Library Committee*

Chairperson: Dr (Mrs) P Jagota, Director, *Members:* Dr VK Chadha, Sr. Epidemiologist, Dr B Mahadev, CMO, *Ex.officio Secretary:* Mrs. Sudha S Murthy, Sr. Librarian.

Functions - To regulate the subscriptions for periodicals, acquisition of books, user oriented activities and promote dissemination of information.

4. *Editorial Committee*

Editor: Dr (Mrs) P Jagota, Director, *Members:* Dr. VK Chadha, Sr. Epidemiologist, Dr VH Balasangameshwara CMO, Dr B Mahadev, CMO, Mr S Ravindra, X-ray Technician (XT), and Mr Vishweswara Sharma, Computer, *Publication Secretary:* Mrs. Sudha S Murthy, Sr Librarian.

Functions - Responsible for the entire publication activities of the Institute, especially NTI Bulletin.

5. *NTI Staff Quarters Allotment Committee*

Chairperson: Dr L Suryanarayana, CMO, *Members:* Mr KM Vasudevan, Chief Statistical Officer, Mrs VN Saroja, Sr. Public Health Nurse (Sr. PHN).

Functions - Scrutiny of waiting list for allotment of quarters/ applications for allotment of quarters & recommendations for allotment.

6. *Rajbhasha Implementation Committee*

Chairperson: Mr SJ Savanur, Sr. Statistical Officer, *Members:* Dr VK Challu, Veterinarian, Mrs VN Saroja, Sr.PHN, Mr S Ravindra, XT, Mr CM Ganapathy, Mechanical Supervisor, Mrs S Susheela Rani, Head Clerk, Mr R Rajan, LDC, Ms G Sumathi, Computer, and Mrs HT Mangala Gowri, LDC.

Functions - To promote the use of Rajbhasha and encourage the officials to learn and use Hindi language in official correspondence.

7. *NTI Campus Maintenance Committee*

Chairperson: Dr VK Challu, Veterinarian, *Members:* Mrs Aleyamma Korah, Sister Tutor, Mrs Victoria Lalitha, Health Visitor, Mr Stanley Jones, Hostel Warden, Mr Basheer Ahmed, Driver till January 2001.

Functions - To supervise the activities of the staff assigned with maintenance of the campus, its security and upkeep.

8. *Staff Quarters Welfare Committee*

Chairperson: Dr VH Balasangameshwara, CMO, *Secretary:* Mr G Krishna swamy, Field investigator till June 2000 and Mr BA Eswara, Health Visitor from 16th October 2000, *Treasurer:* Mr V Thimmarayappa, Cashier till 16th October 2000 and Mr K Lakshminarayana, Investigator from 16th October 2000, *Members:* Mrs Kamala Rathnaswamy, Stenographer Gr II, Mr TR Thulasi, Telephone operator, Mr ME Babu, Gestetner Operator, Mr D Vijendran, Lower Division Clerk, Mr Kempiah, Laboratory Attendant, Mr K Patelappa, Chowkidar.

Functions - To attend to the welfare and grievances of staff members residing in the quarters.

9. Staff Service Verification Committee

Chairperson: Dr B Mahadev, CMO, *Members:* Mr SJ Savanur, Sr.Statistical officer, Mr R Murugesan, Statistical officer till September 2000.

Functions - For reviewing the services of staff who attain the age of 50/55 and who have served more than 30 years under FR.56 (5).

10. Staff Cadre Review Committee

Chairperson: Dr L Suryanarayana, CMO *Members:* Dr (Mrs) Sophia Vijay, Sr. TB Specialist, Mr KM Vasudevan, Chief Statistical Officer, Mr R Murugesan, Statistical officer till September 2000.

Functions - To look into the staff structure cadre review.

11. Technical Appraisal Committee

Chairperson: Dr (Mrs) P Jagota, Director, *Members:* Dr L Suryanarayana, CMO, Dr B Mahadev, CMO, Dr VK Challu, Veterinarian, Asst. Engineers, Civil and Electrical, CPWD, Mr R Murugesan, Statistical officer till September 2000 and Mr L Krishna Murthy, Accountant.

Functions - To review the proposals and draw up its recommendations after prioritising the various requirements for building infrastructure etc., of NTI, Bangalore in relation to the funds available with reference to letters from Planning Commission & DGHS.

12. Flag Hoisting Committee

Chairperson: Dr B Mahadev, CMO, *Members:* Dr VK Challu, Veterinarian, Mr. BR Narayana Prasad, Draughtsman, Mrs. Susheela Rani, Head Clerk and Mr Stanley Jones, Hostel Warden.

Functions - Daily hoisting of the National Flag as per Flag Constitution has been under taken from 2nd October 2000 at the NTI main gate. The Chowkidar on duty hoist the flag every day. The committee looks after the accurate hoisting of our tri color flag.

13. Other assignments:

Vigilance Officer: Dr VK Chadha, Sr. Epidemiologist

Grievance & Welfare Officer: Dr B Mahadev, CMO

8. TECHNICAL ACTIVITIES DURING 2000-2001

EPIDEMIOLOGY SECTION

Functions

i. Research

- a) To carry out epidemiological surveys for assessment of TB situation and its trends in different parts of the country.
- b) To conduct other epidemiological studies that provides necessary inputs for formulation / reformulation of TB control strategy.

ii. Training

- a) To impart necessary knowledge and skills to state and district level TB workers in epidemiology of TB.
- b) Participation in regular training activities of the Institute.
- c) Participation in Continuing Medical Education (CME) programmes, Workshops & Seminars.

iii. Supervision

- a) Field visits to research project areas
- b) Field visits to National Tuberculosis Programme (NTP) & RNTCP areas.

Major activities during the year

- i. The National Sample Survey to estimate the Annual Risk of Tuberculous Infection in different parts of India (NSS – ARI) is under progress: The fieldwork is organized and implemented under the supervision of officers and staff of Epidemiology section. It has been completed in 12 districts and is under progress in another 5 districts. A total of approximately 106355 children were test read during the year. Data entry and preliminary analysis are under progress.
- ii. Analysis for RP/199: 'Annual risk of infection of tuberculosis in urban areas – A study among school children' was completed and paper submitted for publication.
- iii. Three papers of Dr VK Chadha, Sr Epidemiologist were published in the leading journals, another paper is under publication and one more paper is under preparation.
- iv. Dr VK Chadha, Sr Epidemiologist prepared the protocols for three collaborative studies.
- v. The Section staff participated in the training programmes on Epidemiological aspects of TB, presentation skills and health management to district TB officers, paramedical staff, post graduate students, international fellows, etc.

- vi. Officers of the section participated in the Workshops, Seminars and CME programmes on TB control conducted in Bangalore and other places.
- vii. Supervisory visits were undertaken to monitor NTP/RNTCP in the respective areas.
- viii. Dr VK Chadha, Sr. Epidemiologist, prepared the material for panel discussion along with a set of 30 questions and answers in the 55th National Conference on TB & Chest Diseases at Kolkata.
- ix. Dr Preetish S Vaidyanathan, Senior Medical Officer (SMO), prepared a write-up on "Problem of TB in India" and three write-ups for NTI Bulletin.

CONTROL SECTION

Functions

i. Research

- a) To formulate and evolve strategies for TB control programme after synthesizing the results of epidemiological and sociological studies and also conducting clinical trials on treatment for TB.
- b) To conduct operational studies on case finding, selection of acceptable drug regimens, modalities of management of TB patients under domiciliary treatment and prevention of TB.

ii. Training

- a) Participation in regular training activities of the Institute
- b) Participation in CMEs, Workshops & Seminars

iii. Supervision

- a) Field visits to research project areas
- b) Field visits to NTP & RNTCP areas

Major activities during the year

- i. Research studies on (i) Status of pulmonary TB patients put on treatment under RNTCP in Bangalore Mahanagara Palike (BMP) and (ii) Treatment outcome of smear positive pulmonary TB patients in RNTCP – A prospective study, are in progress.
- ii. Officers of the section participated in the regular training activities of NTP & RNTCP, Workshops, Seminars and CME programmes on TB control conducted within Bangalore and outside.
- iii. Supervisory visits were undertaken to monitor NTP/RNTCP in the respective areas including appraisal visits.

iv. Reviewed papers/articles.

TRAINING SECTION

Functions

- i. Basic Training courses for District TB Programme (DTP) key personnel – medical & para medical in the management of TB control programme.
- ii. Modular training courses in RNTCP for medical & para medical personnel.
- iii. Training international participants in the field of TB control, as a WHO collaborative center.
- iv. Orientation training courses for undergraduate & postgraduate medical students and medical and paramedical personnel from medical colleges and other non-governmental agencies.
- v. Participation in the CME programmes and other academic meetings on TB control sponsored by different agencies like medical colleges, Indian Medical Association, Karnataka Medical Education Trust.
- vi. Conducting WHO sponsored Workshops for professors of medical colleges and Non-governmental Organizations (NGOs).

Major activities during the year

- i. Two regular training courses of eight weeks duration.
- ii. Modular training courses in RNTCP of 1-2 weeks duration for medical and paramedical personnel.
- iii. Short-term courses varying from 2-6 weeks for medical and paramedical personnel, WHO fellows and post graduate medical students.
- iv. Workshops.
- v. Specialised training courses for researchers & programme workers of 2 – 8 weeks' duration.
- vi. Active participation in meetings, symposiums, seminars, training & CME programmes organised within and outside.
- vii. Dr L Suryanarayana, CMO prepared and submitted the proposals for WHO Workshops for NGOs, General Practitioners, faculty of medical colleges to be conducted during 2000-2001 biennium to Central TB Division, DGHS, Nirman Bhavan, New Delhi.

BACTERIOLOGY SECTION

A. LABORATORY

Functions

- i. ***Service***

- a) To carry out laboratory diagnosis of TB on specimens of patients suspected of TB by (i) Smear microscopy (ii) Culture and sensitivity of mycobacterium tuberculosis (M.tb).
- b) Offering above facilities to the patients who form subjects of research protocols taken up by different sections of the Institute.

ii. Training

- a) Participation in routine training activities of the Institute on TB control and imparting information/training to the participants on the laboratory aspects of TB.
- b) Conducting task training programmes to those with special or specific requirements viz., culture & sensitivity.
- c) Participation in CMEs, Workshops & Seminars.

iii. Research

- a) Assistance to all the research activities of other sections.
- b) To conduct independent research on laboratory aspects of TB.
- c) Involvement in collaborative research activities with other leading institutes of the country.

iv. Quality Control

Involvement in internal and external quality control activities with reference to:

- a) Tuberculosis bacteriology.
- b) Revised national tuberculosis control programme.

v. Supervision

- a) Field visits to research project areas.
- b) Field visits to NTP & RNTCP areas.

Major activities during the year

i. Service

- a. A total of 3,355 specimens were registered during the year under report.
- b. A total of 2,376 specimens were put up for cultures of which seven specimens were processed by swab method and 2,369 were processed by modified petroff's method.
- c. A total of 945 positive cultures were put up for sensitivity testing by Minimum Inhibitory Concentration (MIC) method and 1,437 positive cultures by economic version of proportion method.

- d. A total of 916 cultures picked up by proportion method were subjected for identification tests.
- e. A total of 94 pulmonary specimens and eleven extra-pulmonary specimens were processed in MB/BacT 240 System.
- f. A total of 3,360 smears were examined by Ziehl Nielsen staining procedure.
- g. The details of the specimens received on out-patient basis and from major hospitals of the city are as under:

Sl.No.	Type of Specimen	No. processed
1.	Sputum	1700
2.	Urine	115
3.	Gastric Lavage	128
4.	Pus	42
5.	Culture	192
6.	Others	57

h. MB/BacT 240 System

This is a fully automated rapid colorimetric method of detecting M.tb and carrying out sensitivity profile for anti-TB drugs. This facilitates in getting the results four to five weeks earlier compared to the conventional method. It is proposed to initiate a study on Evaluation of yield of extra-pulmonary isolates using MB/BacT 240 system in collaboration with SDS Sanatorium, Bangalore.

i. Quality Assurance in sputum microscopy under RNTCP

Upto March 2001, five rounds of quality assurance of smear microscopy have been completed and feed back communicated as per the revised guidelines sent by Central TB Division, DGHS, New Delhi to the 8 State TB Centres (STCs) assigned to NTI viz., Agra, Ahmedabad, Ajmer, Bangalore, Kolkata, Kangra, Patiala and Srinagar. The panels of slides for sixth round have been despatched during the month of February 2001 and the results are awaited from the respective STCs.

j. External Quality Assurance Programme

The process for registering our laboratory with the Tuberculosis Research Programme, Medical Research Council, Pretoria, South Africa, a WHO recognized supranational laboratory has been initiated. In the meanwhile, a set of ten cultures was sent to Tuberculosis Research Centre (TRC), Chennai for Check Testing and the results are awaited.

ii. Training

- a) The microscope imaging system along with personal computer for use during training programme received from WHO was commissioned in the month of November 2000 and report on its working was sent to WHO representative at New Delhi with a copy to DGHS/Ministry.
- b) The section participated in imparting training to medical and paramedical personnel of governmental and non-governmental agencies on NTP and RNTCP.

- c) Officers of the section staff participated in the Workshops, Seminars CME programmes conducted within Bangalore and outside.

iii. **Supervision**

Supervision visits to various districts were undertaken to monitor NTP and RNTCP.

iv. **Research**

Research studies on (i) Surveillance of Drug Resistance in Mysore district (ii) Surveillance of Drug resistance in the district of Hoogly (West Bengal), Nagaon (Assam) & Mayurbhanj (Orissa) and (iii) Comparison of rapid colorimetric mycobacterial isolation and susceptibility testing with that of conventional method using Lowenstein Jensen media.

B. ANIMAL MODEL RESEARCH UNIT

Functions

1. Breeding and maintenance of homogenous stock of laboratory animals (albino guinea pigs)
2. Conducting experiments on the laboratory animals.

Major activities during the year

A total of 431 NTI-bred albino guinea pigs were raised in healthy condition. Appropriate preventive measures were taken to check sickness and outbreak of disease. One hundred thirty animals were utilized for invivo experimentation.

Other relevant activities

1. Registration under Rule 5(a) Breeding of & Experiments on animals (Control & Supervision) was obtained from CPCSEA, Ministry of Social Justice & Empowerment.
2. Institutional Animal Ethics Committee meetings were held under the chairmanship of Dr (Mrs) Prabha Jagota, Director, NTI. The other members were Mrs Suparna Bakshi – Ganguly, Hon'ble Secretary, Compassion Unlimited Plus Action (CUPA), Bangalore, Dr S Vijaya, Associate Professor, Dept. of Microbiology & Cell Biology, Indian Institute of Science (IISc), Bangalore, Dr B Mahadev, CMO, NTI and Dr VK Challu, Veterinarian, NTI. The ongoing research projects involving animal experimentation were discussed and the new projects were approved.
3. Various groups of post graduate students, medical microbiologists, nursing students etc., who visited the unit were briefed about the role of laboratory

animals in bio-medical research besides importance of safe disposal of laboratory waste through segregation, sterilization and incineration.

X-RAY SECTION

Functions

i. Service

To advise and assist in selection, repair and maintenance of X-ray equipments for NTP.

ii. Training

To impart training to XTs & Medical Officers (MOs) in operation and maintenance of different types of Mass Miniature Radiography (MMR) units.

iii. Research

a) To conduct X-ray examinations for patients of different studies conducted by various sections of the Institute.

b) To take X-rays of patients referred by MOs of the Institute.

iv. Supervision

Field visits to NTP & RNTCP areas.

Major activities during the year

- i. A total of 21 roll film cassettes received from various District TB Centres (DTCs) / STCs / TB Clinics were repaired and sent back in working condition.
- ii. Around 400 letters asking for “Report on condition of X-ray unit” was sent to various DTCs/STCs/TB clinics. The response was obtained from 240 DTCs / STCs / TB Clinics.
- iii. Repaired patient lift motor of CD mobile X-ray unit of the Institute.
- iv. Cassette spares received from WHO were arranged in a systematic order in Stores Section.
- v. Assisted Mr Ramesh, X-ray Engineer, M/s International Bio-Medicals, Bangalore during shifting of the Ergophos 4M X-ray unit from library block to main building.
- vi. Four electrical extension boards with multiple sockets were made by X-ray section and handed over to training section.

- vii. Sr. XTs visited STC, Bangalore (three visits), DTC Bellary, Mangalore, Belgaum and Mandya for repair/routine maintenance of X-ray unit.
- viii. Tested the Siemens Seriophos 5 X-ray unit, Ergophos 4M X-ray unit and CD mobile X-ray unit with generators for routine maintenance.
- ix. Tested Sriram Honda kerosene run generator regularly for its routine maintenance.
- x. Technical advice sought by various DTCs / STCs / TB Clinics on the use and maintenance of X-ray units and accessories were given to about 74 centres.
- xi. Participated in regular training courses on TB control.
- xii. Assisted in studies conducted by the Epidemiology and Control sections by taking large and MMR X-rays.
- xiii. Supervisory visits to various districts were undertaken to monitor NTP/RNTCP.
- xiii. Mr S Ravindra and staff of X-ray section assisted in the various Workshops, Seminars and CMEs conducted by the Institute by arranging the public address system, OHP, generators etc.

STATISTICS SECTION

Functions

i. Research

- a) To assist in designing field surveys, determination of sample size, preparation of survey schedules and manual of instructions to the field staff, selection of sample units etc., for the research protocols.
- b) Inspection of fieldwork, scrutiny of filled in schedules received from the field, provide feedback to the field staff regarding deficiencies and discrepancies to ensure quality of data pertaining to the research protocols.
- c) Data entry, verification, processing, generation of tables and statistical analysis of the results.
- d) To assist in the preparation of reports of the research protocols.

ii. Monitoring

- a) Scrutiny of the periodical DTP implementation reports and sending feedback to the DTCs regarding deficiencies/discrepancies found in the reports for rectification.
- b) Processing and analysis of reports and preparation of state & national reports to be sent to DGHS, New Delhi.
- c) Providing feedback comments on the performance to the DTCs for effecting further improvements in their performance.

iii. Supervision

- a) Supervising RNTCP project sites in Bangalore and the DTPs of states and Union Territories.

iv. Training

- a) Training medical and para medical personnel in statistical and monitoring aspects of TB control programme and computerisation of data on NTP.

v. Documentation

- a) Documentation of the research protocols and their reports.
- b) Keeping custody of records, forms and filled in schedules pertaining to the research protocols.

Major activities during the year

- i. Provided statistical assistance for the research studies undertaken by various sections.
- ii. State and National reports were prepared on quarterly basis and were submitted to the DGHS, New Delhi.
- iii. Staff of the section participated in the two regular training courses on TB control.

- iv. Supervision visits were undertaken to the DTCs of:

Karnataka	:	Belgaum, Hubli, Mysore and 19 Microscopy centers under
		BMP.
Orissa	:	Puri, Cuttack and Dhenkanal.
Punjab	:	Sangrur, Bhatinda, Faridkot, Kapurthala, Hoshiarpur Jallundhar and Ferozepur.

TB AND HIV SECTION

Functions:

- i. To co-ordinate with National Aids Control Organization (NACO) and its subsidiary state units to integrate the existing TB Control activities along with Human Immuno-deficiency Virus (HIV) diagnosis and management.
- ii. To develop a sustainable Management Information System (MIS) for TB cases in HIV positive persons.
- iii. To obtain the nationwide prevalence and incidence of TB disease among HIV positive persons notified to NACO.

- iv. To initiate various research studies in the field of TB and HIV.

Major activities during the year

- i. The section has initiated interactions with NACO and other institutions for the following collaborative studies.
 - a) To assess the breakdown rate of TB and HIV positive individuals.
 - b) Diagnosis and treatment of TB among HIV positive individuals.
- ii. The Section has gathered the most recent information on the impact of HIV on epidemiological situation of TB, effect of TB disease on clinical status of HIV infection, drug interactions in treatment of TB and antiretroviral therapy for HIV.
- iii. Two Social Investigators of the section will be trained at NIMHANS, Bangalore in “Counselling” the HIV positive persons.
- iv. Sri V Siddharthan, Sr. Investigator has enrolled himself for distant education course in “Counselling Techniques” conducted by Madurai Kamaraj University, Tamil Nadu.
- v. Sri V Siddharthan, Sr. Investigator, collected health education materials from State AIDS Prevention Society, Bangalore.
- vi. The Karnataka State AIDS Prevention Society and NIMHANS have jointly prepared Health Education materials on TB and HIV. This is being translated in local language by the two Social Investigators of the section.

LIBRARY

Functions

- i. Acquisition of technical and administrative books, reports, CD-ROMs, periodicals, journals and their processing.
- ii. Creation of bibliographies in anticipation and on demand.
- iii. User education.
- iv. Current awareness service.
- v. Providing reprographic facilities.
- vi. Dissemination of information and maintenance of mailing addresses.

vii. Co-ordination of publication activities of the Institute.

Major activities during the year

- i. Acquisition of technical and administrative books, annual reports reprints etc.
- ii. Renewal of subscriptions of periodicals and introduction of new periodicals.
- iii. Procurement of reprints on inter library co-operation.
- iv. User education on effective utilisation of library and information services.
- v. Providing e-mail and Internet facility.
- vi. Compilations of select bibliographies.
- vii. Distribution of NTI publications as per the mailing addresses maintained.
- viii. Reprography services to the users.
- ix. Display/circulation of newspaper clippings related to TB, etc.,
- x. Co-ordination of publication programmes of the Institute.
- xi. Collection and Processing of Information for the WEBSITE on NTI.
- xii. Mrs Sudha S Murthy, Sr. Librarian was nominated as one of the members for compilation of NTI Annual report for the year 2000 – 2001 and for the committee for updating Health Education Panels. She attended the meetings of the same conducted during the month of March 2001.
- xiii. Preparation of the monthly progress/quarterly reports of the institute from the library continued.
- xiv. A new brass lamp of 3.75ft height, weighing 35kgs with 5 detachable parts was received in the library. All sections will make use of this lamp for their functions.
- xv. One Vinar steel slotted angle library rack consisting of one central column and 14 shelves was added to the racks. One Godrej filing cabinet with 4 drawers was received and taken to the library account.
- xvi **Printing:**

During the period, work instructions, training course material, periodical literature and other related official matter etc were done. Details are as follows.

Printing	:	1,19,460 copies
Xeroxing	:	12,960 copies
Cyclostyling	:	38,347 copies

Transport section

Functions

- i. Procurement and maintenance of fleet of vehicles.
- ii. Providing vehicles for field visits, training programmes and other official purposes.
- iii. Maintenance of all documents pertaining to the registration of vehicles.
- iv. Processing of papers for condemnation and disposal of vehicles.

Major activities during the year

- i. Four vehicles were provided for ARI survey at Madhya Pradesh and Gujarat.
- ii. Posting of Drivers for the same on rotation basis and also for local duties.
- iii. Visit by Transport Supervisor and Mechanical Supervisor along with Driver Mechanics for attending major repairs and trans-shipment of vehicles by road.
- iv. One X-ray vehicle was provided to TRC, Chennai. Personnel from NTI went to Chennai and periodically maintained the vehicle and the X-ray unit.
- v. All major repairs were carried out at NTI workshop except Welding, Tinkering, Painting, Machining jobs and Engine overhauling.

Photographs



9. RESEARCH

A: Status of research studies during the year 2000-2001

Sl. No	RP No.	Title of the study	Objectives	Status
1	186	<p>EPIDEMIOLOGY SECTION</p> <p>Study of tuberculosis surveillance tools; tuberculosis in children and the fate of tuberculosis cases.</p>	<p>To find out:</p> <p>a) Prevalence of TB among children aged 0-14 years.</p> <p>b) Prevalence of TB disease in children as per pre-sently available standardized methods of diagnosis. Fate of Bacteriologically positive and X-ray suspect cases of the previous study</p>	<p>Analysis completed and papers published in :</p> <ul style="list-style-type: none"> • Indian J TB 1997,44, 67 • Indian J TB 1999,46, 105 • Indian J TB 1999,46, 171 • Indian J TB 2000,47, 139 • Indian J TB 2001,48, 101
2	198	<p>Estimation of protective effect of BCG among children aged 0-14 years – a retrospective case control study.</p>	<p>To:</p> <p>a) Estimate overall protective effect of BCG vaccination among children aged 0-14 years.</p> <p>b) Try the feasibility of developing a Scoring system for diagnosis of TB among children in Indian situation.</p>	<ul style="list-style-type: none"> • Data entry of Controls is in progress.
3	199	<p>Annual risk of infection of tuberculosis in urban areas - A study</p>	<p>To:</p> <p>a) Determine the prevalence of TB infection among school going children aged 6 & 7 years.</p> <p>b) Estimate ARI from</p>	<ul style="list-style-type: none"> • Analysis completed and report presented at 55th National Conference on TB & Chest Diseases held at Kolkata from 7th to

		among school children.	the prevalence data.	10 th December 2000. <ul style="list-style-type: none"> Paper published: in Indian J TB 2001,48, 63-71.
4.	206	A National Sample Survey to estimate annual risk of tuberculosis infection in different parts of India.	To: a) Estimate the prevalence of tuberculous infection among children aged 1-9 years, in different parts of the country. b) Compute annual risk of tuberculous infection from the estimated prevalence.	<ul style="list-style-type: none"> A total of 116195 children have been investigated till 31st March 2001 after starting the fieldwork in January 2000. The 33.* wise progress of the field work is given on page
Sl. No	RP No.	Title of the study	Objectives	Status

<p>EPS - RP/206 Contd...</p>		<ul style="list-style-type: none"> • The fieldwork has been completed in 12 districts and is under progress in 5 districts. • Officers & staff of EPS section supervised the fieldwork in the districts of North & West zones on a day to day basis. In South Zone it was supervised by TRC, Chennai. • Data entry of 30,956 child cards has been undertaken. • Preliminary analysis was undertaken for Junagadh, Rae Bareilly, Gurdaspur, Kangra, Kota and Jhabua. • Tuberculin testing of smear positive cases to study "Batch to batch variation in the potency of tuberculin" is also under progress.
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***District wise progress of the field work**

Zone	District	Total	Present status
North	Gurdaspur (Punjab)	5040	Completed
	Kangra (Himachal Pradesh)	3760	Completed
	Hardoi (Uttar Pradesh)	8400	Completed
	Rae Bareilly (- do	7138	Completed
	-)	5280	Under Progress
	Jaunpur (- do	8640	Under Progress
	-) Delhi		

West	Junagadh (Gujarat)	9145	Completed
	Kota (Rajasthan)	6640	Completed
	Jhabua (Madhya Pradesh)	4240	Completed
	Nagpur (Maharashtra)	9120	Completed
	Thane (- do -)	2560	Under Progress
South	Belgaum (Karnataka)	10223	Completed
	Dakshina Kannada (- do -)	7746	Completed
		6143	Completed
		4440	Completed
	Medak (Andhra Pradesh)	10240	Under Progress
	Kanyakumari (Tamil Nadu)	7440	Under Progress
Chingleput - M.G.R. (- do -)			
Malapuram (Kerala)			
Total completed so far No. of districts completed = 12 No. of districts under progress = 5		116195	

Sl. No	RP No.	Title of the study	Objectives	Status
5	207	EPS - Contd.. A comparative study of tuber-culin reactions to '1TU and 2TU' of PPD RT23.	To a) Compare the tuberculin reaction sizes to 1TU and 2TU doses of RT23 with Tween 80. b) Decide which of two doses has a better correlation between the reading of the standard reader and of the newly trained readers; and c) Compare the rate of unpleasant skin reactions to either dose.	Analysis completed and paper published in Indian J TB, 2000,47,15-20.
6.	Nil	<i>Comparative studies:</i> (i) 2 TU PPD RT/ 23 tuber-culin	To Determine the appropriate dose and product of PPD RT23 for tuberculin surveys in	Analysis under progress

		(Guindy) with 2 TU PPD RT/23 tuber-culin SSI, (Co- penhagen) (ii) 1 TU PPD RT23 v/s 2TU PPD RT23 (Guindy)	India.	
7	200	CONTROL SECTION Study on case-finding process in TB control.	To a) Study the general population's attitude towards public health services and their preference for the same, when they have respiratory symptoms. b) Study the action taking pattern with attendant delays, if any among chest symptomatics in general population, and the correlated delays on the part of health systems. c) Know the delay and pattern of action taking by chest symptomatics, from the onset of symptoms till their visit to public or private health service.	Data Entry completed. Analysis is in progress. Analysis is completed and Paper is under Publication
Sl. No	RP No.	Title of the study	Objectives	Status
		200 Contd.. -	d) Find the proportion of above symptomatics being referred for sputum examination,	

			<p>from the time of first consultation.</p> <p>e) Estimate the proportion of smear positive TB cases diagnosed among that sputum examined and assess the total delay.</p>	
8	209	<p>Study on the status of pulmonary tuberculosis patients put on treatment under RNTCP in Bangalore Mahanagara Palike.</p>	<p>To</p> <p>a) Measure the proportion of patients having received the Directly Observed Treatment Short course (DOTS).</p> <p>b) Study the present status of patients in terms of bacteriological and radiological status among the pulmonary TB patients on DOTS and other than DOTS.</p>	<ul style="list-style-type: none"> • Data entry of the schedules has been completed. • Basic Tables have been completed.
9	210	<p>Study on treatment outcome of smear positive pulmonary tuberculosis patients treated under RNTCP - A prospective study.</p>	<p>To study</p> <p>a) The pretreatment bacteriological profile.</p> <p>b) The treatment outcome of smear positive patients.</p>	<p>Category I :</p> <ul style="list-style-type: none"> • Data entry completed. • Analysis is under progress.
10	20	<p>BACTERIOLOGY SECTION</p> <p>a) Laboratory</p>	To	<ul style="list-style-type: none"> • Intake of patients

	8	Study on drug resistance surveillance in Mysore Dis-trict.	Measure the proportion of initial drug resistance in Mysore district for Isoniazid (INH), Rifampicin (R), Ethambutol (E) and Streptomycin (SM).	<p>completed.</p> <ul style="list-style-type: none"> Information of patients collected from laboratory have been recorded in the concerned register. Scrutiny of research forms and laboratory cards is under progress. File design for data entry completed. Ready for data entry.
Sl. No	RP No.	Title of the study	Objectives	Status
11	Nil	<i>Lab</i> - Contd.. Study on Surveillance of Drug resistance in the districts of Mayurbhanj (Orissa), Hoogli (West Bengal), and Nagaon (Assam).	To Measure the proportion of initial drug resistance for INH, R, E and SM in the districts of Mayurbhanj (Orissa), Hoogli (West Bengal), and Nagaon (Assam).	<ul style="list-style-type: none"> Intake of samples is in progress.
12	Nil	Comparison of Rapid Colorimetric Mycobacterial Isolation and Susceptibility Testing with that of Conventional Method using LJ media	To compare the conventional method of processing culture Vs. MB-BacT System.	Paper presented in TB Conference at Kolkata.
13	Nil	<i>b) AMRU</i> Study on behaviour of INH drug resistant tubercle bacilli	To test the correlation between the level of resistance & virulence.	Analysis under progress.

		tubercle bacilli in guinea pigs		
14	17 7	Study on “Screening fresh isolates of <i>M.tb</i> for biovars”	Study is aimed at differentiating biovars of <i>M.tb</i> to understand the importance of re-infection.	Decoding and analysis is under progress

Collaborative studies

Epidemiology Section

1. Study on Relationship between ARI & prevalence of smear positive cases of pulmonary TB – to be carried out by Mahatma Gandhi Institute of Medical Sciences (MGIMS), Wardha in collaboration with NTI.
2. Annual risk of tuberculosis infection study in Kerala state.
3. A longitudinal survey to estimate ARI in domiciliary area of New Delhi TB Centre.

- Protocols for the above studies have been prepared and approval is awaited.

Laboratory Section

1. Drug Resistance Surveillance in one of the Districts in Andhra Pradesh in collaboration with Department for International Development (DFID).
2. Evaluation of yield of Extra-pulmonary isolates using MB/BacT 240 system in collaboration with SDS Sanatorium, Bangalore.

Animal Model Research Unit

1. “Screening two novel M.tuberculosis proteins for human T-cell response and testing DNA expressing the two proteins in guinea pigs for protection against tuberculosis” in collaboration with Centre for Genetic Engineering (CGE), IISc, Bangalore.

Plasmid DNA carrying the gene of interest/control vector DNA/recombinant BCG expressing the same gene of *M.tb* (used in DNA vaccination constructs) were administered in different groups of albino guinea pigs. Another group was also subjected to DNA vaccination followed by BCG besides comparing DNA-65 & DNA-213 following Rifampicin treatment for 4 weeks to evaluate DNA immunotherapy in guinea pig animal model. Post-mortem examinations were conducted on 45 animals besides collecting blood samples. Spleen tissues from these animals were mechanically homogenized, serial dilutions prepared & inoculated for quantitative analysis.

2. “Identification and characterization of protective antigens of *M.tuberculosis* in albino guinea pigs” in collaboration with Sri Chitra Thirunal Institute for Medical Sciences and Technology, Thiruvananthapuram.

Twelve albino guinea pigs were inoculated with high virulent strain of *M.tb* / H₃₇Rv / H₃₇Ra to evaluate virulence status of challenge strain for the next phase of experimentation.

3. "Evaluation of protective efficacy of mycobacterial antigens against tuberculosis" in collaboration with Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh.

Thirty-six albino guinea pigs that were earlier immunized with different antigen preparations were subjected to necropsy examinations. Spleen tissues from these animals were also homogenized for quantitative analysis besides administering FIA30 / FIA70 / Comb / BCG / Placebo in thirty albino guinea pigs that were challenged with NTI-644719 HV strain of *M.tb*.

B. Studies proposed during the year 2000-2001

TB AND HIV SECTION

1. A protocol on the "breakdown rate of TB among HIV positive persons in Bangalore" is under preparation.
3. "Multi-centric study to assess adequacy of RNTCP criteria for diagnosis of pulmonary tuberculosis in HIV positive persons". Final approval from the DGHS, New Delhi is awaited.
3. "Chemotherapy of tuberculosis in HIV infected patients: protocol for a multicentric study". Final approval from the DGHS, New Delhi is awaited.

10. PAPERS PUBLISHED

A) Summary of papers published

1. *Chadha VK: Tuberculosis control and economic issues: NTI Bulletin 1999, 35, 3-7.*

Tuberculosis, being the world's foremost cause of death from a single infectious agent is bound to extract costs from all levels of the society. In our country, TB is common in young and middle aged males and females in the childbearing age group. The burden of this disease becomes acute as no community can afford to lose people in the economically and socially productive age group. TB is also the single largest cause of Disability Adjusted Life Years (DALYs), accounting for 3.7% of the total DALYs lost in our country due to premature death and disability.

Constraints at various levels of health care have resulted in continued suffering by common people and worsening of the country's economy. Global neglect of TB control programmes, advent of HIV epidemic and inadequate funding for TB control programmes are responsible for this crisis. This is compounded by inefficient case finding, faulty diagnostic procedures, a plethora of improper drug regimens, poor drug supply, incomplete treatment and so forth. The effective control of the TB menace lies in promptly redressing these problems. A special mention is to be made about the DOTS strategy, which by yielding high cure rates is projected to result in a return of 8% per annum for every 1% of Gross Domestic Product spent on it. Thus, it is

important to implement DOTS in all districts of our country as early as possible. The economic losses imposed on patients by the sequel of TB can be reduced to an extent by occupational resettlement measures. It must be remembered that TB control activity is one of the most cost-effective health interventions.

2. *Chadha VK, Jagannatha PS & Suryanarayana HV: Tuberculin sensitivity in BCG vaccinated children and its implication for ARI estimation; Indian J TB 2000, 47, 139-146.*

To study the tuberculin sensitivity patterns among BCG vaccinated and unvaccinated children and possibility of estimating ARI by including BCG vaccinated children, a total of 11,132 children (5,107 aged 0-4 years and 6,025 aged 5-9 years) were tested using 1TU of PPD RT23 with Tween 80. Children with BCG scar comprised 68.2% of the test-read population aged 0-4 years and 47.5% of those aged 5-9 years.

Overall, 68.9% of the children with BCG scar had either no test-reaction or reaction <10 mm in size. In the 0-4 year age group, a bimodal distribution of reaction sizes was observed among the unvaccinated children, but not so in the vaccinated children. In the 5-9 year age group, the distributions were bimodal in both the vaccinated as well as unvaccinated children.

The mode on the right side of the distribution was at 25 mm in the vaccinated as well as unvaccinated 5-9 years old children. Based on this mode, the prevalence of infection was estimated to be 8.08% and 8.6% among the unvaccinated and vaccinated children respectively. The respective ARI rates were 1.12% and 1.19%.

The study indicates that in the event of non-availability of a sufficient number of unvaccinated children for estimation of ARI, tuberculin surveys may be conducted among the 5-9 year aged, by including vaccinated children.

3. *Chadha VK: Tuberculin test; Indian J Pediatrics, 2001, 68(1), 53-58.*

Although tuberculin test is widely used for detection of tuberculous infection among children, there is no clear understanding about its performance and interpretation. This article has been written with the purpose of elucidating the performance and interpretation of standard tuberculin test, based on the experiences gained at the NTI, Bangalore and other centres.

The standard tuberculin test involves intradermal injection of 1TU PPD RT23 with Tween 80 on the mid-volar aspect of forearm and measurement of the maximum transverse diameter of induration 3 days after the test. Larger the size of induration, higher is the probability of it being due to tuberculous infection. The majority of reactions with induration size of 15 mm and above are attributable to infection with tubercle bacilli, irrespective of BCG-vaccination status. While indurations of less than 5 mm indicate absence of any kind of tuberculin sensitivity, the majority of indurations in 5-9 mm range are usually of non-tuberculous nature. An induration of 10-14 mm requires more careful interpretation. It is more likely to be attributable to infection with tubercle bacilli in case of history of contact with smear positive case or among children with clinical findings of TB. However, the size of induration in an infected child may

be diminished in the presence of immuno-suppressive conditions. One should also consider the purpose of the test while interpreting the test results.

4. Savanur SJ: Performance of National Tuberculosis programme - January to September 1999 a report; Indian J TB 2001, 48,25-29

National Tuberculosis Institute has been monitoring the NTP since 1978. DTP is implemented in 440 districts, of which 295 districts are under Short Course Chemotherapy (SCC). Remaining 145 districts are under Standard Regimen (SR). Of the 295 SCC districts, 41 are covered under RNTCP. This paper aims at appraising the performance of NTP in terms of implementation, supervision and performance of case finding and treatment activities during January- September 1999. This report does not analyse RNTCP reports. There are around 20,500 Health Institutions having infrastructure for implementing NTP, of which only 19,800(96%) are covered under the programme. During the first three-quarters of 1999, reporting efficiency of District TB Centres (DTCs) is 76% and that of Peripheral Health Institutions (PHIs) is 65%. Smear positive in DTC is 12.5% and the same in PHI is 5%. Ratio of smear positive to smear negative is 1:2.5. Out of total TB cases 27% are smear positive, 67% are smear negative and 6% is extra-pulmonary. From the limited annual reports received, treatment completion rate for the cohort of 1997 is 57% for SCC and 30% for SR. Supervision of PHI by DTC staff is very poor. Only 13 DTCs have full complement of core trained personnel. The overall performance of NTP is far below the expectation in all aspects. Doctors at DTC and PHIs still depend on X-ray for diagnosis when it is well-established fact that the sputum microscopy is a far better tool for diagnosis of pulmonary TB.

5. Jagota P, Sudha Xirasagar & Jaigopal MV: Study of high dose Isoniazid & Streptomycin bi-weekly in the treatment of Isoniazid resistant tuberculosis; NTI Bulletin 1999, 35/1-4,8-13.

Development of Isoniazid (INH) resistance to M.tb as a single step phenomenon and a spectrum of degrees of INH resistance was observed by Gangadharan. Further observation of dose related development of drug resistance with INH alone led to wide spread use of INH as one of the constituents in failure regimens. A study was conducted by NTI to find out the response of high dose INH along with injection SM in SDS Sanatorium, Bangalore. An intermittent twice weekly regimen containing 900mg INH + Inj SM 1gm +10mg of Pyridoxine was given under supervision to patients who were presumed to have developed acquired drug resistance. All smear positive patients living within Bangalore city limits, willing to come to the centre for the administration of drugs under supervision, giving history of anti-TB drugs for 6 months or more and having no other concomitant diseases were eligible for intake. All patients were followed up by sputum examination for M.tb by culture and sensitivity and clinical interviews at 0, 3, 6, 9 and 12 months of treatment. At the end of the treatment period 14.1% of INH resistance patients became culture negative, 17.2% were dead and 68.7% were culture positive. About 80% of the patients did not complete the treatment due to clinical deterioration, death and inconvenience to come for regular treatment. Even among those who successfully completed the treatment, the response was poor, as only 2 out of 10 patients became culture negative. The study does not

support the hypothesis that use of INH in high doses can overcome the acquired INH drug resistance and lead to a successful treatment outcome.

B. Papers under publication

I. Proceedings of the first Sir Dorabji Tata Symposium on Tuberculosis held at Indian Institute of Science on 11th & 12th March 2001.

1. Chemotherapy of tuberculosis: Rationale of Intermittent therapy and Directly observed treatment by P Jagota.
2. Prevalence of pulmonary tuberculosis among children in a South Indian community by L Suryanarayana, HV Suryanarayana & PS Jagannatha.
3. Revised National Tuberculosis Control Programme: An overview by Sophia Vijay.
4. Epidemiology of tuberculosis by VK Chadha.
5. HIV & Tuberculosis by VH Balasangameshwara.
6. Drug resistance in tuberculosis by B Mahadev.

II. NTI Bulletin Vol.36/1&2, March & June 2000

- 7] A study of knowledge, attitude and practices of Medical practitioners regarding TB and its control in a backward area of South India by A Vijayaraman, VK Chadha, AN Shashidhara, MV Jaigopal & Selvam.
- 8] Relevance of Biologically Distinct Isolates of M.tuberculosis in experimental studies by VK Challu.

III. Indian Journal of Tuberculosis

- 9] The annual risk of tuberculous infection in Bangalore City by VK Chadha et al.
- 10] Comparison of Rapid Colorimetric Mycobacterial Isolation and Susceptibility Testing with that of Conventional Method using LJ media by B Mahadev et al.
- 11] Prevalence of chest symptoms and utilisation of health services in a peri-urban community by Sophia Vijay and VH Balasangameshwara.

C Paper under Preparation

Health Seeking Pattern and Delay in Tuberculosis Case Finding Process by VH Balasangameshwara and Sophia Vijay.

11. PAPERS PRESENTED IN THE CONFERENCE

1. Chadha VK : The annual risk of tuberculosis infection in Bangalore city in the 55th National Conference on TB & Chest Diseases held from 7th to 10th December, 2000 at Kolkata.

There is a paucity of data on epidemiological situation of TB in big cities. Therefore, a tuberculin survey to estimate the ARI in Bangalore city was conducted among 6 and 7 year aged children attending 161 schools. A single stage cluster sampling design was adopted for selection of schools by random sampling, from a consolidated list of Govt-run, Govt-aided and Private schools.

Based on the frequency distribution of reaction sizes among 9,340 test read children, 11.1% were estimated to be infected with tubercle bacilli. The children studying in Govt-run and Govt-aided schools were more likely to be infected than those attending private schools. The Annual Risk of Tuberculous Infection in Bangalore city was estimated as 1.67%; it was higher than the most recent estimates obtained from the surrounding peri-urban and rural areas. This high rate of transmission of tuberculous infection in the city suggests an urgent need for drastically improving the efficiency of case finding and treatment activities. The results further indicate that BCG vaccinated children can be included for the purpose of estimating ARI.

2. Mahadev B: Comparison of Rapid Colorimetric Mycobacterial Isolation and Susceptibility Testing with that of Conventional Method using LJ media in the 55th National Conference on TB & Chest Diseases held from 7th to 10th December, 2000 at Kolkata.

The objective of the study was to evaluate the isolation rates, Mean Detection Time (MDT), reliability of susceptibility and identification procedures of the clinical specimens by each method. A total of 205 clinical specimens were processed by Modified Petroff's method and then inoculated on to both MB/BacT-240 system bottles and LJ media. A total of 101 mycobacterium isolates were detected by both the methods. The recovery rate was 57.1% (117/205) by colorimetric method and 55.1% (113/205) by conventional method. The contamination rate by colorimetric and conventional methods were 1% and 6.8% respectively. Highly significant difference was observed between the two sample means of the colorimetric and conventional methods. Colorimetric method enables rapid detection and drug susceptibility testing. It would be possible to get the results four weeks earlier compared to the conventional method. The Para Nitro Benzoic Acid (PNB) test by colorimetric method needs further standardization.

3. Mahadev B: Glimpses of TB Programme and Research in India: Yesterday, Today and Tomorrow - P.V. Benjamin Memorial Oration; delivered at the 27th Andhra Pradesh State TB and Chest diseases Conference held at Madanapalle on 27th and 28th January 2001.

Dr. P.V. Benjamin is aptly revered as the father of anti-TB movement in India and the doyen in the field of TB, and I consider it as a great honour for being invited to deliver this oration in his memory entitled *Glimpses of Tuberculosis Programme and Research in India - Yesterday, Today & Tomorrow*. TB is one of the most ancient diseases and is known as “**Captain of all men of death**”. In the era of pre-chemotherapy, sanatoria were the only way to treat TB patients. In 1940s, there was checkered and sporadic development of anti-TB drugs. This was followed in the 1980s by era of SCC with the introduction of R. In the 1990s, the programme underwent an in-depth review and the RNTCP was introduced with DOTS as an important strategy. The role of NGOs and private practitioners in the field of health promotion has been realized and all efforts are being made to cover the entire population of the country under RNTCP by 2005.

To prevent the tentacles of TB bacteria from further dissemination, we have to act fast by further enhancing the pace of decision making and translating it into action and also refocusing our attention on the most important agenda of TB control. For this, we need to pledge unitedly to rekindle the dwindling hope of mankind in the fight against this deadly disease.

12. PAPERS/BOOKS REVIEWED

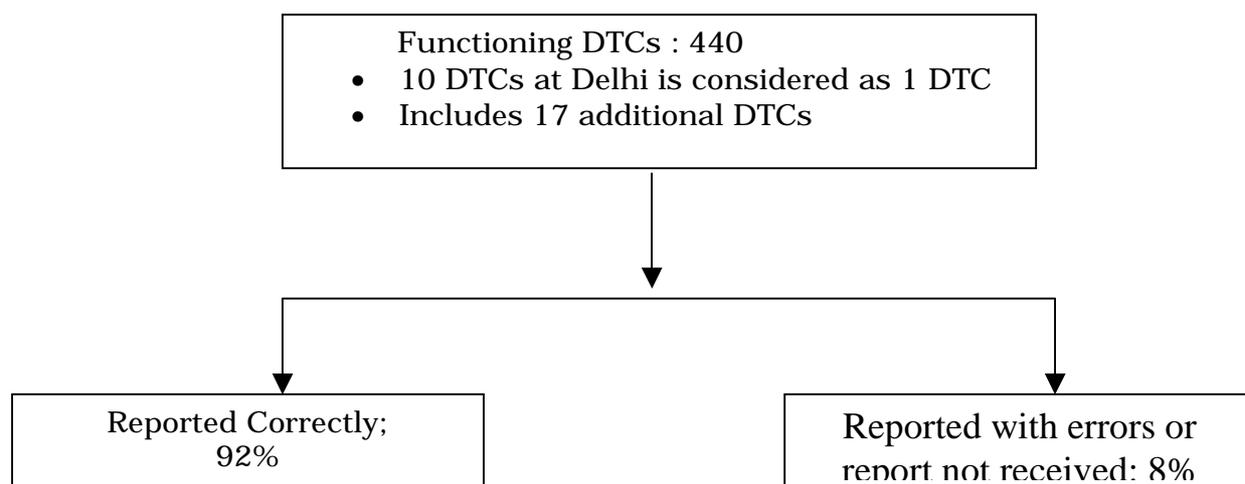
- September 2000
- i. Comparison of unsupervised treatment with intensive Health Education and DOT in Pulmonary Tuberculosis.
 - ii. Sputum smear in TB diagnosis in RNTCP 3 vs 2.
- October 2000
- i. Prevalence of the tuberculisations in urban slum children of Ahmedabad by Mantoux test.
 - ii. Incidence of HIV seropositivity in patients of Pulmonary tuberculosis.
- December 2000
- i. Integrating private health care service in NTP – an Experience from Ernakulam.
 - ii. An Insight into characteristics and behaviour of TB cases in the community.
 - iii. Preliminary report on Initial Drug Resistance in HIV-TB dual infection cases in Mumbai.
- February 2001
- i. Evaluation of efficacy of two self-administered 6-month regimens for smear positive category-I TB patients in the programme conditions.
 - ii. A Ph.D thesis titled “A Simple System for the rapid identification of non-tuberculous mycobacteria in human pulmonary infection” submitted by Mr B Navaraj Selvakumar of the Tamil Nadu - Dr MGR Medical University, Chennai, was evaluated by Dr VH Balasangameshwara, CMO as an external examiner.
 - iii. A Ph.D thesis titled “Therapeutic Potential of Biodegradable Poly (DL Lactide Co Glycolide) Microparticles and Liposome Encapsulated anti tubercular drugs against Experimental Tuberculosis in Life” submitted by Manisha Dutt of the Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, was evaluated by Dr (Mrs) Prabha Jagota, Director NTI, as an external examiner.

13. MONITORING

Performance of the National Tuberculosis Programme -2000

National Tuberculosis Programme formulated in 1962, covers the entire country through 440 DTCs located in the district headquarters. NTI, Bangalore has been monitoring the performance of NTP through periodic reports from the DTC and supervision visits to the DTCs and PHIs. The DOTS is now provided in 149 districts under RNTCP. The RNTCP performance in these districts is monitored directly by Central TB division, DGHS, Ministry of Health & Family Welfare, New Delhi. These districts are supposed to report Non-DOTS cases to NTI.

The present report appraises the performance of NTP in terms of implementation, reporting, supervision, case finding and treatment activities of Non-DOTS districts and Non-DOTS component of RNTCP districts during 2000. The figure below depicts the reporting and supervision of PHIs by the concerned DTCs.



Status of Reports received during January to Decemeber-2000

New Districts	:	90
Total Districts	:	576
Total DTCs	:	337
Additional DTCs	:	17
NTP Districts	:	320
RNTCP Districts	:	149

The 440 DTCs are expected to submit 4 quarterly reports in a year. Thus 1760 quarterly reports were expected. A total of 1,551 reports received without error

were analysed during the year 2000. Some of the reports were with errors and some DTCs did not submit the report for one or more quarters. Out of 1551 reports received, 207 RNTCP districts reported on Non-DOTS and are included in the analysis.

Case finding Activity

During the calendar year 2000, following number of cases were reported by Non DOTS districts and cases put on non DOTS by RNTCP districts:

Bacillary cases	254362
X-ray suspects	574744
Extra Pulmonary	69701
Total cases	898807

At National level, the ratio of Bacillary to X-ray cases is 1:2.3 as against the expected norm of 1:1.2. The bacillary case detection rate per lakh population/per annum is 37 new bacillary cases, where as the expected norm is 50 new bacillary cases per annum per lakh population. Total case detection rate per lakh population per annum is 131.

Treatment Outcome

Information on treatment outcome is available for 27499 patients put on SCC and 1504 patients put on SR during 1999 cohort. For these patients, success rates have been found to be 63% and 41% respectively.

14. LIBRARY AND INFORMATION SERVICES

i. Meetings

Library Committee meetings were held to review subscriptions of the periodicals, acquisition programmes and review functions and activities of the library.

Editorial Committee meetings were conducted from time to time to review the publication activities of the Institute.

ii. Acquisitions

A. Books	:	20
B. Annual Reports, Pocket Books & Souvenirs etc.	:	30
C. Reprints	:	100

iii. Periodicals

Subscriptions were renewed for 43 periodicals on TB and its multi disciplinary aspects. Apart from this, Library is receiving approximately 12 periodicals on gratis and in exchange for the NTI Bulletin.

iv. Information & Documentation Services

User education on effective utilization of Library and information services was given to the trainees of 84th & 85th training courses. They were guided on information retrieval using hard copy as well as softcopy. Video shows on TB were arranged for them.

Post graduate students posted to NTI for an orientation training in TB control were briefed about the resources available, its utilization and efficient ways of information retrieval. They were allowed to get the required documents xeroxed outside.

About 25-30 newspaper clippings related to TB and others were displayed/circulated.

Selected bibliography of Indian Medical Literature on TB having 200 citations for publication in the NTI Bulletin was compiled.

Periodical abstract bulletins; Vol.34/1-12, 2000, each having approximately 100-112 citations were brought out and distributed to the Faculty, as a part of current awareness service. These citations were later on added to the database.

v. During the year under report, following publications were under process:

NTI Bulletin: Vol 36/1&2, March & June 2000.

Sociological aspects of TB: The second draft of document taken during July 2000 has all the records regrouped as per the suggestions given by the collaborators and was placed before Technical co-ordination committee of the Institute. An addition of new published literature on the topic is being taken up. Third draft is ready and final editing is under progress.

vi. Activity on Databases

The databases created earlier were updated periodically.
A new database “MAIAD” – of mailing addresses was created.

vii. Publications

1. NTI Annual Report 1999-2000 - 75 copies
2. NTI Bulletin - Vol.35/ 1-4; March to December 1999 - 1,000 copies
3. ANNALS OF THE NATIONAL TUBERCULOSIS INSTITUTE - 700 copies
- 40 years of accomplishment

The much-awaited event of releasing the historical document “ANNALS OF THE NATIONAL TUBERCULOSIS INSTITUTE” was celebrated on 19th May 2000 at NTI, Bangalore. The Karnataka State TB Association & Action Aid India, Bangalore sponsored the function. Dr AB Maalaka Raddy, Honorable Minister for Health & family Welfare, Government of Karnataka released the book and addressed the gathering. The occasion was graced by the presence of following dignitaries on the dias: Sri Sen Gupta, Health Secretary, Govt. of Karnataka; Dr Tom Frieden, MO-WHO; Dr VK Arora, Special officer, DGHS, Govt. of India, New Delhi; Dr (Mrs) Prabha Jagota present Director; NTI, Bangalore, Dr GVJ Baily & Dr P Chandrasekhar former Directors of NTI; Sri BK Sundareswara, Hon. Secretary, Karnataka State TB Association and Dr TD Daniel, Health Adviser, Action Aid India, Bangalore. The function was attended by the National TB Consultants, State TB Officers of four states & DTOs attending the modular training course, Health Officers from BMP; former & present NTI faculty and staff members, media persons, printers and staff of NICD and CPWD located in the NTI campus. It is noteworthy to mention that sons of Dr PV Benjamin, father of anti TB movement in India were with us to see this great day. The function concluded with the distribution of Annals for the former faculty and technical staff of the Institute followed by lunch.

Health minister in his inaugural speech mentioned that....“The NTI has chronicled its work of 40 years in the fields of research, training and monitoring of the TB control programme in the form of an illustrated book titled ‘ANNALS of the NTI’. Any reader will be amazed at the variety of research and training conducted by the Institute. The book is a tribute to the people who have been and are currently involved either directly or indirectly in this venture. The Annals may prove to be a valuable source of inspiration in the future to researchers, programme implementers and policy makers”.

viii. User Assistance

Importance of library and Information resources & service available were explained to the research student of Pune University and local Ph.D. students from Medical and Veterinary colleges.

ix. Work on WEBSITE

A committee was formed to create a WEBSITE for the Institute. The committee is collecting information from all sections for developing the WEBSITE. The WEBSITE is expected to be hoisted in the next financial year.

15. TRAINING ACTIVITIES CONDUCTED AT NTI, BANGALORE

A. Regular Training Programme

The 84th and 85th regular training programmes on TB control were conducted from 10th July to 1st September 2000 and 15th January to 9th March 2001 respectively. These two training programmes were for a duration of 8 weeks each. The break up of the key personnel trained is given below.

84th & 85th Training Courses

Sl.No.	Category	84th course	85th course
1.	Medical Officers (MOs)	15	19
2.	Laboratory Technicians (LTs)	15	10
3.	X-ray Technicians (XTs)	11	4
4.	Treatment Organizers (TOs)	22	15
5.	Statistical Assistants (SAs)	17	6
	Total	80	54

A total of 134 trainees consisting of 34 MOs and 100 paramedicals from different states and union territories participated in the above mentioned training programmes. They underwent one week modular training on managing tuberculosis in SCC districts and supervised some RNTCP areas in BMP. The trainees were also taken to the DTCs in the Districts of Hassan, Tumkur, Chikkamagalur, Chitradurga and Bellary. They visited PHIs at Ramnagaram, Channapattana, Kanakapaura, Devanahalli, Doddaballapur, Magadi, Anekal and Bangalore urban and rural. These visits were for a period of 5 days for reimplementation/supervision activity.

NTI faculty also guided the trainees in preparation and presentation of seminar papers on (a) DTP Management, (b) Organisation & functions of STCs, (c) Role of Medical Colleges in TB control, (d) Role of IEC in TB control and (e) Role of NGOs in TB control. Participants were also guided in presentation of a paper on Health Research Methodology.

B. Special Training Programmes

Sl. No.	Activity	Period
1	Two modular training courses on managing NTP in SCC areas was conducted at NTI, Bangalore for MOs, in which the faculty and staff of the Institute participated as Course Facilitators.	20 th – 27 th November 2000 and 12 th – 19 th December 2000

2	LWSTC sponsored training on filling up of revised SCC reports for Non RNTCP districts of Karnataka was held for TOs/SAs in which the faculty and staff of the Institute participated as Facilitators.	1 st - 3 rd January 2001
Sl. No.	Activity	Period
3	Orientation training in revised SCC/SR formats to the DTOs of 17 districts of Karnataka was held. Field testing of these formats is being planned with STO, Karnataka.	30 th January 2001
4	A modular training for DTOs of SCC districts of Uttar Pradesh, Madhya Pradesh & Orissa was conducted at NTI, Bangalore in which the faculty and staff of the Institute participated as Course Facilitators.	12 th to 19 th March 2001

C. Training programmes conducted under Revised National Tuberculosis Control Programme

Sl. No.	Training Details	Category	No of Participants	Period	Funded by
1	Modular Training (Andhra Pradesh]	MOs	6	3 rd - 13 th April 2000	DFID
		STLS	10	3 rd - 13 th April 2000	
2	Modular Training (participants from LEpra)	MOs	13	17 th - 28 th April 2000	LEpra
3	Modular Training (Andhra Pradesh and Karnataka]	LTs	22	17 th - 28 th April 2000	DFID
4	Modular Training (Andhra Pradesh]	STS	23	8 th - 19 th May 2000	
5	Modular Training for 3 rd Year Districts (Rajasthan)	MOs	25	15 th - 26 th May 2000	
6	Modular Training for 3 rd Year Districts (Karnataka, Maharashtra, Punjab & Uttar Pradesh)	DTOs	24	12 th - 23 rd June 2000	DGHS
7	Modular Training for 3 rd Year Districts (Andhra Pradesh)	LTs	13	12 th - 23 rd June 2000	
8	Modular Training (BMP, Bangalore)	STS	3	21 st - 26 th August 2000	
9	Modular Training (Karnataka)	DTOs, NGOs & GP	40	25 th - 26 th September 2000	
10	Modular Training for 3 rd Year Districts (All over India)	STOs & DTOs	20	3 rd - 14 th October 2000	

11	Modular Training (Karnataka)	MO-TCs	17	16 th - 24 th October 2000	LWSTC
12		STLS	10	20 th Nov - 1 st Dec 2000	
13		STS	12	29 th Nov - 12 th Dec 2000	
Sl. No.	Training Details	Cate- gory	No of Partici- pants	Period	Funded by
14	Modular Training (Andhra Pradesh)	DTOs	19	2 nd - 12 th January 2001	DFID
15	Modular Training (Karnataka)	DTOs	15	29 th Jan - 5 th Feb 2001	LWSTC
16	Modular Training - Major Hospitals (Bangalore)	MOs	9	5 th - 9 th February 2001	BMP

D. Training conducted for postgraduate students & other categories

May 2000

One MO from LEPR India was trained in culture isolation, sensitivity and identification of mycobacteria from 15th to 19th May 2000.

November 2000

Twenty-nine postgraduate students from Medical Colleges of South India were imparted training in various aspects of TB control for two weeks.

December 2000

Three postgraduate students from M.S. Ramaiah Medical College were imparted training in culture isolation, sensitivity and identification of mycobacteria from 4th to 8th and 11th to 15th December 2000.

E. Workshops

Sl. No.	Particulars	Period
1	Workshop for Training of WHO Consultants in RNTCP. Twenty nine Consultants were trained.	12 th - 19 th May 2000
2	Workshop in RNTCP for super specialists / specialists of teaching Hospitals in Bangalore organized by BMP, Bangalore. Fifty-three specialists took part in the workshop.	18 th August 2000
3	A Workshop on RNTCP for NGOs, Medical College faculty & Private Practitioners with the involvement of DTOs of Karnataka.	25 th & 26 th September, 2000

4	Workshop for finalization of protocol on Quality Assurance of sputum microscopy under RNTCP sponsored by Central TB Division, DGHS, New Delhi, organized by NTI, Bangalore. WHO Consultants and Microbiologists from TRC, Chennai, Pune & Ajmer participated in the workshop. From NTI, Dr VH Balasangameshwara; Dr B Mahadev; & Dr (Mrs) Chitra Nagaraj, CMOs and Mr N Srikantaramu, SA participated.	17 th - 18 th January 2001
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F. Visit of medicals/paramedicals for orientation

Year/ Month	Category	No	Organization
2000 April			
13 th	1) Medical Assistants	60	Command Hospital, Air Force, Bangalore
25 th	2) Health Visitors	13	Vani Vilas Hospital, Bangalore
May			
9 th	1) Health Workers	10	INSA, Bangalore
30 th	2) Nursing students	54	Ambedkar Medical College, Bangalore
June			
13 th	1) Health Workers	10	INSA, Bangalore
21 st & 23 rd	2) Nursing students	51	St. Johns Medical College, Bangalore
27 th	3) Nursing students	30	M.S. Ramaiah School of Nursing, Bangalore
July			
4 th & 7 th	1) Nursing students	28	M.S. Ramaiah School of Nursing, Bangalore
31 st	2) Medical Assistants	46	Command Hospital, Air Force, Bangalore
September			
13 th	1) Post Graduate students	28	Sociology Department, Bangalore University, Bangalore.
November			
15 th	1) Medical Assistants	52	Command Hospital, Air Force, Bangalore
17 th	2) Health Visitors	29	Victoria Hospital, Bangalore

28 th	3) B.Sc. Microbiology students	12	St. Johns Medical College, Bangalore
December 29 th	1) B.Sc. Microbiology students	12	Wellington College, Sangli, Maharashtra
Year/ Month	Category	No	Organization
2001 January 2 nd	1] Medical Officers	24	State Health Institute.
3 rd	2] Nursing students	22	St. Johns Medical College, Bangalore
15 th	3] Nursing Students	08	Rajajinagar Parents Association, Bangalore
16 th	4] Nursing Students	18	INSA, Bangalore
February 22 nd	1) B.Sc Nursing students	16	Adi Chunchanagiri College, Chennarayapatna
23 rd	2) District Level Medical Officers	18	KHSDP, Bangalore.
March 2 nd	1) B.Sc Nursing students	22	Ambika School of Nursing, Sadashivanagar, Bangalore.
12 th	2) Nursing students	44	School of Nursing, Bowring & Lady Curzon Hospital, Bangalore.
12 th	3) M.Sc students	06	Indian Institute of Ayurveda, Bangalore.
14 th	4) Nursing students	25	Faran School of Nursing, Bangalore.
23 rd	5) Medical Assistants	17	Command Hospital, Air Force, Bangalore.
30 th	6]Nursing students	25	Father Muller College of Nursing, Mangalore.

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16. PARTICIPATION IN MEETINGS, TRAININGS, SEMINARS, CONFERENCES, WORKSHOPS AND CONTINUING MEDICAL EDUCATION – PROGRAMMES OUTSIDE NTI, BANGALORE

Sl. No.	Particulars	Participants
1	Attended Seminar on Hospital waste management and infection conducted by ISHA Bangalore on 12 th April 2000.	Mr V Siddharthan Sr. Investigator
2	A Modular and practical training for SCC districts was conducted at Jaipur, Rajasthan from 7 th to 14 th April 2000.	Dr (Mrs) Sophia Vijay, Sr.TB specialist and staff of various sections of NTI imparted training to the respective counter parts
3	A Modular and practical training for SCC districts was conducted at STDC Kolkata, West Bengal from 17 th to 30 th April 2000. Objective was to introduce the revised recording reporting system in these districts.	Staff from various sections of NTI imparted training to their respective counter parts.
4	Participated in the meeting held at Nirman Bhavan, New Delhi under the Chairmanship of DGHS, New Delhi, to review the efforts for assessing the incidence and prevalence of TB in the country on 22 nd April 2000. The expert group discussed about the current data on the burden of TB, the best current estimates, plan for obtaining more information in order to improve estimates, advantages and disadvantages of different modalities and the costs involved in these endeavors.	Dr (Mrs) Prabha Jagota, Director Dr VK Chadha, Sr. Epidemiologist
5	Attended a meeting held in the Office of the Health Secretary of Karnataka on 17 th May 2000 to discuss the NTP performance.	
6	Attended Technical Committee meeting during the month of May and July for procurement of binocular microscopes in the Office of Additional Director General of Health Services, Nirman Bhavan, New Delhi.	Dr (Mrs) Prabha Jagota, Director

7	Attended the District Tuberculosis Society meeting of Bangalore Urban District in June 2000.	Dr B Mahadev, CMO Dr (Mrs) Sophia Vijay, Sr. TB specialist
Sl. No.	Particulars	Participants

8	<p>Conducted Meeting of the Expert Group on “Analysis of available epidemiological data on tuberculosis situation & estimation of existing TB burden in the country” at NTI, Bangalore from 5th to 7th June, 2000. The meeting was organised by Sr Epidemiologist.</p> <p>The data from all the disease prevalence surveys conducted so far in the country were examined and analysed to estimate the existing tuberculosis burden in the country. The report of the meeting was submitted to the DDG (TB), New Delhi.</p>	<p>Members of Expert Group: Dr (Mrs) P Jagota, Director, Padmashree Dr DR Nagpaul, & Dr GVJ Baily former Directors, NTI, Dr PR Narayanan, Director, TRC, Chennai; Dr Lalit Kant, Sr. DDG, ICMR, New Delhi and Dr VK Chadha, Sr. Epidemiologist, NTI</p> <p>Other Participants: <i>From TRC, Chennai:</i> Dr C Kollappan, Assit. Director, Dr T Shanthadevi, Dy Director (Sr. Grade); <i>From NTI, Bangalore:</i> Dr L Suryanarayana, CMO, Dr (Mrs) Sophia Vijay, Sr.TB Specialist, Dr Preetish S Vaidyanathan, SMO and Mr KM Vasudevan, CSO</p>
9	<p>Invited by the SAARC TB centre, to be a resource person for the SAARC Trainers Training Course for TB Control Managers, held in Bhutan from 12th to 22nd June 2000.</p>	<p>Dr (Mrs) Prabha Jagota, Director</p>
10	<p>Invited by the Management of BPL limited and BPL Sanyo Technology, Dodda-ballapur to conduct a Programme on TB Awareness for their employees on 7th July 2000.</p>	<p>Dr (Mrs) Prabha Jagota, Director</p>
11	<p>Attended meeting under the Chairmanship of the Director General of Health Services in the Resource Centre of DGHS, New Delhi on 1st August 2000, to deliberate on the ways and means for the improvement of the National TB Control Programme in SCC and SR districts in the country.</p>	<p>Dr (Mrs) Prabha Jagota, Director</p>
12	<p>Attended Workshop at Delhi held under the auspices of Indian Academy of Pediatrics for “Formulation of guidance and diagnosis and treatment of TB among children – an evaluation” on 6th & 7th August 2000.</p>	<p>Dr L Suryanarayana, CMO</p>
13	<p>Conducted an orientation workshop for District Surveillance Officers & Sr.</p>	<p>Dr B Mahadev, CMO Mr P James, LT</p>

14	<p>Laboratory Technicians of Karnataka organized by KHSDP & Public Health Institute, Bangalore on 8th & 9th August 2000.</p> <p>Invited by the Mid-term Conference of Academy of Pulmonary & Critical Care Medicine at Kannur, Kerala on 27th August 2000 and delivered a talk on "Chemotherapy of Tuberculosis-Rationale of Intermittent therapy and DOTS".</p>	Dr (Mrs) Prabha Jagota, Director
Sl. No.	Particulars	Participants

15	Attended the Fourth South East Asia Regional training course on "TB Control" at Kathmandu, Nepal from 11 th to 22 th September 2000.	Dr (Mrs) Prabha Jagota, Director Dr B Mahadev, CMO
16	Attended the computer training in MS-Office at CMC, Bangalore from 18 th - 22 nd September 2000.	Dr (Mrs) Sophia Vijay, TB Specialist. Dr (Mrs) Chitra Nagaraj, CMO Dr Preetish S Vaidyanathan, SMO
17	Attended the State TB Coordination Committee meeting and TB Surveillance Committee meeting of Government of Karnataka, chaired by the Principal Secretary, Health & Family Welfare, Government of Karnataka in September 2000.	Mrs VN Saroja, Sr. PHN Mrs R Bhagirathi, LT Mrs Sujatha S Narayanan, UDC
18	Invited as the Chief Guest by the Indian Veterinary Research Institute for their "Hindi Day Celebrations" in their campus on 3 rd October 2000.	Dr VH Balasangameshwara, CMO
19	Participated in a WHO Workshop for Protocol Development, at TRC, Chennai on 1 & 2 nd November 2000. Three protocols related to TB and HIV were drafted and finalized viz : 1) <i>"Multi-centric Study To Assess Adequacy of RNTCP Criteria For Diagnosis of Pulmonary Tuberculosis in HIV Positive Persons"</i> . The final approval from the DGHS, New Delhi, is awaited for this study. 2) <i>Protocol for a Multicentric Study to study "Chemotherapy Of Tuberculosis in HIV Infected Patients: Protocol for a Multicentric Study"</i> . The final approval from DGHS, New Delhi, is awaited for this study. 3) <i>"Involvement of Private Practitioners and NGOs in RNTCP - A Multicentric Study"</i> : Involved in drafting the Protocol.	Dr (Mrs) Prabha Jagota, Director Dr L Suryanarayana, CMO Dr (Mrs) Sophia Vijay, Sr. TB Specialist Dr VH Balasangameshwara, CMO
20	Involved in the All India Radio programme on "Meet the specialist - replies to listeners on tuberculosis", which was recorded on 23 rd November and broadcast on 26 th November 2000 at 8.30 pm.	
21	Participated in a meeting on setting up an experimental TB laboratory at National Institute of Pharmaceutical Education and Research at Mohali,	Dr VH Balasangameshwara, CMO

	Punjab from 30 th November to 3 rd December 2000. Also delivered a talk on “Experimental Tuberculosis in guinea pig model” in the above meeting.	Dr VK Challu, Veterinarian
Sl. No.	Particulars	Participants

22	<p>Attended as delegates, the National Conference on Pulmonary Diseases (NAPCON), under the joint auspices of National College of Chest Physicians (India) & Indian Chest Society at Kanpur from 9-12 November 2000 and also gave (1) Guest Lecture on: Performance of National Tuberculosis Programme and RNTCP at National level – current status and (2) Panelist in the panel discussion on “Childhood tuberculosis”.</p> <p>Discussion with State TB officer of Karnataka about NTP reporting from Bangalore Urban Districts on 28th November 2000.</p>	<p>Dr (Mrs) Sophia Vijay, Sr. TB specialist Dr VH Balasangameshwara, CMO</p>
23	<p>Attended as a member of the SAARC country, a workshop for “Standardization of curriculum in Training, Tuberculosis control and identification of Research priorities” held during December 2000 at Kathmandu, Nepal.</p>	<p>Dr VH Balasangameshwara, CMO</p>
24	<p>Attended 6th Meeting of the Karnataka State TB Co-ordination Society, which was convened under Chairmanship of Sri A. Sengupta, Principal Secretary, Health & Family Welfare Department, Karnataka, in his chamber on 1st December 2000.</p>	<p>Dr L Suryanarayana, CMO</p>
25	<p>Attended the 3rd meeting of State Level Co-ordination Committee “Review on Communicable diseases” at MS buildings Bangalore on 4th December 2000.</p>	<p>Dr (Mrs) Prabha Jagota, Director</p>
26	<p>Participated in “Integrated Research Programme on anti-infectives for controlling TB” at Mumbai on 5th December wherein NTI was proposed to be the nodal centre for testing mycobacterial experimentations by unique Low Dose Aerosol Infection with the commissioning of Bio-Safety Level III facility at Animal Model Research Unit of NTI.</p>	<p>Dr (Mrs) Chitra Nagaraj, CMO</p>
27	<p>Participated at the 55th National Conference on TB and Chest Diseases held at Kolkata from 7th to 10th December 2000.</p>	<p>Dr VK Challu, Veterinarian</p>
28	<p>Presented papers:</p> <ol style="list-style-type: none"> 1. The annual risk of tuberculosis infection in Bangalore city. 2. Comparison of Rapid Colorimetric Mycobacterial Isolation and Susceptibility Testing with that of Conventional Method using LJ media. <p>Discussion with State TB officer of Karnataka about NTP - SCC reporting formats on 18th December 2000.</p>	<p>Dr VK Chadha, Sr. Epidemiologist</p>
29	<p style="text-align: center;">73</p>	<p>Dr B Mahadev, CMO</p>

Sl. No.	Particulars	Participants
30	CME on DOTS to the faculty of Ambedkar Medical College organized by BMP, Bangalore on 19 th December 2000.	Dr B Mahadev, CMO
31	Attended Annual Conference of Indian Association of Medical Microbiologists Karnataka chapter, at M.S. Ramaiah Medical College, Bangalore on 7 th January 2001.	Dr VH Balasangameshwara, CMO
32	Participated in the International Symposium on "Mycobacterial Diseases: Pathogenesis, Protection and Control" at Kolkata from 9 th to 11 th January 2001.	Dr VK Challu, Veterinarian
33	Attended the meeting of The Technical Committee of the Karnataka State TB Association on 12 th January 2001.	Dr (Mrs) Chitra Nagaraj, CMO Ms PA Mini, Statistical Officer
34	Attended a review meeting of the performance of SCC districts of eight states, namely, Karnataka, Maharashtra, Andhra Pradesh, Haryana, Uttar Pradesh, Madhya Pradesh, Orissa and Assam" at Nirman Bhavan, New Delhi on 12 th January 2001. Attended as a delegate the "Symposium on Neuro AIDS" held at NIMHANS, Bangalore on 16 th January 2001.	Dr VH Balasangameshwara, CMO
35	Participated in the 27 th Andhra Pradesh State TB & Chest Diseases Conference held at Madanapalle on 27 th & 28 th January 2001 and presented Dr. P.V. Benjamin Memorial Oration: "Glimpses of TB Programme and Research in India: Yesterday, Today and Tommorrow"	Dr VH Balasangameshwara, CMO
36	Attended the inaugural function of a Super Specialty Hospital and Animal Care Centre on 29 th January 2001, inaugurated by Her Excellency Smt. V.S. Ramadevi, Governor of Karnataka, under the auspices of Compassion Unlimited Plus Action (CUPA), an NGO under the Ministry of Social Justice & Empowerment. Attended a review meeting of the performance of SCC	Dr B Mahadev, CMO Dr (Mrs) Prabha Jagota, Director

<p>38</p> <p>39</p>	<p>districts of Chattisgarh at Raipur on 6th February 2001.</p> <p>Attended Training in “Multivariate Data Analysis” at the Indian Statistical Institute, Bangalore Centre from 7th-14th February 2001.</p>	<p>Dr (Mrs) Chitra Nagaraj, CMO</p> <p>Dr VK Chadha, Sr. Epidemiologist Ms PA Mini, Statistical Officer</p>
<p>Sl. No.</p>	<p>Particulars</p>	<p>Participants</p>

40	The following Officials were deputed for All India census duty from 3 rd to 24 th February 2001.	Mrs HT Mangala Gowri, LDC Mr SN Nagaraj, Computer Mr BA Muralidhara, LDC Mr HS Mallikarjunaiah, Social Worker
41	Nominated as a faculty member for Medicine by the Vice-Chancellor of the Rajiv Gandhi University of Health Sciences, for a period of one year from January 2001. Attended the extraordinary meeting of the Academic Council of above University of Health Sciences on 15 th February 2001 as a nominated faculty member.	Dr (Mrs) Prabha Jagota, Director
42	Participated in the CME for the Doctors of Chamarajnagar district, organized by Holy Cross Hospital, Kamagere and Karnataka State TB Association at Lion's Hall, Kollegal, Chamarajnagar district on 17 th February 2001. Dr. Balasangameshwara delivered a lecture on TB and HIV.	Dr (Mrs) Prabha Jagota, Director Dr VH Balasangameshwara, CMO
43	Attended the meeting of Central Committee of the Karnataka State TB Association on 23 rd February 2001.	Dr Preetish S Vaidyanathan, SMO
44	Attended the 28 th Meeting of the Scientific Advisory Committee (SAC), at TRC, Chennai, on 1 st and 2 nd March 2001, as a member of the SAC.	Dr (Mrs) Prabha Jagota, Director
45	Participated in the Second Sir Dorabji Tata symposium on "Vaccine Research in India" at Indian Institute of Science, Bangalore on 10 th & 11 th March 2001.	Dr VK Challu, Veterinarian
46	Participated in the Workshop on Research Dissemination held at TRC, Chennai on 16 th & 17 th March 2001. 1. Interim report of the 'National Sample Survey to estimate the Annual Risk of Tuberculosis Infection in different parts of	Dr (Mrs) Prabha Jagota, Direc

47	<p>India'. 2 Recommendation of the group discussion on research priorities.</p> <p>Talk on HIV & TB during a workshop for Master Trainers of IMA, at Alur Venkata Rao Road, Chamarajpet, Bangalore on 18th March 2001 under auspices of Karnataka State IMA branch.</p>	<p>Dr VK Chadha, Sr. Epidemiologist</p> <p>Dr (Mrs) Sophia Vijay, Sr. TB specialist</p> <p>Dr VH Balasangameshwara, CMO</p>
Sl. No.	Particulars	Participants

UNDER RNTCP:		
48	Overview of RNTCP at a CME programme at St. Martha's Hospital in April 2000	Dr L Suryanarayana, CMO
49	Overview of RNTCP at a CME programme at CSI Hospital in April 2000	Dr L Suryanarayana, CMO
50	Orientation talk on RNTCP at CME programme at CSI Hospital in April 2000.	Dr (Mrs) Sophia Vijay, Sr. TB specialist
51	Delivered a talk on RNTCP to MOs at Rae Bareilly in April 2000.	Dr VK Chadha, Sr. Epidemiologist
52	Attended meeting with the Health Secretary, Karnataka, on 11 th April 2000 to discuss about the activities of RNTCP in the State and its expansion.	Dr (Mrs) Prabha Jagota, Director
53	Lectures on RNTCP and its various aspects under auspices of IMA-Raichur Branch on 30 th April 2000.	Dr L Suryanarayana, CMO
54	CME on RNTCP to the MOs & staff of Isolation Hospital, Bangalore organized by BMP on 17 th June 2000.	Dr B Mahadev, CMO
55	Delivered a talk on RNTCP to MOs at Rae Bareilly in July 2000.	Dr VK Chadha, Sr. Epidemiologist
56	Lectures on "Introduction and Diagnosis of Tuberculosis under RNTCP" & "Treatment strategies under RNTCP". These lectures were delivered to faculty and students (under graduate and postgraduate) of Victoria teaching Hospital attached to Bangalore Medical College on 18 th July 2000.	Dr VH Balasangeswar, CMO Dr (Mrs) Sophia Vijay, Sr. TB specialist
57	CME at Patna for DHOs of nine RNTCP districts in Bihar on 19 th August 2000.	
58	Participated in the Technical committee meeting of the Karnataka State TB Association (KSTBA), Bangalore in connection with the implementation of the pilot project relating to "NGOs" partnership with RNTCP by Action Aid India & KSTBA on 30 th August 2000.	Dr B Mahadev, CMO Dr Preetish S Vaidyanathan, SMO
59		

60	<p>Training for STLS of RNTCP districts at Ananthapur organized by DFID and Government of Andhra Pradesh from 25th to 30th September 2000.</p> <p>Invited by the Ranbaxy Science Foundation for 7th Round Table Conference on Tuberculosis at New Delhi on 28th September 2000 & presented a paper on "RNTCP-Constraints".</p>	<p>Mr HD Surendra, LT Mr GA Manjunath, LT</p> <p>Dr (Mrs) Prabha Jagota Director</p>
Sl. No.	Particulars	Participants

61	Training for STLS of RNTCP districts at Ananthapur organized by DFID and Government of Andhra Pradesh 9 th to 18 th October 2000.	Mrs S Tajunissa, LT
62	Talk addressed to entire faculty of MGIMS, Wardha, Maharashtra on RNTCP with special reference to role of Medical Colleges on 19 th October 2000.	Dr (Mrs) Prabha Jagota, Director
63	Attended the workshop for Chief District Health Officers (CDHOs) and Regional Directors of Gujarat state held at Ahmedabad on 24 th and 25 th of November 2000. Delivered lectures on Introduction to RNTCP, diagnostic and treatment strategies, recording and reporting, role of CDHOs in the RNTCP and advocacy during this session also visited Manasa District TB Centre on 25 th November 2000.	Dr (Mrs) Sophia Vijay, Sr. TB specialist
64	Participated in the 'Symposium-Cum-Panel Discussion' on Strategy of RNTCP in India at the 55 th National Conference on TB and Chest Diseases held at Calcutta from 7 th to 10 th December 2000.	Dr (Mrs) Prabha Jagota, Director Dr VK Chadha, Sr. Epidemiologist Dr B Mahadev, CMO
65	Participated in the Sensitization Workshop on RNTCP for General Practitioners at Thiruvananthapuram, Kerala. Delivered talk on "Role of private practitioners in TB control" and "Case finding strategy under RNTCP", besides leading the group discussion from 21 st & 22 nd December, 2000.	Dr L Suryanarayana, CMO Dr VK Chadha, Sr. Epidemiologist
66	Attended as a delegate the "National Conference on involvement of NGOs in RNTCP", held at Vigyan Bhavan, New Delhi on 13 th January 2001. The Central TB Division, DGHS, New Delhi, in collaboration with WHO and World Bank conducted this conference.	Dr VH Balasangameshwara, CMO
67	Attended the "National Conference on involvement of NGOs in RNTCP" and reviewed the infrastructure of an NGO "Herself Society" of Bellary on 19 th January 2001 and discussed with the DTO the possibility of involving NGOs in the RNTCP district of Bellary.	Dr VH Balasangameshwara, CMO
	Attended meeting of BMP, Bangalore	

68	Society for RNTCP, under the Chairmanship of the Commissioner, BMP, N.R. Square, Bangalore on 20 th January 2001.	Dr (Mrs) Prabha Jagot Director
Sl. No.	Particulars	Participants

69	Participated as National facilitator for modular RNTCP training for DTOs and STOs of North Eastern State held at STDC Kolkata from 6 th to 17 th February 2001.	Dr (Mrs) Sophia Vijay, Sr. TB specialist
70	Participated as facilitators for training of STLS and STS of RNTCP districts of Andhra Pradesh at STDC Hyderabad from 10 th to 20 th February 2001.	Mrs S Tajunissa, LT Mr N Nagendra, HV
71	Talk on RNTCP at State Institute of Health & Family Welfare for DHOs and Programme officers of Government of Karnataka from on 22 nd February 2001.	Dr VH Balasangameshwar CMO

17. SUPERVISORY VISITS BY NTI STAFF

A. DTP/RNTCP Visits:

Sl. No.	Place of visit	Period	Faculty	Purpose
1	TB units at Dasappa, Hosahalli and Azad Nagar Maternity Home under BMP (Karnataka)	April 2000	LTs of NTI	Supervision of the Laboratory components of RNTCP
2	Districts - Jaipur, Ajmer Pushkar & Sawai Madhopur (Rajasthan)	April 2000	Dr (Mrs) Sophia Vijay, Sr. TB specialist & WHO Medical Consultant	Supervision of RNTCP districts
3	DTCs - Hubli, Dharwad & Belgaum (Karnataka)	May 2000	A team consisting of MO, HV, LT, XT & SA	Supervision
4	TB Units of: Yelahanka, Anekal, K.R. Puram, Broadway & Neelasandra (Karnataka)	May 2000	LTs of NTI	Supervision of the Laboratory components of RNTCP.
5	Five TB Units and four selected MCs of Raichur and Koppal districts (Karnataka)	May 2000	Dr (Mrs) Sophia Vijay, Sr. TB Specialist Dr VH Balasangameshwara, CMO	RNTCP Appraisal
6	DTCs of Punjab: Amritsar, Bhatinda, Faridkot, Ferozepur, Gurdaspur, Hoshiarpur, Jullendhar, Kapurtala, Roopanagar, Sangrur	May-June 2000	Mr SJ Savanur, Mr R Jitendra, Mr KK Ananda Babu, Mr Zachariaiah Joseph & Narayana Murthy	Supervision

7	DTCs of Tumkur & Kyatasandra (Karnataka)	June 2000	Lab Staff	Supervision
8	Jalpaiguri, West Bengal	June 2000	Dr (Mrs) Sophia Vijay, Sr. TB specialist	As a member of the appraisal team for the proposed service delivery of 2 nd year RNTCP District
9	Bijapur and Bagalkot	July 2000	Dr L Suryanarayana, CMO	As a member of the appraisal team for the proposed service delivery of RNTCP District
10	STC- Patna	August 2000	Dr B Mahadev, CMO	Supervision
Sl. No.	Place of visit	Period	Faculty	Purpose
11	PHCs Kotla & Fatehpur, Kangra district (H.P) DTC, Kangra (H.P)	August 2000	Dr VK Chadha, Sr Epidemiologist	For review of case finding and treatment activities and implementation of RNTCP
12	18 MCs of BMP (Karnataka)	September 2000	Dr VH Balasangameshwara, CMO and team	Supervision visits of 18 MCs. Gave recommendations for improving case finding activity
13	Bankura (West Bengal)	September 2000	Dr VH Balasangameshwara, CMO	As a member of the appraisal team for the proposed service delivery of RNTCP
14	STC, Nagpur (Maharashtra)	October 2000	Dr (Mrs) Prabha Jagota, Director Dr VK Chadha, Sr. Epidemiologist	Supervisory visit

15	Wardha (Maharashtra)	October 2000	Dr (Mrs) Prabha Jagota, Director	Supervisory visit
17	Bellary and Chitradurga (Karnataka)	November 2000	Dr B Mahadev, CMO	As a member of the appraisal team for the proposed service delivery of RNTCP
18	Ananthapur (Andhra Pradesh)	November 2000	Dr L Suryanarayana, CMO Dr Preetish S Vaidyanathan, SMO	As a member of the appraisal team for the proposed service delivery of RNTCP
19	CG Hospital and DTC Lucknow	November 2000	Dr (Mrs) Sophia Vijay, Sr. TB Specialist	RNTCP Supervision
20	Visit to four NGOs in Teni Districts of Tamil Nadu	December 2000	Dr (Mrs) Sophia Vijay, Sr. TB Specialist, Dr VH Balasangameshwara, CMO & Mr PS Jagannatha, SA	Review of TB Programme
21	Rangareddy and Meha-boobnagar (A.P)	December 2000	Dr (Mrs) Prabha Jagota, Director	Appraisal visit for the 2 nd year RNTCP districts
Sl. No.	Place of visit	Period	Faculty	Purpose
22	Ahmednagar district, Aurangabad Corporation, Sangli Corporation & Kolhapur Corporation	December 2000	Dr VH Balasangameshwara, CMO	As a member of the appraisal team for the proposed service delivery of 2 nd year RNTCP
23	Vijayanagaram (Andhra Pradesh)	December 2000	Dr Preetish S Vaidyanathan, SMO	As a Member of the Appraisal Team for the service delivery of RNTCP

24	Kolkata (West Bengal)	December, 2000	Dr VK Chadha, Sr. Epidemiologist	Undertook RNTCP supervisory visit to Tangra TU under Kolkata Municipal Corporation & a DOT Centre of NRS Medical College Hospital, Kolkata
25	North & South 24 Para-ganas, (West Bengal)	January, 2001	Dr L Suryanarayana, CMO	As a member of the Appraisal Team for the service delivery of RNTCP.
26	Chitoor (A.P)	January, 2001	Dr Preetish S Vaidyanathan, SMO Mr N Nagendra, HV	As a member of the Appraisal Team for the service delivery of RNTCP at Chitoor.
27	One TU & two MCs of Howrah district	February 2001	Dr (Mrs) Sophia Vijay, Sr. TB Specialist	Supervision
28	Mandya, Karnataka	March, 2001	Dr L Suryanarayana, CMO	As a member of the Appraisal Team for the service delivery of RNTCP.
29	Jaunpur (U.P)	March, 2001	Dr VK Chadha, Sr. Epidemiologist	DTP Supervision

B. NSS to estimate ARI

The following officials supervised the field work on regular basis:

Districts visited	Name (s) of officer/official & Designation
Junagadh (Gujarat)	Dr Preetish S Vaidyanathan, SMO Mr D Narayana Prasad, Team Leader (TL) Mr V Magesh, Field Investigator (FI) Mrs Umadevi, FI Mr Joydev Gupta, FI
Rae Bareilly (U.P)	Dr VK Chadha, Sr. Epidemiologist Mr Zacharia Joseph, Sistor Tutor Mr Lakshminarayana, FI Mr KR Hemanth Kumar, HV Mr Sanjay Singh, FI
TRC Chennai (T.N)	Dr Preetish S Vaidyanathan, SMO
Gurdaspur (Punjab)	Dr VK Chadha, Sr. Epidemiologist Mr N Anantha, FI Mrs Suganthi P, FI Mr Joydev Gupta, FI Mr AN Shashidhara, Contractual Supervisor
New Delhi TB Centre, Delhi	Dr (Mrs) Prabha Jagota, Director Dr VK Chadha, Sr Epidemiologist Dr Chitra Nagaraj, CMO Dr Preetish S Vaidyanathan, SMO Mr Shashidhar J Savanur, SSO Mr D Narayana Prasad, TL Mr Lakshminarayana, FI Mrs Suganthi P, FI Mr V Magesh, FI Mr BV Venkatachalappa, Computor Mr Hemanth Kumar, Health Visitor (HV) Mr R Jitendra, Computor Ms Malati Joshi, SA Mr Basudeva Verma, FI
Nagpur, Maharashtra	Dr (Mrs) P Jagota, Director Dr VK Chadha, Sr Epidemiologist Mr Lakshminarayana, FI Mr AN Shashidhara, Contractual Supervisor

Districts visited	Name (s) of officer/official & Designation
Kota, Rajasthan	Dr Preetish S Vaidyanathan, SMO Mr D Narayana Prasad, TL Mr G Krishnaswamy, FI Mr V Siddharthan, Sr Investigator Mr V Magesh, FI Mrs Uma Devi, FI Mr AN Shashidhara, Contractual Supervisor
Hardoi (U.P)	Dr VK Chadha, Sr Epidemiologist Dr VH Balasangameshwara, CMO Dr Chitra Nagaraj, CMO Dr Preetish S Vaidyanathan, SMO Mr O Srinivasulu, HV Mr Sanjay Singh, FI Mr KR Hemanth Kumar, HV
Kangra (Himachal Pradesh)	Dr VK Chadha, Sr Epidemiologist Dr Preetish S Vaidyanathan, SMO Mrs Suganthi P, FI Mr Joydev Gupta, FI
Jhabua (M.P)	Dr Preetish S Vaidyanathan, SMO Mr Zacharia Joseph, Sistor Tutor Mr V Magesh, FI Mr Joydev Gupta, FI
Jaunpur (U.P)	Dr VK Chadha, Sr Epidemiologist Dr Chitra Nagaraj, CMO Mr Shashidhar J Savanur, SSO Mr D Narayana Prasad, TL Mr O Srinivasulu, HV Mr KR Hemanth Kumar, HV Mr Sanjay Singh, FI Mr Ramesh Kumar Srivastava, FI Mr J Balachander, FA
Thane (Maharashtra)	Dr Preetish S Vaidyanathan, SMO Mr Zacharia Joseph, Sistor Tutor Mr Lakshminarayana, FI Mr Jameel Ahmed, FI

18. HIGHLIGHTS OF FUTURE PLANS

1. Enhancement of training activity in RNTCP keeping in pace with the extension of RNTCP to other districts.
2. Intensification of monitoring and supervision of NTP and RNTCP.
3. A nationwide survey to estimate Annual risk of tuberculosis infection in different parts of India, proposed by this institute wherein a total of more than 2 lakh children all over the country shall be investigated in collaboration with other institutions, NTI being the nodal center, will be continued.
4. The Epidemiology section proposes to foster capacity building of epidemiological units in different states of India. It is proposed to achieve this by helping the states to conduct Epidemiological Studies. Measure is already under way in Kerala, Andhra Pradesh & Wardha (Maharashtra).
5. Commissioning of P3 system for AMRU.
6. Creation of website on NTI, Bangalore
7. Creation of national database of Indian Literature on tuberculosis.
8. Library Automation.
9. Installation of a lift in the Library & Training Block.
10. Construction/Modification of Guest rooms in the Training/Library block.
11. Publication of the Documents :
 - (a) "Sociological aspect of Tuberculosis"- Summaries of published paper published globally from 1939-2000.
 - (b) Summaries of NTI studies - Vol 2

19. VISITORS

From Ministry of Health & Family Welfare

April 2000 Sri NT Shanmugham, Honourable Union Health Minister visited the Institute on 21st April 2000.

May 2000 Dr AB Maalaka Raddy, Honourable Minister of Health & Family Welfare, Government of Karnataka, released the book "Annals of the National Tuberculosis Institute, Bangalore – 40 years of accomplishment" on 19th May 2000. The occasion was graced by the presence of following dignitaries: Sri Sen Gupta, Health Secretary, Govt. of Karnataka; Dr Tom Frieden, CMO-WHO; Dr VK Arora, Special officer, DGHS, Govt. of India, New Delhi; Dr (Mrs) Prabha Jagota present Director; Dr GVJ Bailey & Dr P Chandrasekhar former Directors of NTI; Sri BK Sundaeswara, Hon. Secretary Karnataka State TB Association and Dr TD Daniel, Health Adviser, Action Aid India, Bangalore.

Others

April 2000 Dr Lavanya M. Suneetha from LEPR India, Hyderabad, visited the Institute in April 2000 for a demonstration of DNA vaccine trial in the ongoing research experimentation in an animal model at out AMRU. Discussions were also held on the impact of ongoing basic research in TB. A protocol on host parasite relationship in TB was also drafted with a view to explore the possibility of having a collaborative study with NTI.

May 2000 Dr VK Arora, Officer on Special Duty from DGHS, visited the Institute to review the monitoring activities at NTI. He was taken to DTC, Tumkur and PHI, Kyatasandra on 20th May 2000.

June 2000 Dr (Mrs) Ira Ray, Additional DGHS, New Delhi, visited the Institute on 1st June 2000.

Ms Anu Gupta, Ph.D. student from Post Graduate Institute of Medical Education & Research, Chandigarh, visited the Institute to participate in the collaborative project on "Evaluation of Protective Efficacy of Mycobacterial antigens against tuberculosis" in the AMRU.

December 2000 Dr GK Khuller, HOD of Biochemistry, Post Graduate Institute of Medical Education & Research, Chandigarh, visited the Institute on 6th December 2000 and had a discussion with the Director and Dr. V.K. Challu, Veterinarian, regarding the ongoing collaborative project at AMRU.

February 2001 The High Level Delegation from Myanmar, viz., His Excellency Prof. Kyaw Myint, Deputy Minister and Kyaw Nyunt Sein, Deputy Director (Leprosy), Ministry of Health, Government of the Union of Myanmar, visited the Institute to directly observe various aspects of TB Control Programme in Bangalore from 1st to 3rd February 2001.

Dr Karin Weyer, WHO Consultant from Tuberculosis Research Programme, Medical Research Council, Pretoria, South Africa, visited the Institute from 19th-21st Feb 2001 and had discussion on the ongoing research activities i.e.,

- a) Surveillance of Drug Resistance in central part of India
- b) Protocol "Quality Assurance of sputum microscopy under RNTCP"
- c) External Quality Assurance Programme, and
- d) National Sample Survey to estimate Annual Risk of Tuberculosis Infection in different parts of India.

She was briefed about the 'ongoing research activities and ' the aims and objectives of the NTI Library as an information dissemination centre in the TB control programme' respectively.

Dr Madhuri Sharma, Additional Director General (M), DGHS, New Delhi visited the Institute on 22nd and 23rd February 2001. During her visit to AMRU and Library, she was briefed about the 'ongoing research activities and ' the aims and objectives of the NTI Library as an information dissemination centre in the TB control programme' respectively.

20. IMPORTANT DAYS CELEBRATED AT NTI

19 th May 2000	Release of the Historical Document – <i>“Annals of the National Tuberculosis Institute – 40 years of achievements”.</i>
15 th August 2000	Independence Day
8 th to 14 th September 2000	Hindi Rajbhasha week and day
2 nd October 2000	Gandhi Jayanthi
31 st October to 4 th November 2000	Anti-Corruption week
26 th January 2001	Republic Day
27 th February 2001	Cultural Function
24 th March 2001	World TB Day

Awards and Honours

Dr VK Chadha, Sr. Epidemiologist : was awarded the ‘Dr.C. Srinivasa Rao Award’ for his paper “The Annual Risk of Tuberculosis infection in Bangalore City”, by the TB Association of India at the 55th National Conference on TB & Chest Diseases held from 7th to 10th December, 2000 at Kolkata.

Dr B Mahadev, CMO : was awarded Gold Medal by Andhra Pradesh State TB Association for delivering the “Dr.P.V.Benjamin Memorial Oration”- “Glimpses of TB Programme and Research in India: Yesterday, Today and Tomorrow” at the 27th Andhra Pradesh State TB and Chest diseases Conference held at Madanapalle on 27th and 28th January 2001.

ACKNOWLEDGEMENTS

The Annual Report Committee is thankful to the Officers and Staff of all sections for providing the required information promptly. We are grateful to the Director, Dr (Mrs) Prabha Jagota for her continuous support and encouragement during the preparation of this annual report. The Committee acknowledges the Secretarial Assistance given by Sri R Ravi, Stenographer, Sri R Rajan for Hindi Typing, Sri Basudeva Verma for Hindi Translation and Mr ME Babu, Gestetner Operator, for printing of the text.

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Inner Text Pages Printed by : **NTI**
No 8, Bellary Road, Bangalore-3

Cover & Photo Pages Designed & Printed by : **SRI VINAY PRINTERS**
No. 50, 2nd Cross, 2nd Main, Agrahara Dasarahall, Magadi Road, Bangalore-79