

**NATIONAL TUBERCULOSIS INSTITUTE  
WHO Collaborating Center  
For  
Tuberculosis Research & Training**

**ANNUAL REPORT  
2006-2007**

**Government of India  
NATIONAL TUBERCULOSIS INSTITUTE**



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

**email: [ntiindia@blr.vsnl.net.in](mailto:ntiindia@blr.vsnl.net.in)  
<http://ntiindia.kar.nic.in>**

**Year of Publication:** 2007

**No. of copies:** 150

**Facilitator**

Dr. Prahlad Kumar

**Compiled & Edited by**

Dr. L Suryanarayana

Dr. Sophia Vijay

Dr. B Mahadev

Dr. T Ajay Kumar

**Secretarial Assistance**

Shri. R Ravi

Smt. Shantha

**Publication Secretary**

Smt. G Umadevi

**Publisher**

**National Tuberculosis Institute, Bangalore - 560 003**

# **CONTENTS**

---

<b>ANNUAL REPORT 2006-2007</b>	<b>PAGE NO.</b>
<u>LIST OF ABBREVIATIONS</u>	
<u>FOREWORD</u>	
1. <u>ORGANIZATIONAL SET UP</u>	1
2. <u>STAFF POSITION</u>	2-4
3. <u>COMMITTEES</u>	5-7
<b>ACTIVITIES</b>	
4. <u>TRAINING</u>	8-15
5. <u>RESEARCH</u>	16-23
6. <u>NATIONAL REFERENCE LABORATORY</u>	24-25
A. External Quality Assurance of sputum smear microscopy	
B. Drug Resistance Surveillance	
7. <u>MONITORING</u>	26
8. <u>LIBRARY AND INFORMATION SERVICES</u>	27
9. <u>PUBLICATIONS</u>	28
10. <u>OTHER TECHNICAL ACTIVITIES</u>	29-31
A. Central Internal Evaluation	
B. Involvement in task force meetings of medical colleges	
C. Participating in joint monitoring mission.	
D. Scientific Gallery	
E. Status of Laboratory Animals	
F. Specimens processed in Bacteriology section	
11. <u>OVERVIEW OF COMPUTER FACILITIES</u>	32
12. <u>PARTICIPATION IN MEETINGS / TRAINING PROGRAMMES / SEMINARS / CONFERENCES / WORKSHOPS / CONTINUING MEDICAL EDUCATION ETC.</u>	33-39
13. <u>VISITORS</u>	40-41
14. <u>EVENTS CELEBRATED</u>	42-43
15. <u>FINANCIAL OUTLAY &amp; EXPENDITURE</u>	44
16. <u>ADMINISTRATIVE SECTIONS</u>	45-46
17. <u>CIVIL &amp; ELECTRICAL WORKS AND MAINTENANCE</u>	47-48
<u>ACKNOWLEDGEMENTS</u>	49

## LIST OF ABBREVIATIONS

---

AIDS	Acquired Immuno Deficiency Syndrome
AIIMS	All India Institute of Medical Sciences
AMRU	Animal Model Research Unit
ANSU	Annual Negative Smear Volume
ART	Anti Retroviral Therapy
ARTI	Annual Risk of Tuberculous Infection
BCG	Bacillus Calmette Guerin
BMP	Bangalore Mahanagara Palika
CD	Compact Disk
CGHS	Central Government Health Scheme
CMO	Chief Medical Officer
CPWD	Central Public Works Department
CTD	Central Tuberculosis Division
DGNM	Diploma in General Nursing & Midwifery
DMC	Designated Microscopy Centre
DOT	Directly Observed Treatment
DOTS	Directly Observed Treatment Shortcourse
DPs	DOT Providers
DRS	Drug Resistance Surveillance
DTC	District Tuberculosis Center
Dte.GHS	Directorate General of Health Services
DTO	District Tuberculosis Officer
EPTB	Extra Pulmonary Tuberculosis
EQA	External Quality Assurance
HIV	Human Immuno deficiency Virus
IAEC	Institutional Animals Ethics Committee
IEC	Information Education Communication
IQC	Internal Quality Control
IRL	Intermediate Reference Laboratory
LAN	Local Area Network
LQAS	Lot Quality Assurance Sampling
LTs	Laboratory technicians
LRS	Lala Ram Swaroop
MDR	Multi Drug Resistance
MC	Microscopy Centre
MO - TC	Medical Officer - TB Control
<i>M.tb</i>	<i>Mycobacterium tuberculosis</i>
NGO	Non Governmental Organization
NICD	National Institute of Communicable Disease
NRL	National Reference Laboratory
NTI	National Tuberculosis Institute
NTP	National Tuberculosis Programme

NFSG	Non-Functional Selection Grade
OS	Operating System
OSE	On Site Evaluation
PAO	Pay & Accounts Office
PGIMER	Post Graduate Institute of Medical Education and Research
PHI	Peripheral Health Institution
PPD 1 TU	Purified Protein Derivative One Tuberculin Unit
PPM	Public Private Mix
PPS	Population Proportion to Size
QAP	Quality Assurance Programme
QI	Quality Improvement
RBRC	Random Blinded Re -Checking
RNTCP	Revised National Tuberculosis Control Programme
RTI	Right To Information
SAARC	South Asian Association for Regional Co-operation
SEARO	South East Asia Regional Office
STDC	State Tuberculosis Demonstration and Training Center
STLS	Senior Tuberculosis Laboratory Supervisor
STO	State Tuberculosis Officer
STS	Senior Tuberculosis Supervisor
TB	Tuberculosis
TCC	Technical Co-ordination Committee
TRC	Tuberculosis Research Center
TU	Tuberculosis Unit
WHO	World Health Organization

## FOREWORD

I am glad to place before you the Annual report of the institute for the year 2006-07. The institute continues to contribute its capacity for control of Tuberculosis in the country. The Institute has been a pioneer and continues to be in the fore front in providing trained manpower for implementation of TB Control Programme and conducting operational research. Since the entire country has been covered under RNTCP, maintaining the achievements in the consolidation phase has become a challenge and the responsibility of the institute in providing trained manpower has increased manifold.

With the rapid turnover of the trained manpower due to transfers, retirements and bifurcations of the districts, there is an increased demand for trained manpower. Keeping in view the emerging threat of HIV infection on TB, due emphasis is being given to train the key personnel involved in both TB & HIV control programmes. In this direction, imparting training through customized curriculum developed by CTD through modules is being undertaken. A good number of personnel, both from TB Control and HIV/AIDS programme have been trained. This is being met by conducting unparalleled number of training programmes.

As a WHO collaboration center, the institute has also undertaken training of Medical & para-medical personnel in TB control activities, from SEARO region. The leadership and strategic management workshop on TB Control was one of the important programme among them.

The magnitude of the training programmes conducted can be realized in the forthcoming chapters of this report.

Operational Research in TB being another priority area, the institute has taken up studies both at state and national level. Default in treatment, still being one of the challenges, has been studied on a national scale in different geographical settings. The field study has been completed and the report is under preparation. This would throw some light on the possible solutions to overcome the problem of default. The findings of the study on utilization pattern of anti-TB services by slum dwellers of Bangalore has provided valuable inputs for fine tuning the programme.

As a National Reference Laboratory, the institute is striving hard to sustain the quality of smear microscopy network. The enormous efforts invested in strengthening the STDCs for establishing EQA network in 10 states coming under the jurisdiction of the institute is reflected in the report.

The field work in respect of Drug Resistance Surveillance studies taken up as a prelude to DOTS PLUS programme implementation has been completed in the state of Maharashtra. The results of analysis of the study which is under progress will be shared with the stakeholders in the next annual report.

A brief summary of each research project and its status has been presented for the benefit of the reader.

The institute has a Category II library and information services as per the guidelines of the library Review Committee report, Government of India, New Delhi. This is a great asset of the institute. The Library also has a publication wing which caters to the publication needs of the institute. The facilities available and the activities undertaken by the Library are briefly presented in this report.

The institute continues to actively participate and assist in the activities of the Central TB Division in central internal evaluations of the RNTCP districts, involvement of Medical Colleges and Private sectors in TB Control Programme.

Technical activities that are highlighted in the report comprise of information on participation in Central Internal Evaluation, Medical Colleges Task Force activities, Joint Monitoring Missions and scientific gallery.

Participation in various meetings, training programmes, Seminars, conferences, workshops and continuing medical education have been reflected in this report.

All these tasks accomplished would not have been possible without the untiring efforts of the faculty and the staff of the institute. At this juncture, I would like to acknowledge the admirable co-operation and services provided by the faculty and staff of the Institute in achieving the tasks set for the year. I look forward for the continued co-operation and enthusiasm by the staff of the institute in the years to come.

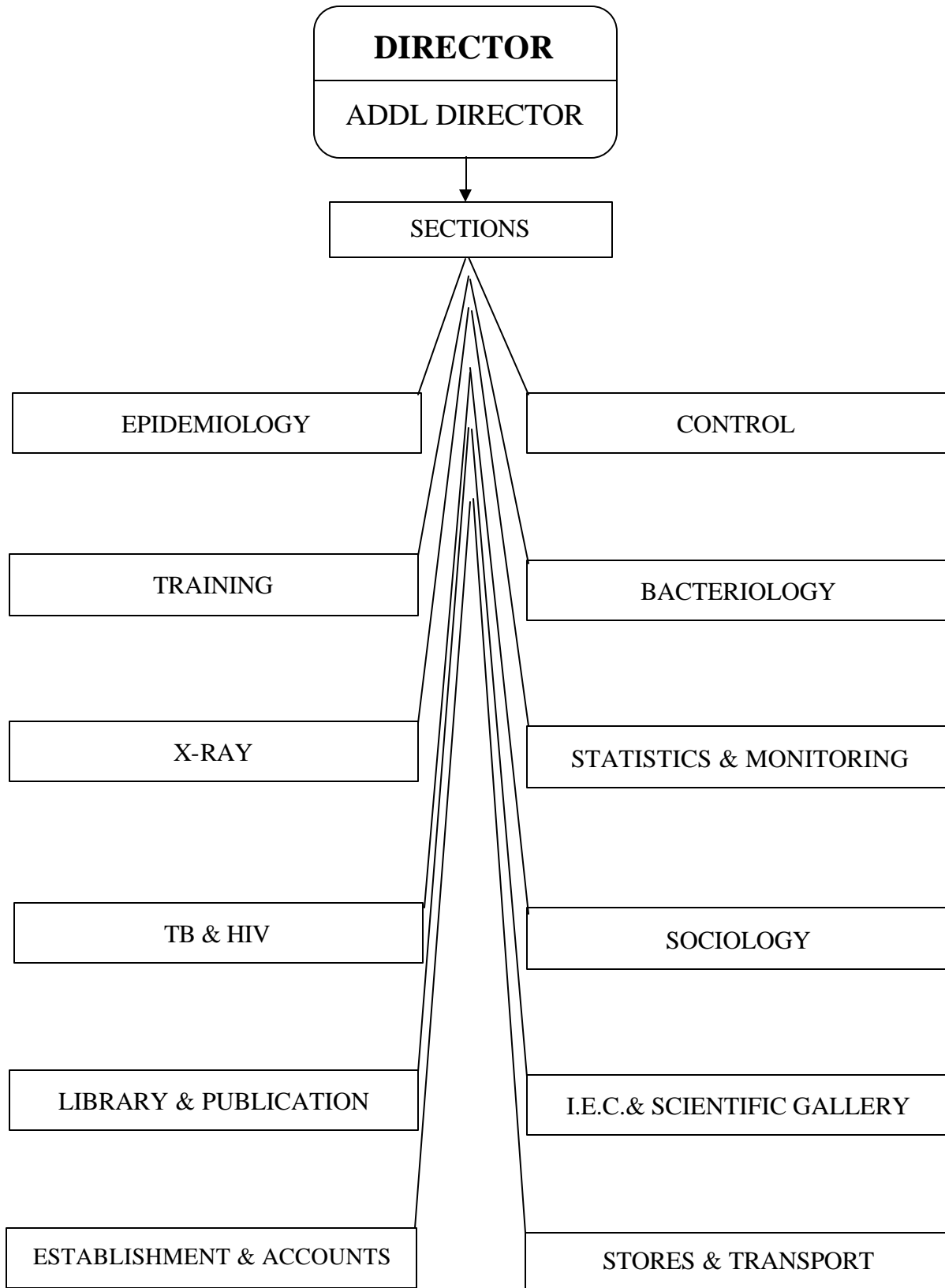
The institute expresses its gratitude to Central TB Division and WHO-India for all the co-operation, guidance and encouragement provided in all its endeavours.

Dated: 31<sup>st</sup> October 2007  
Place : Bangalore

Dr. Prahlad Kumar  
Director

# 1. ORGANIZATIONAL SET UP

---





## 2. STAFF POSITION

Staff position in terms of posts sanctioned and in working strength are given in the tables below.

### STAFF POSITION: GROUP-WISE

Sl. No.	Category	Sanctioned	In position	Vacant
1	Group 'A'	17	12	5
2	Group 'B'			
	Gazetted	04	1	3
	Non-gazetted	16	6	10
3	Group 'C'	111	80	31
4	Group 'D'	49	46	3
<b>Total</b>		197	145	52

### STAFF POSITION: POST-WISE

Sl. No.	Designation of the post	Sanctioned strength	Working strength
<b>GROUP 'A'</b>			
1	DIRECTOR	1	1
2	ADDITIONAL DIRECTOR	1	1
3	SR. TB SPECIALIST	1	1
4	CHIEF MEDICAL OFFICER	4	4
5	TB SPECIALIST	2	1
6	CHIEF STATISTICAL OFFICER	1	NIL
7	EPIDEMIOLOGIST	1	1
8	BACTERIOLOGIST	1	NIL
9	SENIOR STATISTICAL OFFICER	1	1
10	VETERINARIAN	1	1
11	STATISTICAL OFFICER	1	1
12	SOCIOLOGIST	1	NIL
13	X-RAY ENGINEER	1	NIL

<b>Sl. No.</b>	<b>Designation of the post</b>	<b>Sanctioned strength</b>	<b>Working strength</b>
<b>GROUP 'B' (GAZETTED)</b>			
14	ADMINISTRATIVE OFFICER	1	1
15	JR. BACTERIOLOGIST	1	NIL
16	ASST. TRG OFFICER	1	NIL
17	SR. P.A TO DIRECTOR	1	NIL
<b>GROUP 'B' (NON-GAZETTED)</b>			
18	SR. PUBLIC HEALTH NURSE	1	1
19	ASST. PROGRAMMER	1	NIL
20	JR. STATISTICAL OFFICER	1	NIL
21	SR. LIBRARIAN	1	NIL
22	SR. INVESTIGATOR (SOCS)	3	1
23	SR. INVESTIGATOR (EPS)	1	NIL
24	SR. TECH ASST (LAB)	1	NIL
25	SR. TECH ASST (X-RAY)	1	NIL
26	ACCOUNTANT	1	NIL
27	INVESTIGATOR	3	3
28	SOCIAL WORKER	1	1
29	STENOGRAPHER GR. I	1	NIL
<b>GROUP C</b>			
30	STATISTICAL ASSISTANT	6	5
31	STATISTICAL ASST. (MACH)	1	NIL
32	SORTER OPERATOR	1	NIL
33	PUNCH OPERATOR	2	NIL
34	COMPUTOR	6	4
35	HEAD CLERK	1	1
36	STENOGRAPHER GR. II	2	2
37	STENOGRAPHER GR. III	3	1
38	UDC	8	7
39	LDC	7	6
40	HINDI TYPIST	1	1
41	JR. HINDI TRANSLATOR	1	NIL
42	FIELD INVESTIGATOR	7	5
43	LABORATORY ASSISTANT	2	2
44	SISTER TUROR	2	1
45	HEALTH VISITOR	9	5
46	DRIVERS	15	13
47	STORE KEEPER	1	1
48	TELEPHONE OPERATOR	1	NIL
49	HOSTEL WARDEN	1	1
50	GESTETNER OPERATOR	1	NIL
51	LABORATORY TECHNICIAN	12	10

<b>Sl. No.</b>	<b>Designation of the post</b>	<b>Sanctioned strength</b>	<b>Working strength</b>
52	DRAUGHTSMAN	1	1
53	TRANSPORT SUPERVISOR	1	1
54	MECHANICAL SUPERVISOR	1	NIL
55	X-RAY TECHNICIAN	6	5
56	DRIVER MECHANIC	2	1
57	COOKS	10	7
<b>GROUP D</b>			
58	GROUP 'D' PEONS	20	20
59	ANIMAL ATTENDANT	3	2
60	FIELD ASSISTANT	1 P	1
61	DAFTRY	1	1
62	DRA	2	1
63	GARDENER	1	1
64	HELPER	1	1
65	SAFAIWALA	8 + 1 P	9
66	BEARER	1	1
67	LABORATORY ATTENDANT	7	6
68	CHOWKIDAR	3	3

### **3. COMMITTEES**

---

Several Institutional and other committees have been constituted under the chairmanship of senior officers for examining the relevant issues, formulate recommendations to facilitate the Director in taking appropriate decisions. The functions of the important committees that existed during the year are described below:

#### ***Institutional Ethics Committee***

Review the research protocols from the point of view of ethical considerations and to give the stamp of approval before implementation.

#### ***Institutional Animal Ethics Committee***

Review and approve research projects involving animal experimentation.

#### ***Technical Co-Ordination Committee***

All the faculty members of the Institute are members of this committee. This committee meets frequently to ensure in-depth inter-disciplinary discussions on all technical matters, exchange of information, plan and co-ordinate research activities. Whenever a new research activity is proposed to be undertaken, it is discussed threadbare in the committee meetings. It also reviews progress of fieldwork & analysis of the research protocols. The draft findings of the research projects are again discussed before it is either presented in technical conferences or published in the journals.

#### ***Committee on Administration and Staff Welfare:***

All important service matters of the staff are referred to this committee for examination from the point of view of prevailing rules and formulation of recommendations for action by Director.

#### ***Planning Committee for Civil and Electrical Works***

This committee is responsible for identification of civil & electrical works to be carried out in the institute and prioritizing the same within the annual budget under this head. Scrutiny of the estimates received from CPWD, and specifications of the work entrusted are undertaken by the committee before issue of administrative & expenditure sanction. The committee also monitors the progress of the work in close coordination with the concerned CPWD officials.

#### ***Purchase Committee***

This committee is responsible for the scrutiny of the specification of the items sought by different sections, examination of pre-qualification criteria, opening of quotations/tenders and scrutiny of comparative statements with reference to the set specifications and relevant rules of purchase. Finally the recommendations are submitted to the Director for further action.

### ***Rajbhasha Implementation Committee***

This committee has been formulated to promote the use of Rajbhasha and encourage the officials to learn and use Hindi language in official correspondences. This committee coordinates the celebration of Hindi week and Hindi Day.

### ***Library Committee***

This committee is entrusted with the responsibility of recommending the subscription of periodicals, acquisition of books, user-oriented activities and ways to promote dissemination of information.

### ***Editorial Committee***

This committee coordinates the publication activities of the Institute, especially the half-yearly publication viz., “**NTI Bulletin**”.

### ***Quarters Allotment Committee***

The committee is responsible for organizing the preparation and scrutiny of waiting list for allotment of quarters and finalization of recommendations as per the prevailing allotment rules.

### ***Campus Maintenance Committee***

This committee has an advisory role in matters pertaining to the general upkeep, maintenance and security of the campus.

### ***Flag Hoisting Committee***

The committee is responsible for the supervision of the hoisting of national flag, daily as well as on occasions of national importance as per the guidelines of Government of India.

### ***Committee for prevention of Sexual Harassment***

This committee deals with the complaints of sexual harassment faced by the women Government servants.

### ***Condemnation Committee***

Condemnation Committee has been constituted to process the items recommended for condemnation by different sections. The committee after going through the history sheet (viz., date of procurement, duration of its use, the quantum of repairs undertaken and its present working condition) decides on the feasibility of its condemnation.

### ***Committee for taking actions on court matters and audit objections***

The committee has been constituted under the chairmanship of Additional Director to review and initiate action on pending court matters and audit objections.

***Nomination of central public Information officers***

Two central public Information officers - One for administrative matters and another for technical matters have been nominated to process the information as and when sought for in accordance with the guidelines of RTI act.

***Constitution of office Council***

Office council has been constituted under the chairmanship of Director and Section Officers as its members with the objective to promote harmonious relations and securing co-operation from the staff to achieve greater work efficiency.

## 4. TRAINING

Training in TB Control programme is one of the essential functions of the institute and keeps meeting ever-increasing demand of trained manpower in implementation and maintenance of TB Control Programme. This is an ongoing and a continuous process because of periodic replacement of key personnel due to retirements/transfers. The training is undertaken in response to the requirement at the state level and directives from Central TB Division, New Delhi. Besides regular RNTCP Modular Training, the institute also shoulders the responsibility of training the Medical & Paramedical personnel from various states in activities like TB-HIV, EQA in smear microscopy & DRS and training of tuberculin survey teams in testing and reading.

The various training activities carried out by the institute during the period under report are furnished below in detail indicating the dates, Number of Participants and description of training activity.

### A. RNTCP and TB-HIV Modular training

This course of 12 days duration consists of a pre test, training in modules (1-9) and a Module on TB-HIV, lecture classes on important topics of RNTCP, discussions, question and answers session on the modules covered, field visits to the RNTCP area in the districts of Bangalore urban, Bangalore rural and BMP, post test and presentation of field reports.

Sl. No.	Category of Personnel	Duration	No. of participants	Organization / State / District
1	District TB Officers/State TB Officers, Medical Officers from Damien Foundation India Trust	24-04-06 to 06-05-06	34	Uttar Pradesh, Chattisgarh, Maharashtra, West Bengal, Nagaland, Bihar, Madhya Pradesh, Kerala, Andrapradesh, Jharkhand, Rajasthan, & Karnataka
2	District TB Officers/State TB Officers	31-07-06 to 12-08-06	33	Lakshadweep, Kerala, Andrapradesh, Karnataka, Orissa, Delhi, Goa, Punjab, Madhyapradesh
3	District TB Officers/State TB Officers	30-10-06 to 11-11-06	34	Andhra Pradesh, Bihar, Maharashtra, Jharkhand, Chattisgarh, Gujarat, Karnataka, Kerala, Madhya Pradesh

<b>Sl. No.</b>	<b>Category of Personnel</b>	<b>Duration</b>	<b>No. of participants</b>	<b>Organization / State / District</b>
4	District Officers/State Officers TB TB	08-01-07 to 20-01-06	28	Bihar, Himachal Pradesh, J&K, Jharkand, Kerala, Karnataka, Madya Pradesh, Maharashtra, Delhi, Orissa, Punjab
5	District Officers/State Officers, TB TB	05-02-07 to 17-02-07	18	RNTCP Modular Training - Andhra Pradesh, Maharashtra, Orissa, West Bengal

The institute also extends its support in terms of facilitation of training programmes held outside NTI. The facilitators are deputed for training on specific requests, the details of which are given below:

<b>Sl. No.</b>	<b>Category Personnel</b>	<b>Duration</b>	<b>No. of participants</b>	<b>Sponsoring Organization &amp; Resource Person</b>
1	Newly Appointed WHO Consultants from Karnataka, Chattisgarh, MP, Bihar, UP	26-05-06 to 09-06-06	22	CTD, New Delhi Dr. Mahadev CMO-NFSG
2	RNTCP DOTS plus training for DTOs, STOs, STDC Directors	08-01-07 to 12-01-07	30	Gujarat and Maharashtra Dr. Sophia Vijay Sr. TB Specialist

### **B. RNTCP Modular training for staff of ART Centres**

This training is aimed at strengthening the TB-HIV coordination. This course of 5 days duration consists of training in Modules (1-4), TB-HIV Module, Pre-test, Field visit, post test and presentation of field reports.

<b>Sl. No.</b>	<b>Category Personnel</b>	<b>Duration</b>	<b>No. of participants</b>	<b>Organization / State / District</b>
1	Medical Officers from ART Centers	12-06-06 to 16-06-06	23	Arunachal Pradesh, Tamilnadu, UP & Manipur



<b>Sl. No.</b>	<b>Category Personnel</b>	<b>Duration</b>	<b>No. of participants</b>	<b>Organization / State / District</b>
2	ARTC Medical Officers	3-07-06 to 7-07-06	21	Maharashtra, Tamilnadu, Assam
3	Officials from ART Center	18-12-06 to 22-12-06	15	Karnataka, Chandigarh, Manipur, Maharashtra, Gujarat, Meghalaya, Mizoram, Punjab, Bihar

### **C. Training on TB-HIV for Trainers**

This training for a duration of 2 days was focussed on HIV/AIDS and its co-ordination with the TB Control programme.

<b>Sl. No.</b>	<b>Category Personnel</b>	<b>Duration</b>	<b>No. of participants</b>	<b>Organization / State / District</b>
1	Medical Officers of STDC	29-06-06 to 30-06-06	23	Andhra Pradesh, Karnataka, Kerala, Maharashtra, Manipur, Delhi, Orissa, Punjab, West Bengal
2	Medical Officers of STDC	13-07-06 to 14-07-06	20	Himachal Pradesh, Gujarat, Karnataka, Punjab, Rajasthan, Tamilnadu
3	SACS Personnel	13-12-06 to 14-12-06	22	Assam, Andhra Pradesh, A & N Islands, Arunachal Pradesh, Dadra & Nagar Haveli, Gujarat, Haryana, Jharkhand, Kerala, Maharashtra, Madhya Pradesh, Tamilnadu, West Bengal

#### D. Training in EQA Programme

The institute being a NRL under EQA is responsible for training STDC staff of 14 states in EQA procedures.

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
1	Personnel from STDCs	18-09-06 to 22-09-06	12	Jammu & Kashmir, Karnataka & Punjab
2	STDC Directors	15-11-06 to 16-11-06	12	Orissa, Himachal Pradesh, West Bengal, Chattisgarh, Goa, UP, Lakshadweep, Kerala, Tamilnadu, Delhi.
3		19-02-07 to 20-02-07	11	Chattisgarh, Manipur, Orissa, Poondichery, Meghalaya, Rajasthan, Tamilnadu, New Delhi
4	Personnel from STDCs	05-03-07 to 09-03-07	22	Gujarat, Delhi, Haryana, Karnataka, Orissa, Pondichery, Utter Pradesh,

The institute also has extended its support in terms of facilitation of EQA training programmes held outside NTI, the details of which are given below

Sl. No.	Category Personnel	Duration	No. of participants	Organization / State / District
1	STDC Personnel	05-02-07 to 07-02-07	10	STDC, Ranchi Dr. Ajay Kumar T and Ms. Shiny San took part as course facilitator from NTI, Bangalore.
2	STDC Personnel	08-02-07 to 11-07-07	12	STDC Patna Dr. Ajay Kumar T and Ms. Shiny San took part as course facilitator from NTI, Bangalore

### **E. Training in Preventive Maintenance & Minor repairs of Binocular Microscopes**

RNTCP has been implemented in the entire country since March 2006. Hence, it became imperative to maintain and repair the binocular microscopes periodically. In this direction, NTI has taken a lead role in training on repair and maintenance of Binocular microscopes. During the period under report, 29 LTs/STLs from the states of Goa, Assam, Manipur, Tripura, Meghalaya, Arunachal Pradesh, Mizoram and Karnataka were trained.

<b>Sl. No</b>	<b>Category</b>	<b>Duration</b>	<b>No. of Participants</b>	<b>Organization / State / District</b>
1	Laboratory Technicians	30-10-06 to 01-11-06	1	Lakshadweep
2		29-01-07 to 02-02-07	10	Meghalaya, Arunachal Pradesh, Mizoram, Assam
3		26-03-07 to 30-03-07	12	Karnataka

### **F. Sensitization on TB Control Programme for undergraduate/Post graduates/medical/paramedical students:**

The institute also provides one-day sensitization on TB Control Programme to medical (MBBS), paramedicals (DGNM, Medical Assistants from Air Force) and graduates / postgraduates (B.Sc & M.Sc – life sciences). This consists of briefing on TB, its magnitude, salient features of RNTCP, management of TB cases and wherever relevant, the bacteriological aspects of TB viz., Primary isolation, identification & sensitivity tests, role of animal experimentation in TB control programme and a journey through the Scientific Gallery. The session at the scientific gallery ends with an oath taking ceremony on commitment of their role in the control of TB. The details of the sensitization programmes conducted are furnished below.

<b>Sl. No.</b>	<b>Date</b>	<b>No. of participants</b>	<b>Organization</b>
1	04-04-06	23	St. Martha's college of nursing, Bangalore
2	17-04-06	38	St. Philomena's School of Nursing, Bangalore
3	20-04-06	35	Bangalore city school of nursing, Bangalore
4	21-04-06	30	Manasa Gangothri, Mysore
5	25-04-06	44	Bangalore college of nursing, Bangalore
6	26-04-06	50	Shanmuga college of nursing, Salem TN
7	29-04-06	42	Hina School of Nursing, Bangalore
8	31-05-06	18	Bangalore City School of Nursing, Bangalore
9	02-06-06	35	Bangalore city college of nursing,

<b>Sl. No.</b>	<b>Date</b>	<b>No. of participants</b>	<b>Organization</b>
10	03-06-06	36	Adichunchanagiri college of nursing, Balagangadharanath nagar, Mandya district
11	05-06-06	40	Yenepoya nursing college, Mangalore
12	06-06-06	35	Bangalore city college of nursing, Bangalore
13	07-06-06	20	Ebenezer School of Nursing, Bangalore
14		24	St. Philominas college of nursing, Bangalore
15	08-06-06	37	Bangalore city college of nursing, Bangalore
16	10-06-06	50	Nitte usha inst. of nursing science Mangalore
17	13-06-06	25	Bangalore University, Dept of microbiology. Bangalore
18	15-06-06	44	Unity academy of health education, Mangalore
19	16-06-06	24	Command Hosp.School of nursing, Bangalore
20	23-06-06	45	St.Marys inst. nursing
21	28-06-06	53	SB College of nursing
22	29-06-06	50	Hina College of nursing
23	26-06-06	13	INSA, Bangalore
24	27-06-06	60	K.Pandiyaraj Ballal college of nursing, Mangalore
25	03-10-06	43	Gautham School of nursing, Bangalore
26	05-10-06	55	Gautham School of nursing, Bangalore
27	10-10-06	55	Gautham School of nursing, Bangalore
28	15-11-06	28	Medical Training Center, Air Force, Bangalore
29	04-12-06	02	St.John's national academy of health sciences, Bangalore
30	06-12-06	28	Govt.Science college, Hassan
31	12-12-06	04	Nitte Usha institute of nursing science, Mangalore, Karnataka
32	20-12-06	50	T.John college, Gottigere, Bangalore
33	05-01-07	18	MVJ Medical College, Bangalore
34	16-01-07	04	Oxford College of Nursing, Bangalore
35	24-01-07	42	Air force Medical Centre, Bangalore
36	29-01-07	31	TJPS College, Guntur, Andhra Pradesh
37	31-01-07	36	Krupanidhi Inst of Nursing, Bangalore
38	01-02-07	35	Krupanidhi inst.of nursing, Bangalore
39	14-02-07	15	INSA, Bangalore
40	19-02-07	48	Administrative management college, Bangalore
41	27-02-07	36	S.J.R.C College, Bangalore
42	05-03-07	50	Global college of nursing, Bangalore.
43	07-03-07	50	Global school of nursing, Bangalore
44	20-03-07	35	Hillside college of nursing, Bangalore
45	22-03-07	35	
46	22-03-07	05	MS Ramaiah medical college, Bangalore
47	27-03-07	54	Father muller college of nursing, Mangalore.
48	29-03-07	50	Hill side school of nursing, Bangalore
49	30-03-07	27	Bhagwan Mahaveer Jain college of nursing, Bangalore.

## G. WHO Collaborative Activities

As a WHO collaborative center, the institute took active part in conducting WHO sponsored training programme. Both in-house and external faculty facilitated the training.

### a. Leadership & Strategic Management Workshop in TB Control.

Sl. No.	Category Personnel	Duration	No. of participants	Country
1	National TB Programme Managers	04-09-06 to 08-09-06	14	Bhutan, India, Maldives, Myanmar, Nepal, Srilanka, Pakistan

### b. WHO Training

Sl. No.	Type of Training	Duration	No. of participants	Sponsoring organization / Country
1	TB Control Training for Laboratory Technicians & Health Supervisors	22-05-06 to 26-05-06	10	Nepal Participants sponsored by National TB Control, Nepal.
2	Inter-country Consultation on Tuberculosis Surveillance Monitoring & Evaluation	28-08-06 to 31-08-06	32	Bangladesh, Bhutan, DPR Korea, India, Indonesia, Maldives, Myanmar, Nepal, Srilanka, Thailand, Timor-Leste, WHO Geneva
3	TB Management & Control Programme	04-09-06 to 13-10-06	2	Myanmar
4	TB Management & Control Programme	04-09-06 to 15-09-06	10	Myanmar, Maldives, Sri lanka
5	TB Management & Control Programme	04-09-06 to 28-09-06	2	Maldives
6	Training in TB Bacteriology	15-01-07 to 26-02-07	1	NICD, New Delhi
7	Training in Radiology	15-01-07 to 23-02-07	1	CGHS, New Delhi
8	Training in TB Control Programme	05-02-07 to 09-02-07	8	NTC, Nepal

<b>Sl. No.</b>	<b>Type of Training</b>	<b>Duration</b>	<b>No. of participants</b>	<b>Sponsoring organization / Country</b>
9	Training on Quality Assurance of smear Microscopy	05-02-07 to 09-02-07	3	Bhutan
10	Training in Drug Sensitivity	05-02-07 to 16-02-07	1	Bhutan

#### **H. Other Trainings**

<b>Sl. No.</b>	<b>Duration</b>	<b>No. of participants</b>	<b>Details of training</b>
1	15-05-06 to 19-05-06	3	Training on health statistics
2	11-04-06	15	Orientation on Pediatric Drug Boxes for NTI faculty and STDC personnel from STDC Karnataka

## 5. RESEARCH

---

Research on TB control and related areas is one of the prime functions of the Institute. Several technical sections in the institute pursue research in their respective areas. The Institute has put in place the mechanism of TCC for thorough technical discussion and exchange of information before finalization of the research protocol. The projects are also scrutinized by the Institutional Ethics Committee for addressing the ethical issues. The progress of the project is monitored by the TCC at periodic intervals. The conclusions of the research projects are also reported in the TCC before they are either presented in technical conferences or published in journals. The report on various research projects is presented under three sub headings.

### **A. *The status of the research projects undertaken during the year are given in brief below:***

#### **1. Defaults & Patient Retrieval among New Smear Positive Patients Treated in RNTCP under Different Geographic and demographic Settings**

The RNTCP based on the DOTS strategy has now been implemented almost in the entire country. At this phase of consolidation sustaining the quality of services and achieving high cure rates are most essential for the success of RNTCP. For this strict adherence to programme guidelines to ensure DOT and minimize default is a prerequisite. The challenges encountered in organizing and utilizing DOT services vary considerably from place to place. Against this background, this study dealt with situational analysis of the organization of Directly Observed Treatment (DOT), insight into the difficulties encountered in implementing and delivering DOT services in different geographic regions and the problems faced by patients in utilizing the DOT services during treatment. The study findings will help in evolving suitable strategies, which could be incorporated in programme guidelines to achieve and maintain the desired cure rate of more than 85%.

The 19 districts selected for the study were drawn from the states, which were fully implemented under RNTCP by 1st Quarter 2003. The districts in these states were stratified into 6 different geographic and demographic regions namely, Plain, Desert, Municipal Corporation, Coastal, Hilly and Tribal. From each stratum two or three districts were selected based on new smear positive cases initiated on treatment. In each of the districts all patients defaulting from treatment during the selected quarters and an equal number of patients completing treatment belonging to the same age group, gender and from the same treatment center as the defaulted patient form the study group. The field work has been completed and the report preparation is under progress.

#### **2. Accessibility and utilization of anti-TB services by slum dwellers of Bangalore**

This study was taken up with the objectives of ascertaining the awareness of slum dwellers regarding symptoms of tuberculosis, mode of diagnosis, availability of diagnostic and treatment services, action taking behavior of chest symptomatics and TB cases residing in city slums and to find out the patient constraints in

accessing RNTCP services in slum areas. Since the initiation of fieldwork, 15863 adults have been interviewed using semi-structured questionnaire. Field work is completed. Data entry is under progress.

### **3. Utilization pattern of RNTCP services in rural areas of Bellary district – study of age, gender and spatial differentials**

The study was undertaken in Sandur TB Unit in rural area of Bellary district with the objective of finding the utilization pattern of RNTCP services in relation to age, gender and distance from the Health Centers. The preliminary results are as under:

Of 2046 chest symptomatics subjected to sputum microscopy, 62% were males and 38% females. Among males, 50% of the chest symptomatics were in 45 years and above age group while in females, 50% were in 25-44 year age group. Out of 2046 chest symptomatics, 232 (11.5%) were found to be new smear positive cases: males-71%, females-29%. Half of the cases in both genders were in 25-44 years age group. Of the remaining, higher proportion was found in younger age group of 15-24 years among females and a higher proportion among males was observed in 45 years and above age group. The mean age of females and male patients were 34 and 40 years respectively.

One-third of chest symptomatics and smear positive cases resided within 4 kms of Designated Microscopy Centers, another 1/3<sup>rd</sup> between 5-19 kms and remaining 1/3<sup>rd</sup> were residing beyond 19 kms.

Of 232 smear positive cases detected, 43 (18.5%) were found to be initial defaulters.

Treatment outcome was available for 186 cases (male-126, female-60). Higher success rate of 88% was observed among females compared to 78% among males. Death rate was 13% among males and 7% among females.

### **4. Estimation of Annual Risk of Tuberculous Infection (ARTI) in Andhra Pradesh**

A tuberculin survey was conducted in a representative sample of children in the age group 5-9 years, with the objective of obtaining the state level estimate of ARTI. The clusters were selected by a two-stage sampling procedure. At first stage, 5 districts were selected by Population Proportion to Size (PPS) method. Depending upon the population ratio, 32 clusters allocated to each district were further subdivided into rural and urban clusters selected by simple random sampling. Three thousand six hundred and forty seven children irrespective of their BCG scar status were tuberculin tested using 1 TU PPD RT 23 with tween 80 and the maximum transverse diameter of indurations was measured about 72 hours later. The prevalence of infection in the study was estimated at 9.7% (95% CI: 8.4 - 11.0%) and the ARTI was computed at 1.4% (95% CI: 1.2 - 1.6%).



## **5. Annual Risk of Tuberculosis Infection among children in Kerala**

The study to estimate the prevalence of infection and ARTI among school children at state level was undertaken by the State TB Cell under technical guidance and supervision of NTI. During the reporting year the field work was completed in four selected districts. Four thousand four hundred and twenty seven children aged 5-9 years were satisfactorily subjected to tuberculin testing and reading. The prevalence of infection in the overall study group was estimated at 3.5% and the ARTI computed at 0.52%. The prevalence of infection among BCG vaccinated & unvaccinated children was 3.7% & 2.7% respectively with the computed ARTI rates at 0.55% & 0.41% respectively.

## **6. A tuberculin survey among school children of Bangalore city to find out the impact of RNTCP on Annual Risk of Tuberculous Infection**

A repeat tuberculin survey was conducted among school children to estimate the trends in risk of tuberculous infection. The previous round of tuberculin survey was undertaken during the years 1996-99. During the present survey, 2874 children were subjected to tuberculin testing. Tuberculin reaction were read among 2760. Data entry of survey records has been completed.

## **7. A tuberculin survey in orphanages of Bangalore city to estimate ARTI**

A tuberculin survey was conducted among the children residing in the orphanages of the Bangalore city to study the prevalence of tuberculous infection and computation of ARTI. A total of 1076 children in 17 orphanages were tuberculin tested. Reactions were read among 880 children. Data entry of the survey has been completed.

## **8. Provision of animals for testing under the project on DNA Tuberculosis Vaccine in collaboration with the Dept. of Microbiology & Cell Biology, Indian Institute of Science (IISc), Bangalore.**

Various DNA combinations prepared at IISc were tested in six groups of animals comprising ten guinea pigs each. Post mortem examination were conducted on these animals and the extent of diseases was assessed. Spleen, liver & lung tissues from each animal were aseptically dissected out, mechanically homogenized, serial dilutions prepared & inoculated on LJ media for quantitative analysis. The study is in progress.

## **9. The pathogenetic role of serine threonine kinases of *M.tuberculosis* in albino guinea pigs- A collaborative study with the Tuberculosis Research Centre (TRC) Chennai.**

Necropsy examinations were conducted on twenty four guinea pigs, which were administered coded suspension of *M.tuberculosis* (with disrupted genes). Besides assessing the extent of disease for virulence assay; spleen, liver & lung tissues, from these animals were aseptically dissected out for further processing at TRC, Chennai. Another two groups comprising twelve guinea pigs each were inoculated

with mutant strains of *M.tuberculosis* through subcutaneous route. Weekly weights were also recorded. The study is in progress

## **B. Papers presented in 61st National TB Conference at Udaipur, Rajasthan**

### **1. Prevalence & Annual Risk of Tuberculous Infection among school children in Bangalore rural district**

The data on tuberculin survey carried out among school children in Devanahalli taluk of Bangalore rural district during 2005-06 was analyzed to estimate the Annual Risk of Tuberculous Infection (ARTI) and to study the trends from the past. A total of 2459 children in the age group 5- 14 yrs were tuberculin tested in 25 selected schools. The tests were administered using 1 TU PPD RT23 with Tween 80, on the mid-volar aspect of left forearm and maximum transverse diameter of induration was measured between 72-96 hours. Of these, 2235 children were satisfactorily test-read; the proportion of children with BCG scar was 64%.

The prevalence of infection estimated by mirror image technique using the mode at 20mm was 5.8% and the ARTI was computed at 0.6%. When compared with the findings of an earlier survey in peri-urban villages of Bangalore during 1990-94, the average rate of decline of ARTI per annum was 3%. This trend may not be wholly attributable to implementation of RNTCP, since it was similar to the decline observed earlier in rural areas of Bangalore district between 1961-1986.

### **2. Utilization pattern of RNTCP services in rural areas of Bellary district- Study of age, gender and spatial differences**

A Study was conducted in Sandur tuberculosis unit (TU) in rural areas of Bellary district, Karnataka, to find out the utilization pattern of Revised National Tuberculosis Programme (RNTCP) services by age-group, gender and distance to the microscopy centers (MC) and treatment centres. Data on age, gender and distance of residence from MCs in respect of chest symptomatics and smear +ve cases was collected for the period 1-7-2003 to 30-6-2004.

Of 2046 chest symptomatics subjected to sputum microscopy, 62% were males and 38% females. Among males, 50% of the chest symptomatics were in 45 years and above age group while in females, 50% were in 25-44 year age group. Out of 2046 chest symptomatics, 232 (11.5%) were found to be new smear positive cases: males-71%, females-29%. Half of the cases in both genders were in 25-44 years age group. Of the remaining, higher proportion was found in younger age group of 15-24 years among females and a higher proportion among males was observed in 45 years and above age group. The mean age of females and male patients were 34 and 40 years respectively.

One-third of chest symptomatics and smear positive cases resided within 4 kms of Designated Microscopy Centers, another 1/3<sup>rd</sup> between 5-19 kms and remaining 1/3<sup>rd</sup> were residing beyond 19 kms.

Of 232 smear positive cases detected, 43 (18.5%) were found to be initial defaulters.

Treatment outcome was available for 186 cases (male-126, female-60). Higher success rate of 88% was observed among females compared to 78% among males. Death rate was 13% among males and 7% among females.

### ***3. Gender differentials among registered TB patients and treatment outcomes in six geographically diverse RNTCP districts***

This record based study was undertaken with the objective to find out gender disparities of registered TB cases in six geographically diverse districts (coastal, hilly, plain, desert, tribal and metropolitan) - by age, type of cases and their treatment outcome. The study subject comprised of all TB patients registered in first quarter of 2004-05 of 1-2 districts from each strata. TB registers pertaining to a specified quarter of the selected district formed the Data source. Male to female ratio of registered cases varied from 1 in Delhi to 2.6 in Banaswara. The proportion of cases varied by age group and gender in different districts. EPTB cases exceeded smear positive & negative pulmonary cases in SGM, Delhi. The proportion of retreatment cases among all smear positive cases were higher in Bikaner and SGM, Delhi. Higher cure rates were observed among females in all districts except Imphal. Higher defaults were observed among females in Imphal, Bikaner and Banaswara. The differences observed in type of cases and treatment outcome by gender & age call for evaluation of accessibility, diagnostic and treatment practices followed by necessary corrective actions. Such analysis carried out routinely at the district level is beneficial for maintaining the programme objectives

### ***4. "Profile & practices of DOT providers under RNTCP in Vellore district of Tamilnadu"***

Directly observed Treatment (DOT) is most essential to achieve the desired cure rates of >85% in RNTCP. The success of DOT largely depends on efficient network of Health infrastructure, commitment of staff delivering treatment and effective supervision.

Data collected from the study to assess the organization and management of DOT services and problems encountered therein was analyzed to study the perception of DOT providers regarding the disease and supervised drug administration. 10% of DOT Providers (DP) were selected randomly in each of the TU of vellore district and interviewed using pre-tested questionnaire. Information regarding the training status, Knowledge of TB, perception regarding DOT and their experiences as DOT providers were elicited during the interview.

In all 50 DOT Providers comprising 41 females, 9 males were interviewed. Majority (76%) of them were aged between 35-45 yrs. DPs were trained at various levels and duration of training ranged from 1- 3 days. Most of the DPs (92%) were government health functionaries and 71% of them were functioning at the grass-root level.

Sixty six percent (66%) of the DP were having multiple responsibilities related to other health programmes.

Regarding cause of TB, 80% responded as bacteria, while 20% stated low immunity, bad-habits, air pollution etc. as the cause of Tuberculosis. Majority of DPs (95%) were aware of the duration of treatment. On constraints faced by them during DOT, 26(52%) stated they did not come across any problem, 10% came across adverse drug reaction and 10% faced problems related to patient's behavior.

About 95% knew the meaning of DOT as treatment under supervision. When further questioned about essentiality of DOT as a treatment strategy, only 17 (36%) responded that it was to ensure regular treatment. In all, 78% reported that retrieval actions were taken by visiting patient's residence and 22 % reported that they only informed supervisor/community leaders.

The study findings emphasise the importance of under taking regular supervision and on job training of DPs to fill the gaps in the perception and practices of DOT providers.

### **5. Implementation of External Quality assessment (EQA) for Sputum Smear Microscopy**

EQA of sputum smear microscopy laboratories for diagnosis of Tuberculosis is an important goal under RNTCP. EQA involves- Onsite evaluations (OSE), Panel testing (PT) and Random Blinded Crosschecking (RBRC). EQA network involves RNTCP National Laboratory committee supervision at Central TB Division (CTD), and participation of National Reference Laboratories (NRLs), Intermediate Reference Laboratories (IRLs) and peripheral laboratories. The report on EQA implementation based on OSEs of ten states and Quality improvement (QI) workshops conducted by NTI are presented here below.

Seventy-one IRL lab personnel of 27 states were trained in EQA from April 05 to Sep 06. Effectiveness of EQA implementation was supervised by OSEs of IRLs, PT and RBRC. Problems were identified, causes explored and actions were recommended, accordingly. QI workshops for the state level programme managers were conducted to correct shortcomings of the EQA implementation.

NTI has evaluated 10 states for EQA implementation. Shortcomings in managerial aspects (84%) outnumbered that in the proficiency in technical skills of supervisory staff (16%). Extent of implementation of recommendations (of NRL-OSEs) by IRLs were as follows in different aspects: Human Resource Development (81%), RBRC (82%), OSE (71%), and PT (40%). Errors in panel testing of IRL personnel were minimal (96.90% sensitivity, 100% specificity) compared to that of Senior TB Laboratory Supervisors (78.04% sensitivity, 96.55% specificity). RBRC implementation needed effective monitoring and supervision. Majority of the DMCs (88.3%) were having the annual negative slide volumes and slide positivity rate within the acceptable range (ANSV>300 & SPR>5%). During the QI workshops, State level programme managers deliberated on the frequently encountered EQA implementation problems and developed effective solutions.

Training and OSEs by NTI strengthened the IRLs for EQA implementation. Panel testing provided an effective proficiency-testing tool for laboratory supervisors. RBRC helped to identify and correct the centers with high false errors.

### **6. External Quality Assessment for Sputum Smear Microscopy: Validation criteria for Random Blinded Re-checking (RBRC)**

RNTCP introduced RBRC of routine DMC slides as an assessment tool to monitor the performance of the laboratories in identifying and correcting operational and technical problems. RBRC involves cross-checking a statistically valid sample of smears based on Lot Quality Assurance Sampling. During NRL-onsite evaluation visits (OSE), validation criteria for the RBRC were evaluated in the 3 selected sample districts.

This retrospective study is based on the records and documents of the district TB centers verified during OSE visits. The criteria for procedural verification were – coding, blinding of slide results, maintenance of cross-checking rosters and corrective measures. Criteria for RBRC data validation were: type, quantity and pattern of distribution of errors. Udaipur (Rajasthan), Bangalore Mahanagara Palike (BMP) and Tumkur district (Karnataka) were selected as they had reported maximum high false errors.

Blinding was ensured by coding of the DMC slide boxes at Udaipur and BMP and by coding the STLS at Tumkur. The slide volumes and positivity rates were within the expected range (>300 ANSV and >5% SPR) in 95% of centers. Discordance levels for the total slides cross-checked were -0.7%, 2.8% and 2.3% and total errors were 13, 77 and 33 for Udaipur, BMP and Thumkur, respectively. False negative errors were more than false positives. Laboratory Technicians (LTs) had higher number of errors committed compared to that of the first controllers in Udaipur and Tumkur, and vice-versa in BMP. The ratio of low false errors of LTs compared to 1<sup>st</sup> controllers was 1.2, 1.75 for Udaipur, Tumkur and 0.5 for BMP. High work-load and/defective microscopes were the reasons for high false negative results. Shortcomings in proficiency of LTs and transcriptional errors were reasons for high false positives.

RBRC effectively identified the poor performing centers and satisfactorily corrected the quality shortcomings, including the proficiency of LTs and supervisors. The criteria used in this study could serve as monitoring parameters for RBRC trend analysis and supervisory visits.

### **7. Virulence assay of parental, devR mutant and complemented strains of M.tuberculosis in NTI-bred albino guinea pigs in collaboration with the Dept. of Biotechnology All India Institute of Medical Science (AIIMS), Delhi**

The first phase of experimentation was completed and the findings revealed significant attenuation of complemented strain, as evident from the survival of infected guinea pigs. The titled “**Virulence of Mutant & Complemented Strains**

**of *M.tuberculosis in Guinea Pig Animal Model***” was presented during the 61<sup>st</sup> National Conference on TB & Chest Diseases held at Udaipur in February 2007.

### **C. Research Papers published**

Abstracts of the papers published during the year are presented below

- 1. Sanjay Singh, P. Suganthi, Jameel Ahmed, VK Chadha: *Formulation of Health Research Protocol - a step by step description : NTI Bulletin 2005, vol. 41/1&2: 5-10.***

This article attempts to provide the researchers, the various steps involved in formulating a health research protocol. In population based health research majority of the studies conducted are observational rather than experimental. Therefore, it is essential to elaborate and follow a research protocol of the same reason as in laboratory research. Doing this will increase the likelihood that the conclusions drawn from the research will be scientifically sound.

The first step in developing a protocol is the selection of an appropriate research topic. The protocol should explain the study in terms of answers to the study questions viz. Why?, how?, who?, what? and so what?. Protocol should start with an introduction followed by objectives, study design, methods, project management, strengths and limitations, ethical consideration, expected outcome, budget summary, references and annexures. In annexure part, study formats/questionnaires, budget details and curriculum -vitae of chief investigator can be given. Once, a protocol is prepared a summary of it should be placed at the top of the protocol i.e. before introduction part. At the end of the article some important tips are described to be considered while formulating a protocol.

## 6. NATIONAL REFERENCE LABORATORY

---

With the implementation of the RNTCP across the country, due emphasis has been laid on the Quality Assurance programme of the laboratories engaged in sputum smear microscopy. In this direction, the Institute is recognized as one of the NRL for purposes of quality assurance under RNTCP both for sputum smear microscopy laboratory network and culture sensitivity testing of *M. tb*. Ten states have been covered under its jurisdiction, viz., Bihar, Jammu & Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Rajasthan and West Bengal.

### A. Quality Assurance Programme (QAP)

Quality Assurance Programme covers Internal Quality Control (QC) and External Quality Assurance (EQA) and Quality Improvement (QI). It involves classification of errors in sputum smear microscopy and assessment of laboratories based on Lot Quality Assurance Sampling (LQAS).

#### External Quality Assurance of sputum smear microscopy

##### *Training of STDC Personnel*

During the year, the institute took a leading role in imparting training to 34 Laboratory personnel (17 EQA Officers/Microbiologists and 17 senior laboratory technicians) from 14 states. The duration of training was for a period of 5 days which included EQA guidelines, panel testing and conducting Onsite Evaluation (OSE) to a District TB Centre. Training in Culture & Drug Sensitivity Testing was conducted for STDC personnel (2 microbiologists & 4 LTs) from Orissa & Andhra Pradesh.

##### *OSE of the STDC laboratories:*

EQA-OSE of five states were conducted during the year 2006-07 which included assessment of laboratory infrastructure, IRL-OSE of DTCs, Panel testing of STLS, and RBRC responsibilities of STDCs. The DTC-OSE visits & Panel testing were completed in the states of Rajasthan, Maharashtra, Karnataka. During the OSE's it was observed that:

- **STDC at Ajmer and Nagpur:** There was substantial improvement in infrastructure facility. Panel slides were being manufactured and validated documents for the same were maintained in respect of STDC Nagpur.
- **STDC Karnataka:** Panel testing by STDC Karnataka did not adhere to the prescribed time and composition (frequent 2+ & 3+ grades to be avoided).
- **STDC Puducherry:** The office space for STDC Puducherry was demarcated in Government Hospital for Chest Disease. RBRC is being implemented since Jan 06.
- **STDC Cuttack:** Staffs of ATD & TC, Cuttack are involved in clinical activities of SCB Medical College.

### ***EQA orientation & Quality improvement work shops:***

NTI staffs along with facilitators from CTD, Delhi and TRC, Chennai helped in the EQA orientation of 23 STO & STDC Directors of 14 states for a duration of two days. Forty seven (47) STDC personnel were trained in EQA aspects for a duration of five days in three batches

### ***Onsite Evaluation***

The details of the On-site Evaluation visits undertaken during the period under report are as under:

<b>Sl. No.</b>	<b>Particulars of visit</b>	<b>Period</b>	<b>Resource person/s</b>
1	Kamala Nehru STDC Ajmer, Rajasthan	08-05-06 to 11-05-06	Dr. T. Ajay Kumar, Ms. Shyni San, Mrs Kusuma, Laboratory Technician
2	STDC Nagpur, Maharashtra	22-05-06 to 25-05-06	Dr. T. Ajay Kumar, Consultant Ms. Shyni San, Mrs N. Vijayalakshmi, Laboratory Technician
4	STDC Puducherry	26-09-06 To 28-09-06	Dr. Ajay Kumar Thirumala, Ms. Shyni San,
5	STDC Karnataka	28-08-06 To 31-08-06	Dr. T. Ajay Kumar, Ms. Shyni San, Mrs. Shilpa Shiju
6	STD&TC, Cuttack, Orissa	12-12-06 to 16-12-06	Dr. T. Ajay Kumar, Ms. Shyni San

### **B. Drug Resistance Surveillance**

NTI has been taking a leading role in development of methodology for selection of sample size for State-wide DRS under RNTCP, along with TRC and other members of National Laboratory Committee.

In continuation of this effort, NTI alongwith STDC Nagpur (Maharashtra) initiated the Drug Resistance Surveillance for new smear positive and retreatment cases of the state adopting "population proportion clusters sampling technique". A sample size of 1680 for the 'resistance among the new patients' and 990 for the 'resistance among the previously treated patients' were determined for the study period of one year. Accordingly, 3360 samples from among new patients and 1980 samples from previously treated patients have been collected from the DRS centers and were processed at NTI for culture and sensitivity till March 2007. Intake into the study has been completed and the report is under preparation.



## **7. MONITORING**

---

With the entire country having been implemented under RNTCP, the programme performance is being directly monitored by the Central TB division, Dte.GHS, Ministry of Health & Family Welfare, New Delhi. NTI was monitoring some of the districts implementing the NTP hitherto. With the 100% coverage of RNTCP across the country, the monitoring of NTP has become redundant and discontinued.

## 8. LIBRARY AND INFORMATION SERVICES

---

The Institute has a specialized Category II health scientific library as per the guidelines of the library Review Committee report, Government of India New Delhi. The categorization is based on Resources, Services and Dissemination of Information & Automation activities. Its resources and services are focused on TB and allied disciplines. The collections include core periodicals on TB and Respiratory diseases and its back volumes, published books on TB and multi disciplinary aspects, reports, proceedings, souvenirs, WHO unpublished documents, selected papers and non-print media viz., slides, cassettes, transparencies, CD-ROMs, etc.

Library & Information Service section shoulders the responsibility by building up the appropriate collection, its progressive development, and organization of information services to provide increased access to its resources. Its major role is Selective Dissemination of Information to all stake holders: viz., Policy makers, Administrators, National Data on Tuberculosis hosted on NTI website, periodical up-dating, creation of Digital Library, Digitization of monitoring reports on TB for archival value stands as a testimony for its efficiency. The information resource on Indian Data on TB available on the electronic media has drawn the attention of various Research workers/Scientists Globally.

Besides, Library coordinates the activities of the Editorial committee and Publication Section. It plays active role in publication programme of the Institute. The highlights of the activities during the year were:

### **Automation activity**

- **Select Bibliography of Indian Medical Literature on TB:** Selected Bibliography of Indian Medical Literature on TB was sent to National Informatics Centre (NIC) for hosting the same on the website.

### • **In-house digitization**

**The data on NTI papers & publications, Research publications:** The in-house databases created on the WINSIS was uploaded on the Intranet using WWWISIS with the assistance from the Documentation & training centre, Bangalore and was found functional. The data on NTI papers & publications, Research publications could be retrieved on line.

**Open Access Catalogue of Books:** About 3600 records were digitized. The database created using the WINISIS have been converted for uploading onto SLIM ++ and the same has also been put on the OPAC on LAN. Digitization of the database of the monitoring reports was completed.

**Open archiving:** An initiative on OPEN ARCHIVING of NTI papers and publications was tested as a sample on the OPENMED developed by the NIC, New Delhi. Preliminary registration of the NTI was done. The Bibliographic details of NTI papers and publications along with the full text documents were sent to the NIC, New Delhi for hosting on the OPENMED. The URL of OPENMED is <http://openmed.nic.in>. Through this methodology, the national data on TB can be accessed globally.

## 9. PUBLICATIONS

---

Publication section coordinates the publication activities of the institute. The major responsibilities of this section are to oversee the regularity of the publication of NTI bulletin and the production of other specialized publications. The faculty and the staff of the institute contribute the articles for publication.

### **A) Documents published :**

The following documents were published during the year:

1. NTI bulletin Vol. 41/3&4 - Five Hundred (500) copies
2. NTI bulletin Vol. 42/1&2 Five Hundred (500) copies
3. NTI Annual Report of the year 2005-06 - One hundred and fifty (150) copies

Besides, the printing section assisted in printing various research forms and administrative requirements in addition to Reprographic services to the laboratory, Animal Model Research Unit, Training & library.

### **B) Updation of NTI website**

The website of NTI was updated with an addition of NTI Bulletin Vol 41/3&4.

### **c) Editorial committee was reconstituted with following members.**

Dr. Prahlad Kumar, Director, Editor  
Dr. VK Chadha, Sr. Epidemiologist, Co-Editor  
Dr. L Suryanarayana, CMO, Member  
Dr. Somashekar, TB Specialist. Member  
Dr. VK Challu, Veterinarian, Member  
Mrs. Leena, Sr. Statistical Officer, Member  
Mrs. Hemalatha, Lab technician, Member  
Mr. V Sharma, Computer, Member  
Mr. R Jitendra, Computer, Member  
Mrs. Umadevi, FI, Publication Secretary

### **d) Annual report committee was reconstituted with following members.**

Dr. L Suryanarayana, Chairman  
Dr. Sophia Vijay  
Dr. B Mahadev  
Dr. T Ajay Kumar  
Mr. Sanjay Singh, EPS

## 10. OTHER TECHNICAL ACTIVITIES

---

The institute, apart from its routine training and research activities, also carries out other technical activities viz., participation in the Central Internal Evaluation, Task Force activities of Medical Colleges, Joint Monitoring Mission and involvement of NGOs in TB Control activities. The institute also has an Animal Model Research Unit which is responsible maintaining homogenous stock of Guinea Pigs required for experimental purposes. Besides, the institute also undertakes processing of specimen for culture & drug susceptibility tests with respect to patients referred by both governmental & non-governmental sectors through programme channels.

### (A) Central Internal Evaluation

The faculty of the institute assisted the Central TB Division in central internal evaluation of the districts of Bruhan Mumbai Municipal Corporation of Maharashtra and Bellary district of Karnataka. The objective of central internal evaluation was to assess the achievements and the constraints encountered during the implementation of RNTCP and to provide recommendations for necessary corrective actions.

Sl. No.	Details of visits	Duration	Resource person
1	Bhrut Mumbai Municipal Corporation, Maharashtra state	29-05-06 to 02-06-06	Dr. L. Suryanarayana CMO (NFSG)
2	Bellary District, Karnataka	31-07-06 to 12-08-06	Dr. G.V. Ramesh CMO (NFSG)

### (B) Involvement in task force meeting of Medical Colleges

The faculty of NTI actively participated in the task force meetings of Medical Colleges at State, Zonal & National levels and involvement of NGOs for the successful implementation of RNTCP. This was aimed to enhance their extent and depth of involvement in the TB Control Programme. Following are the details of meetings in which the faculty of NTI participated

Sl. No.	Details of visits	Duration	Resource person
1	State Task Meeting of Ranchi, Jharkhand	18-08-06 to 19-08-06	D. N. Somashekar, TB Specialist
2	Task Force Meeting South Zone held at Hyderabad	01-09-06 to 02-09-06	Dr. L. Suryanarayana CMO (NFSG)
3	Task Force Meeting Western Zone held at Ahamadabad	21-09-06 to 22-09-06	

<b>Sl. No.</b>	<b>Details of visits</b>	<b>Duration</b>	<b>Resource person</b>
4	Zonal Task Force Meeting North Eastern Zone held at Gangtok	31-10-06 to 01-11-06	Dr. Preetish S. Vaidyanathan, CMO
5	National Task Force Meeting held at AIMS, New Delhi	09-11-06 to 11-11-06	Dr. Sophia Vijay, Sr. TB Specialist Dr. L. Suryanarayana, CMO (NFSG)
6	State Task Meeting of Jammu & Kashmir, held at Srinagar	28-11-06	Dr. Preetish S. Vaidyanathan, CMO

### **(C) Participation in Joint Monitoring Mission undertaken by World Bank**

The faculty of the institute actively participated in the joint monitoring mission undertaken by World Bank.

<b>Sl. No.</b>	<b>Details</b>	<b>Duration</b>	<b>Resource person</b>
1	Joint Monitoring Mission	03-10-06 to 17-10-06	Dr Preetish S Vaidyanathan, CMO

### **(D) Scientific Gallery**

As part of the IEC activity, the institute has made an innovative approach in developing a scientific gallery. The scientific gallery has rich source of information for all those engaged in TB control activities. The photographic display session will leave an indelible impression in the minds of the visitors on different aspects of Tuberculosis and its control, achievements of the institute, the evolution of the programme, its monitoring aspects.

The IEC materials comprises of display boards, photographs of luminaries in the field of TB, milestones in the development of TB Control Programme, salient features and facilities available under the TB Control Programme. Besides, projection and information kiosk facilities have been installed for the benefit of trainees and others who visit the institute on Education Tour.

#### **Target group**

The target group for the scientific gallery are the visitors comprising medical, the para-medical personnel working in teaching & and non-teaching institutions and graduates & post graduates from other live science subjects.

This facility is available free of cost during the working days of the week (Monday to Friday). The gallery could be visited by the interested visitors on a mutually agreed date with a prior formal communication with the Director, NTI.

During the period under report, the scientific gallery has a total of 1768 visitors to its credit from 50 Medical and Para-medical Educational institutions across the country.

**(E) Status of laboratory animals**

Fresh stock of 465 NTI-bred albino guinea pigs was raised in healthy condition. Appropriate preventative measures were taken to check outbreak of diseases among breeding stock. One hundred and twenty two homogenous stocks of animals were utilized for the ongoing collaborative research projects during the period under report.

**(F) Specimens processed in Bacteriology section:**

The details of specimens processed in the Bacteriology section of the institute during the period under report are furnished below:

Total no. of Patients registered	1904
Total no. of specimens registered	3552
Total no. of specimen put for primary culture	3026
Total no. of sensitivity tests done by Proportion method	1347
No. of specimens subjected for identification tests	1441
Out patients registered	346
Out patients specimens registered	686
Sputum	3380
Pus	02
Urine	09
Culture (from various hospitals)	52
Other – CSF, lymph node aspirate	02

## 11. OVERVIEW OF COMPUTER FACILITIES

The year 2006-07 witnessed the completion of upgrading facilities in training hall in terms of Wi-fi projection and internet facility, thus providing a state of art ambience to cater to the needs international / national conference..

The Silver Jubilee hall was also furnished with LAN networking, Wi-fi projection and Internet facility to cater to the needs of concurrent training programmes at NTI.

In addition, it is proposed to expand and upgraded the Computer Centre to sustain and support the higher level of computing requirement and training activities in future.

An overview of the distribution of IT hardware in the Institute is furnished below:

Sl.No	Sections	Ext. CD Rom	Computers		Printers	Scanner	LCD Projector	Pen Drive	server	Switches	WIFI Accessories	Zip Drive	Total
			Lap top	PCs									
1	Directors office	1	1	3	4	-	1	1	-	1	-	1	<b>13</b>
2	Addl. Director's office	-	-	1	1	-	-	-	-	-	-	-	<b>2</b>
3	Statistics	1	1	13	8	1	-	2	2	2	-	-	<b>30</b>
4	Epidemiology	1	2	3	3	1	-	1	-	-	-	-	<b>11</b>
5	Control	-	1	1	1	-	-	1	-	-	-	-	<b>4</b>
6	Bacteriology	1	1	4	4	-	-	1	-	-	-	-	<b>11</b>
7.	Training	-	2	1	2	-	7	1	-	3	2	-	<b>18</b>
9	Library	1	-	2	4	1	-	1	1	1	-	-	<b>11</b>
10	Administration	-	-	3	3	-	-	-	-	-	-	-	<b>6</b>
11	Transport	-	-	1	1	-	-	-	-	-	-	-	<b>2</b>
12	X-Ray	-	-	1	1	-	-	-	-	-	-	-	<b>2</b>
13	Stores	-	-	1	1	-	-	-	-	-	-	-	<b>2</b>
14	Accounts	-	-	5	4	-	-	-	-	-	-	-	<b>9</b>
17	HIV &TB	-	-	1	1	-	-	-	-	-	-	-	<b>2</b>
18	AMRU	-	-	2	1	-	-	-	-	-	-	-	<b>3</b>
19	Scientific Gallery	-	-	3	1	-	1	1	-	1	-	-	<b>7</b>
20	Draughtsman	-	-	1	1	-	-	-	-	-	-	-	<b>2</b>
21	TB Specialist	-	-	1	-	-	-	-	-	-	-	-	<b>1</b>
<b>Total</b>													<b>136</b>

## **12. PARTICIPATION IN CONFERENCES / WORKSHOPS / CONTINUING MEDICAL EDUCATION / TRAINING PROGRAMMES / MEETINGS / OTHERS ETC.**

### **Conference:**

The following papers were presented by the faculty and staff of NTI at the 61st National Conference on TB and Chest disease held at Udaipur from 23rd to 25th February 2007

<b>Sl. No.</b>	<b>Particulars</b>	<b>Resource person</b>
1	"Prevalence and Annual Risk of Tuberculosis Infection among school children in Bangalore Rural District"	Mr. RK Srivastava, Field Investigator
2	"Utilization patter of RNTCP services in rural areas of Bellary District - Study of age, gender and spatial differences"	Mr. Jameel Ahmed, Field Investigator
3	Gender differentials among registered Tuberculosis patients and treatment outcomes in six geographically diverse RNTCP districts	Dr. N Somashekar, TB Specialist
4	"Profile & practices of DOT providers under RNTCP in Vellore district of Tamilnadu"	Mr. KR Hemanth Kumar, Health Visitor
5	"Implementation of External Quality assessment (EQA) for Sputum Smear Microscopy"	Dr. T Ajay Kumar
6	"External Quality Assessment for Sputum Smear Microscopy: Validation criteria for Random Blinded Re-checking (RBRC)"	
7	"Virulence assay of parental, devR Mutant & Complemented Strains of M.tuberculosis in Guinea Pig Animal Model"	Dr. VK Challu Veterinarian

### **Workshop:**

<b>Sl. No.</b>	<b>Particulars</b>	<b>Date</b>	<b>Resource person</b>
1	Disease control priority project-India initiative; held at St. John Medical College Bangalore, organized by Centre for Global Health Research Centre: presented "Revised National TB Programme - strength & achievements and challenges and future scale-up"	04-07-06 to 05-07-06	Dr. VK Chadha, Sr. Epidemiologist
2	Workshop on HIV & TB/HIV for NTI staff, held at NTI	31-03-06	Dr. VK Chadha, Sr. Epidemiologist



<b>Sl. No.</b>	<b>Particulars</b>	<b>Date</b>	<b>Resource person</b>
3	Sensitization workshop for STOs & WHO Consultants of South India, on the use of pediatric patient wise boxes.	19-04-06	Dr. Sophia Vijay, Sr. TB specialist
4	TOT workshop on orientation for ART trainers. The curriculum development of medical officers (10 days training), specialists (5 days training) and orientation for DME/DMS/MS was discussed at length held at GHTM, Tambaram	25-04-06 to 26-04-06	Dr Preetish S Vaidyanathan, CMO
5	Workshop on future tuberculin surveys in India, held at NTI : presented & highlighted:- -Technical & methodological aspects involved in the conduct of the surveys. -Issues of manufacturing & supply of PPD vials -ARTI as an epidemiological indicator of TB situation in the community and its trends. -Estimation of ARTI from 2000-03 zonal surveys. -Study design, study population, objectives, survey districts, design effect, sample size, sampling design, the reading technique and analytical methods	28-07-06 to 29-07-06	Dr. VK Chadha, Sr. Epidemiologist Magesh V, Investigator & Sanjay Singh, Field Investigator
6	National Workshop on RNTCP PPM DOTs conducted by IMA at New Delhi.	13-08-06	Dr.L Suryanarayana, CMO-NFSG
7	Participated as faculty in workshop for medical colleges on 'Operational Research methodology' at TRC, Chennai and made presentation of 'Monitoring Operations Research study'	18-09-06 to 20-09-06	Dr. VK Chadha, Sr. Epidemiologist & Dr (Mrs) Sophia Vijay Sr. TB specialist
8	Workshop on 'National Task Force for the involvement of Medical Colleges in RNTCP - 2006'	09-11-06 to 11-11-06	Dr. L Suryanarayana, CMO-NFSG & Dr. Sophia Vijay, Sr. TB specialist

## Meetings:

<b>Sl. No.</b>	<b>Particulars</b>	<b>Date</b>	<b>Resource person</b>
1	Asia Stakeholders Consultation on HIV – as well as tuberculosis and malaria held at New Delhi	04-04-06 to 07-04-06	Dr. Prahlad Kumar, Director
2	Lab diagnosis of Pediatric TB and participated as a panelist in the panel discussion on Pediatric TB. Bangalore Chapter of Indian Pediatric association and Indian Pediatric Respiratory Association. Astra Zenica Auditorium, Bangalore	16-04-06	Dr. V H Balasangameshwara, CMO-NFSG
3	20 <sup>th</sup> Executive Committee meeting of the Karnataka State TB Coordination Society in Secretary's Chamber, Vikas Soudha, Bangalore	21-04-06	Dr. Prahlad Kumar, Director
4	Meeting with Dr Nani Nair, Regional Advisor, TB & HIV/AIDS and Dr Sahu, National Professional Officer (TB), WHO at WHO-SEARO Office , New Delhi	03-05-06.	Dr. Prahlad Kumar, Director
5	Laboratory Consultative Meeting at New Delhi	06-05-06	Dr. VH Balasangameshwara, CMO-NFSG & Dr T. Ajay Kumar
6	Consultation on Drafting Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) Round 6 Proposal, chaired by Ms Sujatha Rao, Additional Secretary, Ministry of Health & Family Welfare, Nirman Bhavan, New Delhi	09-05-06	Dr. Prahlad Kumar, Director
7	24 <sup>th</sup> meeting of BMP society for RNTCP under the chairmanship of the Additional Commissioner, BMP at meeting Hall I of BMP Main Office, Bangalore	16-05-06	Dr. Sophia Vijay, Sr. TB Specialist
8	RNTCP Standing Committee for Operational Research at Nirman Bhavan, New Delhi	16-05-06	Dr. Prahlad Kumar, Director

<b>Sl. No.</b>	<b>Particulars</b>	<b>Date</b>	<b>Resource person</b>
9	RNTCP Standing committee on operational research and presented revised Disease survey protocol at New Delhi		Dr. VK Chadha, Sr. Epidemiologist
10	Assessment of progress of IRL strengthening and DRS in Orissa on	25-05-06 to 26-5-06	Dr VH Balasangameshwara, CMO-NFSG
11	Meeting on DRS sampling for Andhra Pradesh and Orissa with I/c Statistical Sections and Microbiologists of TRC and NTI at NTI	30-05-06	Dr. V H Balasangameshwara, CMO-NFSG
12	Review of DRS in Maharashtra and Quarterly Meeting of the DTOs in Mumbai, form	08-06-06 to 09-06-06	Dr. VH Balasangameshwara, CMO-NFSG
13	measuring progress towards the millennium development goals: Epidemiological impact of TB Control. Participated and gave expert views regarding studies for estimation of ARTI and also participated in other sessions including framing of recommendations for measurement of epidemiological impact of TB held at WHO, Geneva	15-06-06 to 16-06-06	Dr. VK Chadha Sr. Epidemiologist
14	Situational Analysis of two districts of Delhi for National Default Study	15-06-06	Dr. VH Balasangameshwara, CMO-NFSG
15	“Consultation on disease control priorities in developing countries – India report” along with Dr VK Chadha, Sr. Epidemiologist at St John's Research Institute for Public Health and Clinical Research, St John's Medical College, Bangalore	05-07-06	Dr. Prahlad Kumar, Director
16	Assessment of newly identified STDC laboratory and development of floor plan for IRL for culture and sensitivity at Kolkata	05-07-06	Dr. VH Balasangameshwara, CMO-NFSG
17	Meeting to discuss the modalities for field testing of diagnostic algorithm for the	06-07-06	Dr (Mrs) Sophia Vijay Sr. TB Specialist

<b>Sl. No.</b>	<b>Particulars</b>	<b>Date</b>	<b>Resource person</b>
	diagnosis of sputum negative and extra pulmonary TB patients in HIV prevalent settings proposed by STAG at Central TB Division, New Delhi		
18	Meeting of Private Practitioners in RNTCP at Lady Willingdon State TB Centre, Sampangiramanagara, Bangalore	10-07-06	Dr. Prahlad Kumar, Director
19	South East Asian Region - WHO laboratory consultative meeting held at Chennai	11-07-06 to 13-07-06	Dr VH Balasangameshwara, CMO-NFSG
20	Annual meeting of the Indian Medical Association at Kalaniketan, NTI, Bangalore	16-07-06	Dr. Prahlad Kumar, Director
21	Biannual RNTCP national meetings of the south zone STOs (from 15 states) - consultants in Chennai and made a presentation on the operations research undertaken by NTI	23-07-06	Dr (Mrs) Sophia Vijay Sr. TB Specialist
22	"Future Tuberculin Surveys in India" at NTI, Bangalore.	28-07-06 to 29-07-06	Dr. Prahlad Kumar, Director
23	National Lab Committee meeting at Dte GHS, Nirman Bhavan, New Delhi.	04-08-06	Dr. Prahlad Kumar, Director
24	8 <sup>th</sup> Lab Committee meeting and Equipment procurement Committee of Dt. GHS at CTD , Nirman Bhavan, New Delhi	05-08-06	Dr VH Balasangameshwara, CMO-NFSG & Dr. T Ajay Kumar
25	State Task Force members of medical colleges meeting at State Institute of Health and family welfare, Bangalore .	08-08-06	Dr. Sophia Vijay Sr. TB Specialist
26	Floor Plan meeting of STDC of Karnataka on.	10-08-06	Dr. T Ajay Kumar
27	Meeting to discuss the protocol "District level intervention study on routine referral of TB patients to Voluntary Counseling and Testing Centers" with representatives from WHO and CTD.	31-08-06	Dr. Sophia Vijay Sr. TB Specialist

<b>Sl. No.</b>	<b>Particulars</b>	<b>Date</b>	<b>Resource person</b>
28	Attended the concluding meeting of the Joint Monitoring Mission at the Office of the Ministry of Health & Family Welfare,, Government of Karnataka, Bangalore	12-10-06	Dr. Prahlad Kumar, Director
29	Lab Committee meeting at Nirman Bhavan, New Delhi	08-10- 06	Dr. Prahlad Kumar, Director, Dr. T Ajay Kumar
30	Discussion on Disease Prevalence survey at Nirman Bhavan, New Delhi.	08-10-06	Dr. Prahlad Kumar, Director
31	“Joint Monitoring Mission” – finalization of the draft and presentation to the Hon. Ministerat New Delhi	16-10-06 to 17-10-06	Dr. Prahlad Kumar, Director
32	Participated as Special Invitee in the "Joint Scientific advisory committee at National JALMA Institute, Agra.	06-11-06 to 07-11-06	Dr. Prahlad Kumar, Director
33	Meeting to discuss and finalize the protocol on “District level intervention study on routine referral of TB patients to Voluntary Counseling and Testing Centers” at Tuberculosis Research Center, Chennai	13-11-06	Dr. Sophia Vijay Sr. TB Specialist
34	Operational modalities for implementation of repeat ARTI survey at south zone, Held at NTI	27-11-06	Dr. VK Chadha, Sr. Epidemiologist
35	Meeting on Repeat zonal level tuberculin surveys and disease prevalence survey, held at Nirman Bhavan, New Delhi	08-12- 06	Dr. VK Chadha, Sr. Epidemiologist
36	Lab Committee meeting, Central TB Division, New Delhi.	10-12-06	Dr. T Ajay Kumar
37	RNTCP Lab Committee meeting at CTD, Delhi	31-03-07	Dr. T Ajay Kumar

### Others

<b>Sl.No.</b>	<b>Particulars</b>	<b>Date</b>	<b>Resource person</b>
1	Participated as Examiner at PGIMER, Chandigarh to evaluate the Ph.D. thesis on evaluation of new adjuvants-	18-07-06	Dr. VK Challu Veterinarian

	Mucosal Vaccine for TB in animal model		
2	Supervision of fieldwork of research studies Mysore, Kozhikode and Ramanathapuram	26-12-06 to 28-12-06	Dr. Prahlad Kumar, Director
3	Arthropod Borne Viral Infections at IISC, Bangalore	10-03-07 to 11-03-07	Mr.HD Surendra Laboratory Technician

### 13. VISITORS

During the year the Institute had the privilege of having the following dignitaries as visitors

<b>Sl. No.</b>	<b>Name, Designation &amp; Purpose</b>	<b>Period</b>
1	Dr David Abraham from GKVK, Bangalore for a discussion with Director, Dr Challu and Dr Ajay Kumar about the experimental study of wild animals being carried out by him and NTI.	23-05-2006
2	Mr Krishnan, Programme Officer, WHO SEARO, New Delhi to discuss the TB control programme for WHO SEARO member countries.	05-07-2006
3	Dr DC Jain, Addl. Director General, Dte.GHS and Director, LRS Institute of TB & Allied Diseases, New Delhi and was briefed about the activities of the Institute	31-07-2006
4	Sri R.P. Seti, Section Officer and Sri Gyan Prasad, Assistant from the Ministry visited the Institute to inspect the records viz., service records, ACRs, assessment reports, etc., of CHS Officers.	01-08-2006 to 05-08-2006
5	Dr V.K. Arora, former Dean of Indian Institute of Health Management and Research, Jaipur for a discussion with Director on possible collaborative activities.	07-09-2006
6	The Dy. Director General (TB) and members of JMM team comprising of experts from CTD, WHO Consultants and JD (TB), Karnataka visited the institute for a briefing on activities of the Institute with an emphasis on research and training.	5-10-2006 & 10-10-2006
7	Dr David Abraham, Project Investigator (ANCF) and Ms Bhavana Padmanabhan, Research Assistant (ANCF) visited the Institute for a meeting with Director, to discuss the collaborative project "TB in Asian Elephants" and its related training and processing of specimen at NTI.	23-11-2006
8	Dr KR John from CMC, Vellore, visited the Institute for a discussion with Director and I/c Epidemiology Section regarding ARTI survey in south zone.	27-11-2006
10	Team members from MGIMS, Wardha visited the institute for a meeting with Director and the concerned section officers regarding X-ray mounted vehicle to be provided by NTI for carrying out disease prevalence survey in Wardha, as per the directives of DteGHS, New Delhi.	06-12-2006
11	The Managing Director along with other officers from Astra Zenica Laboratories, Bangalore, visited the institute for a meeting with Director regarding the 'public private mix project' to support RNTCP activities in Karnataka.	25-01-2007 & 31-01-2007

<b>Sl. No.</b>	<b>Name, Designation &amp; Purpose</b>	<b>Period</b>
12	Dr B.R.Ramakumari, Project Coordinator (RNTCP), BMP along with Dr Padma, PPM Consultant, for a meeting with Director regarding RNTCP activities.	05-02-2007
13	Dr Anand and Managing Director from Astra Zenica, Bangalore visited the institute for a meeting with Director regarding the collaborative project of IEC between Astra Zenica and Government of Karnataka.	05-02-2007 & 27-02-2007



## 14. EVENTS CELEBRATED

---

15-08-2006

**Independence Day** was celebrated in the Institute. The staff along with family members, staff from other offices situated within the campus and students from neighboring Bethesda School participated in the celebrations. The Director hoisted the national flag. Patriotic songs were sung by the faculty, staff and trainees. The Director addressed the gathering.

07-09-2006 to  
14-09-2006

**Hindi week** was observed from 7<sup>th</sup> – 14<sup>th</sup> September 2006 and Hindi Divas was celebrated on 14<sup>th</sup> September 2005. Shri Rama Sanjeevaiah, Ex-serviceman, Smt. Vijaya R. Rao, Lecturer in Hindi, Himanshu Educational Institute and Shri. Prabha Shankar Premji were the chief guests during the Hindi week celebrations and Hindi Divas. As part of the observance of the Hindi week, Anthakashri, Hindi translation, Letter writing, Essay, Quiz competition, Ek Shyam Bachonke Naam (cultural programme for the children of NTI staff) and Hindi Jokes / Songs were organized. Prizes were distributed to the winners of the events and also to the officials who actively participated in writing 'one Hindi word a day' on the notice boards of Avalon Block and P.V. Benjamin Block to promote usage of official language.

06-11-2006 to  
10-11-2006

**Vigilance awareness week** was observed in the Institute. As part of the observance of vigilance awareness week the staff of NTI, NICD, CPWD and PAO Audit took oath. Poster / cartoon writing were displayed as part of the observance. The Vigilance Officer addressed the gathering in which he highlighted the need for observance of high standards of morality and to be vigilant against corrupt practices. Oath was administered to all the staff both in Hindi, English and in regional language.

26-01-2006

**Republic Day** was celebrated in the Institute. The faculty and staff of NTI and the trainees and students from the neighboring Bethesda School participated in the participation. Director hoisted the National Flag. Patriotic songs were sung by the faculty, staff and trainees. Hoops display / cultural programmes were presented by Bethesda School children. The Director addressed the gathering.

24-03-2006

The **World TB day** was observed under the auspicious of State Tuberculosis control Society and Government of Karnataka. As part of the observance, a rally to create awareness of TB among the public was flagged off at Rajbhavan by his Excellency the Governor of Karnataka. The rally went around the important places in the city and reached the town hall highlighting the salient features of TB control services available under RNTCP. The faculty and staff also participated in the rally as well as awareness programme organized at Town Hall, Bangalore.

## 15. FINANCIAL OUTLAY & EXPENDITURE

---

The Plan & Non-plan budget allocation and expenditure incurred for the financial years 2004-05, 2005-06 & 2006-07 are presented in tables below.

### PLAN

(Rupees in Thousand)

Year	Budget allocated (Rs.)	Expenditure (Rs.)
2004 - 2005	10000	9195
2005 - 2006	21000	11609
2006 - 2007	21300	15275

### NON PLAN

(Rupees in Thousand)

Year	Budget allocated (Rs.)	Expenditure (Rs.)
2004-2005	24700	25455
2005 - 2006	25600	25376
2006 - 2007	28000	27427

The Revenue generated by the institute and credited to the consolidated fund of Government of India during the year 2006-07 is furnished below.

### REVENUE GENERATED

Year	Amount (Rs.)
2006-2007	336183

## 16. ADMINISTRATIVE SECTIONS

---

### ESTABLISHMENT

- This section looks after the day to day administrative needs of the institute besides general upkeep of the office. The major activities undertaken by the section include :
  - i. Attending to administrative matters of the Institute.
  - ii. Recruitment, posting, transfers retirements and all other service matters.
  - iii. Provision of required manpower to various sections.
  - iv. Processing of legal issues related to service matters.
  - v. Correspondences with Directorate General of Health Services (DGHS) & other agencies on major administrative issues and financial matters.
  - vi. Co-ordination with the CPWD for maintenance of office premises , hostel facilities and campus.
- The details with respect to appointment, Transfers, deputation, repatriation, retirements and death while in service in respect of the staff of the Institute during the year under report are furnished below.

Sl. No	Name	Designation	Date
<b>Retirement on Superannuation</b>			
1	Dr. V Seethapathi Rao	Additional Director	31-05-2006
2	Sri. K Kishan Rao	Accountant	31-12-2006
<b>Retirement on VRS</b>			
3	Dr. VH Balasangameshwara	CMO (NFSG)	12-12-2006
<b>Transferred out</b>			
4	Mr. KP Unnikrishna	Chief Statistical Officer	29-07-2006
<b>Resignation</b>			
5	Ms. R Rathi	Stenographer Gr.III	01-01-2007
6	Ms. SR Kusuma	Laboratory Technician	25-01-2007
<b>Death while in service</b>			
7	Sri. B Chandrashekar	Driver	07-01-2007
8	Sri. V Thimmarayappa	Upper Division Clerk	10-02-2007

### ACCOUNTS

This section deals with all the financial matters related to the institute . The major responsibility of the section are:

- i. Preparation of annual budget proposal and performance budget.
- ii. Drawing and disbursement of Salaries, Travelling Allowances, Medical reimbursement claims and other claims by staff and officers.
- iii. Processing of payments related to procurements by stores and annual maintenance service contracts.
- iv. Processing of payments of advances to the officials.
- v. Effecting scheduled and nonscheduled deductions and its remission to concerned authorities.

## **STORES**

The Stores caters to the logistic requirement of various sections of the institute. It is responsible for procurement and supply of stores items for the smooth functioning of the Institute. This involves extensive procedures viz., receipt of indents from individual sections and their compilation, calling for quotations/ tenders, arrangements for opening the tenders, preparation of comparative statements & submission of the same to the Purchase Committee for its recommendations for further necessary action.

- The other functions of the section include:
  - i. Maintenance of stores /stock ledger.
  - ii. Arrangement for Annual Maintenance of equipment held by different sections.
  - iii. Arrangement for Annual Stock verification
  - iv. Arrangement for condemnation and disposal of unserviceable items as per laid down procedure.

## **TRANSPORT**

The Institute has a fleet of vehicles and this section is primarily responsible for its upkeep and provision of the vehicles for administrative and research facilities. The section also handles maintenance of all documents regarding registration, insurance and condemnation. The section is also equipped to undertake minor repairs of vehicles.

## **HOSTEL**

The institute has two hostel blocks viz., Krishna Nivas and Cauvery Nivas which caters to the boarding and lodging needs for medical & paramedical trainees attending various training programmes and officials visiting from head quarters and other Institutions/Offices. The hostel rooms have been renovated with provision of attached bath facilities. The rooms have been refurnished with new furniture, television and air-conditioner.

## **17. CIVIL & ELECTRICAL WORKS AND MAINTENANCE**

---

### **CIVIL & ELECTRICAL WORKS**

The Institute gets the Civil and Electrical works executed through Central Public Works Department (CPWD), which is under the Ministry of Urban Development and Poverty Alleviation, Government of India. NTI gets the allocation of funds under the PLAN budget, in the head of account, 'MAJOR WORKS' during each financial year.

The Institute was provided with an amount of Rs.50 lakhs during the financial year 2006-07 in Budget Estimate and an additional amount of Rs.15 lakhs was provided in the Revised Estimate and the entire has been utilized for carrying out Renovation/Maintenance works. Out of these allocations, a few sanctions issued during the previous financial year have also been revalidated during the year under report, as the CPWD could not execute the works during 2005-06. An amount of about Rs.8.37 lakhs has also been utilized out of the budget provided under PLAN - Machinery & Equipment to carryout a few electrical works.

### **The CPWD executed the following works during the year under report**

#### **Civil works**

1. Development of Horticulture works & leveling of ground using earth moving equipment
2. Providing vitrified tiles for common lecture hall 306 in PV Benjamin Block
3. Providing vitrified tiles for Silver Jubilee Hall and Aluminium sliding windows for common lecture hall 306 and Training classrooms.
4. Renovation of Toilets in III floor of PV Benjamin block
5. Renovation and providing chain link mesh to compound wall on northern & western sides of the campus.
6. Replacement of corroded water supply pipe lines with new lines in 'Cauvery Nivas' building and miscellaneous civil works
7. Providing GI pipelines for drawing water from open well for Horticulture development works.
8. Additions and alterations in 48 old quarters of Type I, II & III

#### **Electrical Works**

1. Providing 22 Split Air conditioners in hostel rooms ( 20 in 'Krishna Nivas' rooms and 2 in Dining Hall), four in Silver Jubilee hall, one in Culture and another one in Media room
2. Replacement of existing aluminium wire with copper wire in Silver Jubilee Hall, Culture and Media rooms
3. Replacement of underground cable with new cable, Providing IEI power plugs, cable management system light fixtures and Public Address system in the conference hall 306 etc.
4. Providing second 5 HP electrical pump to open well and power supply to borewells and street lights from generator

## **MAINTENANCE WORKS**

In addition to the above , maintenance of Civil & Electrical works and the existing Air-conditioners were taken-up by CPWD as part of their routine Annual Repair and Maintenance Operation

### ***Acknowledgements***

The Director acknowledges the efforts of the Annual Report compilation committee under the Chairmanship of Dr. L. Suryanarayana, CMO in compiling, editing and organizing the publication of this report. The untiring secretarial assistance provided by Shri. R. Ravi Stenographer Gr.II and Smt. R. Shantha, Stenographer Gr.III in processing and preparing this report deserves deep appreciation. The secretarial assistants provided by Shri. M. Kalyan Kumar is acknowledged with thanks.