

NATIONAL TUBERCULOSIS INSTITUTE BANGALORE

वार्षिक रिपोर्ट ANNUAL REPORT 2002-03



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

**रर्षीय क्षयरोग संस्थान
(स्वास्थ्य सेवा महनिदेशालय)
'एवलोन' , सं. 8, बल्लारी रोड, बेंगलूर 560003.
भारत**

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NATIONAL TUBERCULOSIS INSTITUTE

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भारत सरकार
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GLOSSARY

Acquired Immunodeficiency Syndrome	AIDS
Annual Risk of Tuberculous Infection	ARTI
Bangalore Mahanagara Palike	BMP
Central Public Works Department	CPWD
Chief Medical Officer	CMO
Compact Disc	CD
Continuing Medical Education	CME
Danish Assistance to the Revised National Tuberculosis Control Programme	DANTB
Directly Observed Treatment Short Course	DOTS
Directorate General of Health Services	Dte.GHS
District Tuberculosis Centre	DTC
District Tuberculosis Officer	DTO
District Tuberculosis Programme	DTP
Geographic Information System	GIS
Health InterNetwork	HIN
Human Immunodeficiency Virus	HIV
Journal Custom Content for Consortia	JCCC
Information, Education, Communication	IEC
Local Area Network	LAN
Mycobacterium Tuberculosis	<i>M.tuberculosis</i>
Medical Officer	MO
National Institute of Mental Health & Neurosciences	NIMHANS
National Health Information Collaboration	NHIC
National Tuberculosis Institute	NTI
National Tuberculosis Programme	NTP
Operating System	OS
Personal Digital Assistant	PDA
Post Graduate Institute of Medical Education & Research	PGIMER
Revised National Tuberculosis Control Programme	RNTCP
Sr TB Laboratory Supervisors	STLS
Sr Treatment Supervisor	STS
Standard Operating Procedure Manuals	SOPM
State TB Demonstration Centres	STDC
Technical Coordination Committee	TCC
Tuberculosis	TB
World Health Organization	WHO
X ray Centres	XC

FOREWORD

The scourge of Tuberculosis continues to be a matter of great concern in the country. Alarmed by the inadequacies of the ongoing programme and encouraged by the success of newer tools of diagnosis and treatment strategies, the national level health sector managers took the bold decision to adopt the revised strategy of 'DOTS' for controlling TB. The revised strategy was codenamed Revised National Tuberculosis Control Programme (RNTCP) and its expansion phase started in 1997-98. The year 2002-03 witnessed rapid expansion in the coverage of RNTCP.

The National Tuberculosis Institute also contributed its might to the noble cause of reducing the burden of TB in the community in several ways. The Institute, which functioned as the technical arm of the Directorate General of Health Services since its inception of the programme in 1962, has been in the forefront in training as well as retraining the large number of health personnel required for implementation of TB Control Programme. Appraising the districts ripe for implementation of RNTCP is another area where the institute has been participating largely with the central team. Operational research on the various aspects of programme implementation has to run concurrently owing to the wide variations in the socio-economic environment prevailing in the country. The major thrust of the research activities in the institute is oriented to the operational aspects of RNTCP.

The institute witnessed a paradigm shift in the conduct of training programmes during the year. Recognizing the immediate need for large number of trained personnel for RNTCP implementation, the long term training programmes, which used to be the hallmark of NTI training, have been replaced with short-term programmes on the operational aspects of RNTCP. The modular training on RNTCP based on innovatively articulated modules for the various categories of health personnel has really helped in raising the knowledge levels of the participants on the various operational niceties of the RNTCP. A couple of national level institutions cannot bear the entire burden of training the health personnel required for RNTCP implementation. The NTI therefore, introduced the "Training of Trainers" courses with greater emphasis on developing training skills and aptitudes among the participants. The key officials so trained would further plan and organize training on RNTCP aspects at the state/district and sub-district levels. The institute also organized special training programmes for the STDC personnel as well as for state level TB programme managers, with the same objective. The institute opened its gate for a few international training programmes on TB control and management, which was a real challenge. The institute had the privilege of organizing the sixth WHO South East Asia Regional Training Course on TB Control in March 2003. We wish to gratefully acknowledge the expert advice and guidance received from Dr Karin Bergstrom of WHO, Geneva in finalizing the curriculum of training especially of the 'Training of Trainers' as well as 'Programme Managers Training'.

The mammoth task of accomplishing the fieldwork of the National Sample Survey to estimate the Annual Risk of Tuberculous Infection (ARTI) was completed in January 2003. The survey has enabled us to assess the present epidemiological situation of TB in the country by estimating ARTI in each of the four zones of the country in which survey work was undertaken independently. It is for the first time in

the country, an epidemiological survey of this magnitude was undertaken successfully. The epidemiology section of the institute also rendered technical advice for the conduct of ARI surveys in Orissa by DANTB and in the Khammam district of Andhra Pradesh by DFID. Current status of functioning of TB Sanatoria and Chest Disease Hospitals in Karnataka, Surveillance of Drug Resistance Studies, effectiveness of different models of DOT providers under RNTCP, follow-up study on the status of pulmonary TB patients put on RNTCP treatment etc. are some of the other operational research studies that were taken-up/continued during the year.

The spadework for implementation of the Health InterNetwork Project - India - Tuberculosis, a pilot initiative of WHO was carried out during the year with NTI as the nodal resource institution. A national level workshop of the partners of the project and a meeting of the key personnel of the resource institutions were held in NTI to firm up the components of the project. The background work for the digitization of documents/research articles for uploading to the proposed HIN portal, the development of a handheld device for mobile data collection by STS/STLS, the implementation of Journal Custom Content for Consortia (JCCC) etc. were initiated during the year. The institute also witnessed major up-gradations in its Intranet as well as Internet connectivity through the HIN project. Almost all sections of the institute are now connected through LAN and many of the nodes have been provided with Internet connectivity.

One of the weak areas of programme implementation is lack of adequate information about the treatment facilities among the Potential beneficiaries. Recognizing the need for research in the area of Information Education & Communication (IEC), a separate IEC section was established on 24th March 2003, the World TB Day. To start with, a partnership with cured TB patients was launched on the same day wherein the cured TB patients shared their success stories with patients undergoing anti-tuberculosis treatment. The essence of the partnership in joint fight against TB truly symbolized the slogan of the year "DOTS cured me, it will cure you too". Another area, which needed regular monitoring, was the Publication activities. To revamp this activity, a publication committee has been constituted and some of the back issues of our regular publication 'NTI Bulletin' have been brought up-to-date.

I would like to place on record the eminent services provided by the officers and staff of the Institute in accomplishing the tasks set for the year. I hope that the zeal and enthusiasm evinced by the staff of the institute would be sustained in the years to come to achieve the objectives of the institute in the changing scenario.

Dated: 15.3.2004
Place : Bangalore

Dr Prahlad Kumar
Director

प्राक्कथन

देश में क्षयरोग का उत्पीडन अत्यंत चिंता का विषय बना है । चालू कार्यक्रम की अपर्याप्तताओं से आतंकिता तथा निदान एवं चिकित्सा युक्तियों के नवीन साधनों की सफलता से प्रोत्साहित राष्ट्रीय स्तर के स्वास्थ्य क्षेत्र प्रबंधकों ने क्षय रोग के नियंत्रण के लिए 'डी.ओ.टी.एस.' की संशोधित युक्ति को लागू करने का गंभीर निर्णय लिया। संशोधित युक्ति को संशोधित राष्ट्रीय क्षय रोग नियंत्रण कार्यक्रम (आर.एन.टी.सी.पी.) का कोडनाम दिया गया तथा उसका विस्तरण चरण 1997-98 से प्रारंभ हुआ । वर्ष 2002-03 ने आर.एन.टी.सी.पी. की व्याप्ति में तीव्र प्रसरण देखा ।

राष्ट्रीय क्षयरोग संस्थान ने भी समुदाय में क्षयरोग के उत्पीडन को घटाने के महत्वपूर्ण कार्य में अनेक प्रकार से अपना योगदान दिया। संस्थान, जो 1962 में इस कार्यक्रम की शुरुआत से स्वास्थ्य सेवाएँ महानिदेशालय की तकनीकी भुजा के तौर पर कार्यरत है, क्षयरोग नियंत्रण कार्यक्रम के क्रियान्वयन के लिए आवश्यक बहुसंख्यक स्वास्थ्य कर्मियों के प्रशिक्षण व पुनःप्रशिक्षण में अग्रणी रहा है । आर.एन.टी.सी.पी. के क्रियान्वयन के लिए तैयार जिलों की सूचना पेश करना एक और क्षेत्र है, जहाँ संस्थान केन्द्रीय टीम के साथ व्यापक रूप से कार्य कर रहा है । देश में विद्यमान सामाजिक - आर्थिक वातावरण में व्यापक परिवर्तनों के कारण कार्यक्रम के कार्यान्वयन की विभिन्न पहलुओं पर प्रचालनिक शोध साथ साथ सम्पन्न करना आवश्यक है । आर.एन.टी.सी.पी. की प्रचालनिक पहलुओं पर प्रधानतया संस्थान के अनुसंधान क्रियाकलाप केंद्रित हैं ।

संस्थान ने गत वर्षों के दौरान प्रशिक्षण कार्यक्रमों के संचालन में निदर्शनात्मक परिवर्तन देखा । आर.एन.टी.सी.पी. के क्रियान्वयन के लिए बहुसंख्यक प्रशिक्षित कर्मियों की तत्काल आवश्यकता को पहचानते हुए, दीर्घकालीन प्रशिक्षण कार्यक्रम, जो राष्ट्रीय क्षयरोग संस्थान प्रशिक्षण के प्रमाण चिह्न होते थे, के बदले आर.एन.टी.सी.पी. की प्रचालनात्मक पहलुओं पर लघुकालीन कार्यक्रमों को चलाया जा रहा है । स्वास्थ्य कर्मियों के विभिन्न वर्गों के लिए अभिनव तरीके से निर्मित मापांकों पर आधारित आर.एन.टी.सी.पी. पर प्रमापीय प्रशिक्षण ने वस्तुतः संशोधित क्षय रोग नियंत्रण कार्यक्रम की विभिन्न प्रचालनात्मक उत्कृष्टताओं से संबंधित प्रतिभागियों के ज्ञान के स्तर को बढ़ाने में मदद की । आर.एन.टी.सी.पी. के क्रियान्वयन के लिए आवश्यक स्वास्थ्य कर्मियों के प्रशिक्षण का पूर्ण बोझ राष्ट्रीय स्तर की कुछेक संस्थाएँ ही उठा नहीं पाएँगी । अतएव, राष्ट्रीय क्षय रोग संस्थान ने "प्रशिक्षकों का प्रशिक्षण" कार्यक्रम को प्रारंभ किया, जहाँ अधिक जोर प्रतिभागियों में प्रशिक्षण कुशलताओं एवं प्रवृत्तियों के विकास पर दिया

जाता है । इस भांति प्रशिक्षित प्रमुख कर्मचारी राज्य / जिला तथा उप जिला स्तरों पर आर.एन.टी.सी.पी. पहलुओं पर प्रशिक्षण की

योजना व आयोजन करेंगे । संस्थान ने एस.टी.डी.सी. कर्मियों के अलावा राज्य स्तर के क्षय रोग कार्यक्रम प्रबंधकों के लिए भी उसी उद्देश्य से विशेष प्रशिक्षण कार्यक्रमों का आयोजन किया । संस्थान ने क्षय रोग नियंत्रण एवं प्रबंधन पर कुछ अंतर राष्ट्रीय प्रशिक्षण कार्यक्रमों के लिए अपना द्वार खोला, जो असल में एक चुनौती थी । संस्थान को मार्च 2003 में क्षय रोग नियंत्रण पर छठे विश्व स्वास्थ्य संगठन दक्षिण पूर्व एशिया क्षेत्रीय प्रशिक्षण पाठ्यक्रम को आयोजित करने का सम्मान प्राप्त हुआ । हम विश्व स्वास्थ्य संगठन, जिनेवा के डॉ करिन बर्गस्ट्राम से प्रशिक्षण, विशेषतया "प्रशिक्षकों का प्रशिक्षण" तथा "प्रबंधकों का प्रशिक्षण कार्यक्रम" के पाठ्यचर्या को अंतिम रूप देने में प्राप्त विशेषज्ञ सलाह तथा मार्गदर्शन के प्रति आभार व्यक्त करना चाहते हैं ।

क्षय रोग संक्रमण की वार्षिक जोखिम (ए आर टी आई) को निर्धारित करने के लिए राष्ट्रीय नमूना सर्वेक्षण के क्षेत्र - कार्य को सम्पन्न करने का बृहत् कार्य जनवरी 2003 में पूर्ण हुआ । इस सर्वेक्षण ने हमें देश के चारों मण्डलों में से प्रत्येक में जहाँ सर्वेक्षण कार्य स्वतंत्र रूप से किया गया था, ए आर टी आई के निर्धारण के द्वारा देश में क्षय रोग के वर्तमान मारक रोग की स्थिति के मूल्यांकन के लिए सक्षम बनाया है । देश में यह पहली बार इस बृहत् मात्रा में किसी जानपदिक रोग का सर्वेक्षण सफलतापूर्वक सम्पन्न हुआ । संस्थान के जानपदिक रोग विज्ञान अनुभाग ने डी.ए.एन.टी. बी. द्वारा उडीसा में तथा डी.एफ.आई.डी. द्वारा आंध्र प्रदेश के खम्मम जिले में ए.आर.आई. सर्वेक्षणों को संचालित करने में तकनीकी सलाह प्रदान की । कर्नाटक के क्षय रोग स्वास्थ्य-निवासों तथा हृदय रोग अस्पतालों के कार्य की वर्तमान स्थिति, औषध प्रतिरोध अध्ययनों की निगरानी, आर एन टी सी पी के अंतर्गत डी ओ टी उपलब्धकर्ताओं के विभिन्न नमूनों की प्रभावोत्पादकता, आर एन टी सी पी उपचार के अंतर्गत रखे गए फुफुसीय क्षयरोगियों की स्थिति का अनुवर्ती अध्ययन आदि वर्ष के दौरान प्रारंभ /जारी अन्य कुछ प्रचालनात्मक शोध अध्ययन हैं ।

वर्ष के दौरान स्वास्थ्य अंतरजाल परियोजना, विश्व स्वास्थ्य संगठन का एक पथप्रदर्शी प्रवर्तन, के क्रियान्वयन का आधार कार्य राष्ट्रीय क्षय रोग संस्थान को केंद्रक संसाधन संस्था के रूप में लेकर सम्पन्न किया गया । परियोजना के घटकों को सुदृढ बनाने के लिए परियोजना के साथियों की एक राष्ट्र स्तरीय कार्यशाला तथा संसाधन संस्थाओं के प्रमुख कर्मियों की एक बैठक का आयोजन राष्ट्रीय क्षय रोग संस्थान में किया गया । प्रस्तावित एच आई एन पोर्टल में स्थापित करने के लिए दस्तावेजों / शोध लेखों के अंकीकरण के लिए पृष्ठभूमि कार्य, एस टी

एस/एस टी एल एस द्वारा संचारी आंकड़े संग्रहण के लिए हस्तचालित साधन, संकायों के लिए पत्रिका प्रथागत सारांश (जे. सी.सी.सी.) का क्रियान्वयन आदि का प्रवर्तन वर्ष के दौरान किया गया । संस्थान में एच.आई.एन. परियोजना के द्वारा इंटरनेट तथा इंटरनेट संबंधन में प्रधान उन्नयन देखा गया । अब संस्थान के प्रायः सभी अनुभाग स्थानीय नेटवर्क (लॉन) से जुड़े हैं तथा अनेक नोडों को इंटरनेट संबंध उपलब्ध कराया गया है ।

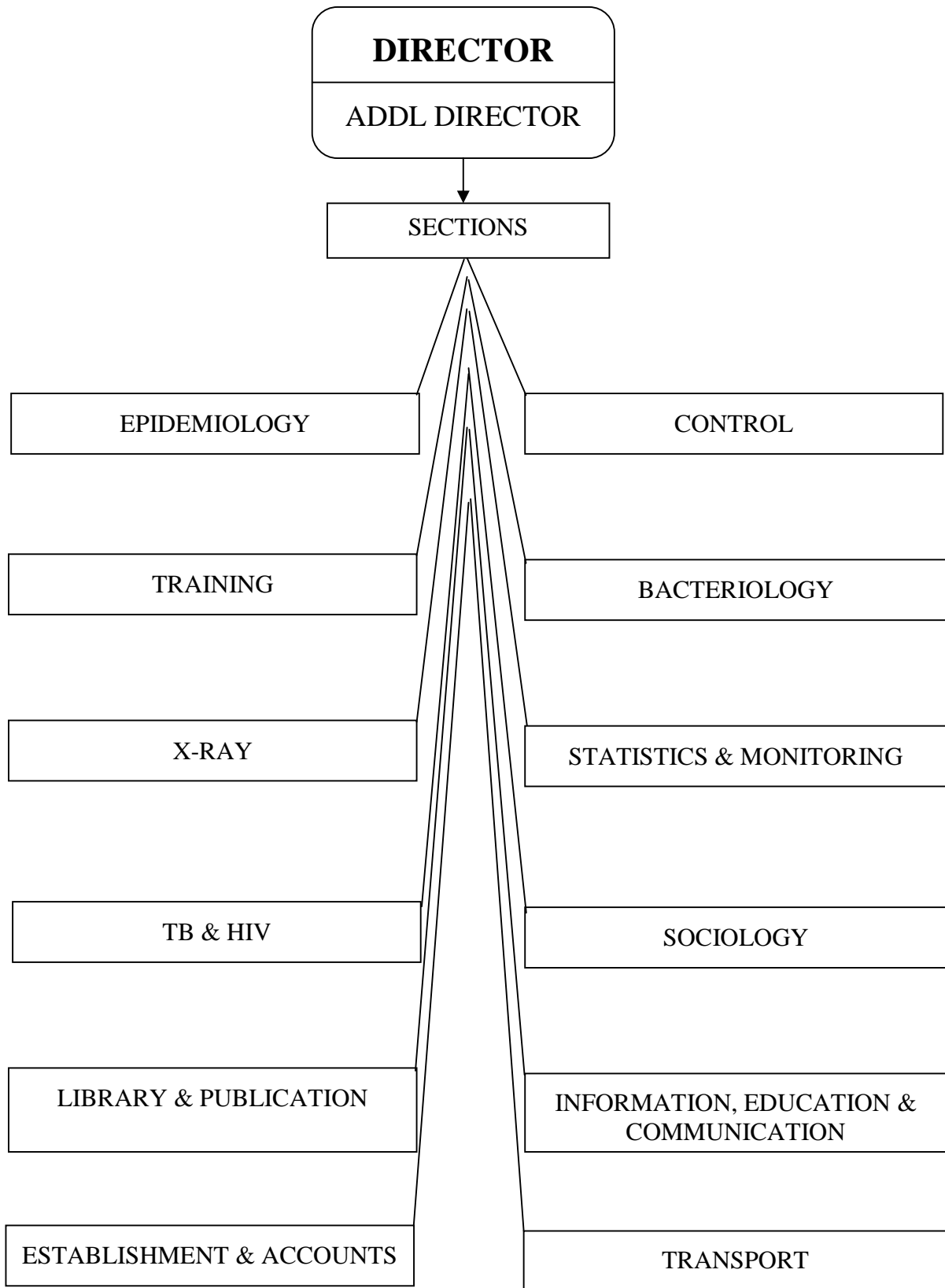
कार्यक्रम के क्रियान्वयन का एक कमजोर क्षेत्र संभाव्य लाभभोगियों के बीच चिकित्सा सुविधाओं से संबंधित पर्याप्त सूचनाओं की कमी है । सूचना शिक्षा एवं संप्रेषण (आई.ई.सी.) के क्षेत्र में अनुसंधान की आवश्यकता को पहचानते हुए 24 मार्च 2003, राष्ट्रीय क्षय दिवस पर एक पृथक आई.ई.सी. अनुभाग की स्थापना की गई । शुरुआत के तौर पर, उसी दिन रोग मुक्त क्षय रोगियों के साथ भागीदारी स्थापित की गई जहाँ पर रोग मुक्त क्षय रोगियों ने प्रति-क्षयरोग चिकित्साधीन रोगियों के साथ अपनी सफलता की गाथाओं को बाँटा । क्षय रोग के विरुद्ध सम्मिलित लड़ाई की भागीदारी का सारतत्व वर्ष के नारे का यथार्थ प्रतीक है कि, "डी.ओ.टी.एस. ने मुझे रोगमुक्त किया, तुम्हें भी करेगा" । प्रकाशन क्रियाकलाप एक और ऐसा क्षेत्र था, जिसका नियमित मानीटरन आवश्यक था । इस क्रियाकलाप में तेजी लाने के लिए एक प्रकाशन समिति का गठन किया गया है तथा हमारे नियमित प्रकाशन 'एन टी आई बुलेटिन' के कुछ पिछले अंकों को अद्यतन बनाया गया है ।

वर्ष के लिए नियत कार्यों को पूर्ण करने में संस्थान के अधिकारियों तथा कर्मचारियों द्वारा दी गई अमूल्य सेवाओं को मैं अभिलेखित करना चाहता हूँ । मैं आशा करता हूँ कि संस्थान के कर्मचारियों द्वारा दर्शाया गया उत्साह तथा जोश भविष्य के वर्षों में भी बना रहेंगा ताकि बदलते परिदृश्य में संस्थान के उद्देश्यों की पूर्ति की जा सके ।

दिनांक : 15 .3.2004
स्थान : बैंगलूर

डॉ प्रह्लाद कुमार
निदेशक

1. ORGANIZATIONAL SET UP



2. STAFF POSITION

	Sanctioned	In position	Vacant
DIRECTOR	1	1	Nil
ADDL DIRECTOR	1	1	Nil

STAFF POSITION : GROUP-WISE

Sl. No.	Category	Sanctioned	In position	Vacant
1.	Group 'A'	17	12	5
2.	Group 'B'	15	5	10
3.	Group 'C'	108	94	14
4.	Group 'D'	68	60	8
Total		208	171	37

3. FINANCIAL OUTLAY & EXPENDITURE

The Plan and Non-plan budget allocation of the institute along with the expenditure for the years 2000-01 to 2002-03 were as under :

Revenue generated by the Institute and credited to the consolidated fund of Government of India is also given for the year 2002-03.

PLAN

Year	Budget allocated (Rs)	Expenditure (Rs)
2000-2001	86,21,000	86,10,000
2001-2002	1,61,00,000	1,49,79,000
2002-2003	1,31,00,000	92,70,059

NON PLAN

Year	Budget allocated (Rs)	Expenditure (Rs)
2000-2001	2,08,68,000	2,10,38,000
2001-2002	2,32,00,000	2,10,12,000
2002-2003	2,35,00,000	2,13,02,405

REVENUE GENERATED

Year	Amount (Rs)
2002-2003	2,62,328

4. OVERVIEW OF COMPUTER FACILITIES

The ever-growing demand for computing facilities from various sections, be it for analysis of research data, compilation of performance reports etc., or for regular office administration has always pushed towards betterment and up gradation of the existing infrastructure of the computer facilities.

The existing server on Novell Netware V 4.01 is now coupled with Windows 2000 server to cater to the requirements of the Institute. The institute also witnessed an expansion in the Local Area Networking (LAN) during the year. The former network was mainly in the Statistical Computer Center wing of the Institute. However the LAN points were now extended to the PV Benjamin Block (Library), ROBERT KOCH Block (laboratory) and to all rooms on the ground floor and the first floor of 'Avalon' Building. In addition, LAN points have been provided in the Board Room, Silver Jubilee hall and Kalaniketan, Auditorium, thus making it easier to access the server for larger presentations. These expansions were facilitated by the WHO's Health InterNetwork (HIN) project. A 64 KBPS DSL lease line facility has also been procured under the HIN project and connected to selected nodes, thus giving net access to the users.

There are over 40-nodes/ stand alone PCs currently in the institute. An overview of the distribution of IT hardware in the Institute is as under:

Sl No	Section	Computers		Printers			LCD Projector	Others*
		PCs	Lap top	Dot matrix	Laser Jet	Ink Jet		
1	Director's office	4	1	1	2	1	1	2
2	Addl Director's office	1	-	-	-	1	-	-
3	Statistics	14@	1	2	2	3	-	3
4	Epidemiology	3	1	2	1	-	-	1
5	Control	1	-	0	-	1	-	-
6	Bacteriology	4	-	2	1	1	1	1
8	Training	1	1	1	1	1	1	-
9	Library	5	-	3	1	-	-	2
10	Administration	7	-	5	-	-	-	-

* Others include – HP Scanners, External CD ROM drive/writers, omega zip drive, tape drives

@ Inclusive of 2 servers

The Operating Systems (OS) on the two servers are Novell version 4.01 and Windows 2000. The OS on the entire nodes/ stand alone PCs are on windows environment (Win95 ,Win 98, Win Me or Win XP).

5. FUNCTIONS OF ADMINISTRATIVE SECTIONS

ESTABLISHMENT

The section is responsible for general upkeep of the office. The various types of activities of the section include :

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

The movement of staff in the Institute during the year were as under :

Sl. No.	Name	Designation	Date
Recruitment			
1	Sri Naveen Sharma	Jr Hindi Translator	2 nd January 2003
2	Ms Veena C	Stenographer (Contractual)	19 th December 2002
3	Ms Sumitha S		16 th January 2003
4	Ms Veena K		24 th January 2003
Termination			
1	Sri Suhail Pasha	Field Assistant	17 th October 2002
Repatriation			
1	Ms Sujatha Sathyanarayana (To Parent Dept.)	UDC	26 th June 2002
Transfer			
1	Dr P Kumar (From SAARC TB Centre, Kathmandu, Nepal)	Director	6 th May 2002
2	Dr V Seethapathi Rao (From Dept. of Posts, Vijayawada, Andhra Pradesh)	Additional Director	17 th October 2002
Retirement on Superannuation			
1	Ms Padmalatha Krishnan	Stenographer Grade I	30 th June 2002
2	Mr Ganapathy C M	Mechanical Supervisor	28 th February 2003
Voluntary Retirement			
1	Ms Kamala Rathnaswamy	Stenographer Grade II	7 th October 2002
2	Ms Alamelu. T.J		1 st January 2003

ACCOUNTS

The major responsibilities of the section are :

- i. Preparation of annual budget proposal and performance budget.
- ii. Drawing and disbursement of salaries, TA, other allowances and other staff expenses.
- iii. Arranging payment for stores and services.
- iv. Processing the payment of advances to staff.
- v. Deduction of Income Tax at source for the tax paying employees and its remission to the Income Tax Department.

STORES

The section is responsible for procurement and supply of stores items for the smooth functioning of the Institute. The other functions of the section include:

- i. Maintenance of stores ledger/stock.
- ii. Arranging Annual Maintenance of electrical, electronic and other equipments.
- iii. Disposal of condemned items as per laid down procedure.
- iv. Annual Stock verification

TRANSPORT

The Institute has a fleet of vehicles and this section is primarily responsible for its upkeep. Maintenance of all documents relating to registration, condemnation etc., are also handled by the section. The section is also equipped to undertake minor repairs of vehicles.

HOSTEL

The institute has two hostel blocks for providing boarding and lodging facilities for medical & paramedical trainees and visitors from Dte. GHS and other Institutions/Offices. The Hostel Warden looks after the supervision and control of chowkidars & safaiwalas as well as other house keeping jobs.

6. CIVIL & ELECTRICAL WORKS AND MAINTENANCE

The Institute took up several building and campus development works during the year. These works were executed through the Central Public Works Department (CPWD), Ministry of Urban Development and Poverty alleviation. A budget of Rs. 60 lakhs was provided to the Institute during the financial year 2002-03 under PLAN Major Works for carrying out these developmental works.

A few civil works were also executed by CPWD under its annual repair and maintenance operations account. The following were the works executed during the year.

CIVIL

1. Renovation of kitchen in one of the hostels (Krishna Nivas).
2. Internal painting of library in PV Benjamin block.
3. Providing Aluminum partition in western corridor of the ground floor of AVALON building.
4. Leveling of ground adjacent to the two-wheeler parking stand near the main entrance.
5. Internal painting with plastic emulsion in the Director's chamber, Committee room and PA's room.
6. Development of horticultural works (in front of PV Benjamin Block around hostels, Guesthouse etc.)
7. Fixing flag post at the terrace level, distemping the ceiling and corridor adjacent to Director's chamber.
8. Re-plastering AVALON building with cement mortar. This building from the erstwhile princely family of Mysore Rulers had lime mortar plastering and has lot of architectural features. The external lime mortar plastering had become weak and lost bondage with the masonry at several places. The cement mortar plastering is expected to enhance the life of this heritage building.
9. Providing plinth protection, PVC cistern and repairs to bath / WC doors of staff quarters.
10. Providing shelter for air handling system of Bacteriology Section.
11. Improvement to the washing room in Bacteriology section.
12. Providing platform below the existing ladder to all the eight blocks of staff quarters.

ELECTRICAL

1. Providing elevator (lift) to the PV Benjamin Block (work started during the year 2001-02 and completed during 2002-03).
2. Installation of security lights around residential quarters.
3. Rewiring first floor right wing of AVALON building.
4. Rewiring of the ground floor and providing chandelier in the ground floor of AVALON building.
5. Electrical renovation of hostel kitchen (Krishna Nivas).
6. Providing 250 KVA standby transformer.
7. Providing split air conditioners in the Additional Director's Chamber and guest room No. 2.

7. COMMITTEES

Several Institutional and other committees have been constituted under the chairmanship of senior officers for examining the relevant issues/matters and to 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

To review the research protocols from ethical considerations and to give the stamp of approval before implementation.

Institutional Animal Ethics Committee

To review and approve research projects involving animal experimentation.

Technical Co-Ordination Committee

All the faculties of the Institute are members of this committee. This committee meets frequently and ensures healthy 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. 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 are referred to this committee for examination from the point of view of prevalent rules, regulations and precedents. .

Planning Committee for Civil and Electrical Works

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, especially with regard to the major specifications of the work before issue of administrative & expenditure sanction. The committee also monitors the various works right from the commencement to the completion stage in close coordination with the concerned CPWD officials.

Purchase Committee

To advise the Director on all purchase matters. The activities include scrutiny of specifications and other pre-qualification criteria, opening of quotations/tenders and their scrutiny with regard to the set specifications and other commercial terms.

Rajbhasha Implementation Committee

To promote the use of Rajbhasha and encourage the officials to learn and use Hindi language in official correspondence. This committee coordinates the celebration of Hindi Saptah and Hindi Divas.

Library Committee

To advise on the subscription of periodicals, acquisition of books, user oriented activities and ways to promote dissemination of information.

Editorial Committee

Coordinates the publication activities of the Institute, especially the biannual regular publication viz., “**NTI Bulletin**”.

NTI Staff Quarters Allotment Committee

To scrutinize the applications, waiting list etc., as per prevailing allotment rules and to formulate recommendations for allotment of quarters.

Campus Maintenance Committee:

To advise on matters pertaining to the general upkeep and security of the campus.

Flag Hoisting Committee

To supervise the hoisting of the National Flag daily as well as on special occasions as per the guidelines.

Sexual Harassment Committee

To deal with complaints of sexual harassment faced by the female Govt. servants.

Publication Committee

Function of the committee is more of administrative in nature with power to work unitedly to keep the publication qualitatively good and be vigilant on getting the documents in time from respective committees.

Training Committee

To oversee the curriculum, methodology, scheduling and documents, participants for the various training programme.

8. RESEARCH

Research on Tuberculosis control and related areas is one of the prime functions of the Institute. The institute is organized administratively into several technical sections for the purpose of pursuing research in the respective areas. The statistics section provide the required inputs in terms of planning, supervision of field work, analysis and interpretation of the field data of the various research endeavors undertaken by the different sections.

The Institute has put in place the mechanism of **Technical Coordination Committee (TCC)** for thorough technical discussion and exchange of ideas before any research protocol is finalized. The progress of the project is monitored by the TCC at frequent intervals. The projects are also scrutinized by the Institutional Ethics Committee from ethical considerations before implementation. The conclusions of the research projects are also reported to the TCC before they are either presented in technical conferences or published in journals.

The progress of the various **ongoing research projects** as well as those initiated during the year is given in this chapter.

1. **RP/206 : National Sample Survey to estimate Annual Risk of Tuberculous Infection (ARTI) in different parts of India.**

Objective

To estimate the prevalence of tuberculous infection among children aged 1-9 years, in different parts of the country and to compute ARTI from the estimated prevalence.

Progress

The fieldwork of the survey was completed in all the four defined zones (in 26 districts) of the country in January 2003. A total number of about 1,90,000 children were investigated in the four zones.

During the year under report, a total of about 31,500 children were investigated in 7 districts of east zone viz., Burdhaman (WB), Cuttack (Orissa), Jalpaiguri (WB), East District (Sikkim), Kamrup (Assam), Samastipur (Bihar) and Papum Pare (Arunachal Pradesh).

Tuberculin testing of smear positive cases to study any “Batch to batch variation in the potency of tuberculin” was undertaken for all batches.

The data entry and analysis were completed for the three zones viz., North, South and West.

The midterm report of the survey was presented by Dr VK Chadha, Sr Epidemiologist in the steering committee meeting held at Nirman Bhavan New Delhi in June, 2002.

2. **RP/212: Study on effectiveness** of alternate DOT providers under RNTCP in Bangalore Mahanagara Palike (BMP).

Objective

To assess the feasibility, strength, weakness and effectiveness in terms of Cure/completion rates by using shopkeepers as an alternate DOT provider.

Progress

The field work for the study was commenced on 18th March 2002. During the year, 183 smear positive cases and 56 radiologically positive cases were put on treatment under the care of the alternate DOT provider viz., shopkeeper. Forty seven (47) patients have so far completed treatment. A total of 140 patient's schedules were scrutinized besides completion of data entry.

3. **RP/213: Follow up of smear positive cases treated under DOTS** in BMP.

Objective

To study the following aspects among new smear positive and re-treatment cases treated under DOTS:

- a) Clinical & Bacteriological status at follow up.
- b) Pattern of treatment undertaken if any after the completion of treatment under DOTS.
- c) Socio-economic repercussions due to TB.
- d) TB incidence among household contacts.

Progress

The cohort of new smear positive cases taken into the study pertained to the cases treated during April - December 1999. Similarly, the re-treatment cases were those registered during the period April 1999 – September 2000. The fieldwork for the study was commenced on 1st April 2002 and was completed in first week of January 2003. The data analysis and preparation of the paper is in progress.

4. **RP/214: Current status of functioning of TB Sanatoria and Chest Diseases Hospitals** in Karnataka.

Objective

- a) To evaluate the infrastructure and manpower available in the sanatoria.
- b) To evaluate the diagnostic and treatment practices in the sanatoria.
- c) To study the socio-economic and clinical profile of the patients utilizing the facilities of sanatoria.

Progress

A total of nine (9) Sanatoria were to be studied under the project for various parameters. During the year, data collection was completed for six

Sanatoria. The details of the data collected were as under:

Institutional profile	- 06
Profile of Medical Officers	- 25
Profile of Nursing service	- 85
Profile of in patients/out patients	- 177

1. **RP/215:** Collaborative study to evaluate diagnosis of TB among HIV infected persons.

Objective

- (a) To evaluate the sensitivity and specificity of the current RNTCP algorithm for diagnosis of pulmonary TB among HIV-infected persons.
- (b) To evaluate the sensitivity and specificity of alternative algorithms for diagnosis of pulmonary TB among HIV-infected persons.

Progress

Pilot study is under progress in Victoria Hospital and NIMHANS. Twenty four (24) persons have been taken into the study and so far, 105 samples have been processed.

2. **RP/216:** Accessibility and utilization of anti-TB services by slum dwellers of Bangalore

Objective

- b. To estimate prevalence of chest symptomatics among slum dwellers in the age group 14 years and above.
- c. To estimate the proportion of chest symptomatics suffering from smear positive pulmonary TB.
- d. To study the action taking behaviour of smear positive TB patients.
- e. To ascertain the accessibility of microscopy and treatment facilities available under RNTCP.

Progress

Formulation of protocol, work instructions, study formats, training of field staff and planning of the pilot phase was undertaken during the year. The draft protocol was approved by the TCC on 1st January 2003 and a decision was taken to pilot test the same in selected slums of Bangalore.

Other Studies

1. Estimation of ARTI in Khammam district of Andhra Pradesh – Collaborative study with DFID.

Objective

To estimate the prevalence of infection in children aged 5-9 years and to compute the ARTI.

Progress

The fieldwork was completed under the guidance of NTI staff. Data entry and analysis were undertaken at NTI and a brief report was submitted to state TB Cell. The detailed report is under preparation.

2. Sample survey to estimate ARTI in Orissa – in collaboration with DANTB.

Objective

To estimate the prevalence of infection in children aged 1-9 years and to compute the ARTI

Progress

The technical guidance including the design of the survey and training of field staff was rendered by NTI. The entire fieldwork was carried out under the guidance of NTI staff. The data entry has been completed and the analysis and preparation of report was under progress.

3. 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 Indian Institute of Science, Bangalore.

Objective

Testing of DNA vaccine in Guinea pig animal model.

Progress

Manuscript entitled “the APA protein of *M.tb* stimulates interferon gamma-secreting CD4+, CD8+ T cells from PPD-+ve individuals & affords protection in the guinea pig animal model”—submitted for publication in *Infection & Immunity*, American Society for Microbiology, Journals Dept.

Study still under progress. (Immunized 56 animals & post-mortem was conducted on 38 guinea pigs).

10. Evaluation of Chemotherapeutic potential of polymer entrapped isoniazid, rifampicin and pyrazinamide V/s free drugs in guinea pigs – in collaboration with Post Graduate Institute of Medical Education and Research, Chandigarh (PGIMER).

Objective

- a. Bio-distribution studies of isoniazid, rifampicin & pyrazinamide using PLGA microparticles (PGIMER).
- b. Preliminary toxicology studies of antitubercular drugs released from the PLGA microparticles (PGIMER).
- c. Efficacy of sustained drug delivery system employing poly (lactide-co-glycolide) micro particles in homogenous stock of albino guinea pig animal model (NTI)

Progress

Albino guinea pigs were challenged intramuscularly with high virulent strain of *M.tuberculosis*.

The animals were put into four groups and were administered polymer entrapped drugs at weekly intervals and free drugs on a daily basis.

In the first phase of experimentation, 21 guinea pigs were subjected to necropsy examination. Spleen and lung tissues were mechanically homogenized, serial dilutions prepared and inoculated to LJ media for quantitative analysis.

Research proposals in the pipeline

1. Status of DOTS implementation in RNTCP districts

Objective

- a. To estimate the proportion of pulmonary TB patients initiated on Non-DOTS regimen and their treatment outcome in RNTCP areas.
- b. To evaluate the reasons for not initiating patients on DOTS.
- c. To assess the quality of treatment observation under DOTS.

Status

The proposal was submitted to the Central Steering Committee on Research in August 2002 and was reviewed by the committee in its meeting held on 5th December 2002. Though the committee appreciated the issue, it did not find favour in having the study to such a scale and instead suggested that the Central TB Division may conduct an in-depth review of the situation. Subsequently, a decision was taken in the TCC to carryout the study limited to two or three districts in the southern states on a pilot basis.

2. Study on defaults & patient retrieval among new smear positive cases treated under RNTCP in different geographical settings.

Objective

To study the following aspects among the new smear positive patients in different demographic and geographic setting.

1. The reasons for missing doses.
2. The existing methods of patient retrieval after missing dose.
3. Deficiencies observed in the methods of patient retrieval.
4. Reasons for default.

Status

The draft proposal was submitted to Central Screening Committee for approval. Pilot study would be undertaken in two rural districts of Karnataka.

3. Assessment of diagnostic algorithm and treatment among chest Symptomatics and smear negative TB patients under RNTCP

Objective

To study

- a. The proportion of chest symptomatics fulfilling the RNTCP diagnostic algorithm and returning after antibiotic treatment.
- b. The proportion of smear negative patients positive by culture at initiation of treatment, becoming smear positive during treatment period, initiated on CAT I & CAT II treatment regimens with reasons and put on Non DOTS regimen with reasons.

Status

Draft protocol and questionnaire is awaiting the approval of the TCC.

4. Baseline study to estimate Annual Risk of Tuberculous Infection in the states of Himachal Pradesh and Rajasthan

Objective

To estimate prevalence of tuberculous infection and to compute the baseline ARTI among children aged 1-9 years without BCG scar, separately for rural and urban areas of two fully implemented RNTCP states viz., Rajasthan and Himachal Pradesh.

Status

The protocol after submission to Central TB Division in July 2002 was considered by the screening committee in its meeting held in December 2002. The proposal was approved in principle with some suggestions for modification. The protocol was revised in line with the suggestions of screening committee and resubmitted. Some additional comments received from the Bio-statistician of the committee were being examined.

9. TRAINING

The institute has always been in the forefront in providing trained manpower for TB control programme. With the rapid expansion of RNTCP throughout the country, the need for revision of training programmes at NTI became imperative.

The year 2002-03 was a landmark year in the history of NTI as drastic changes were brought in the schedule of training programmes. The main change was the discontinuation of 8 weeks regular training in TB control under NTP and introduction of Modular Training of shorter duration under RNTCP. The objective of Modular Training was to equip the trainees on all technical and operational guidelines of RNTCP.

Apart from this, certain specialized training programmes were also introduced during the year with an RNTCP perspective. The Programme Managers training and Training of Trainers' fall in this category. The salient features of these specialized training programmes were as under :

A. Training of Programme Managers

This is a new training introduced from this financial year. There has always been a felt need among TB Managers to get more exposure to managerial skills and to meet this need, the Programme managers training course was designed. Inputs for designing the curriculum was received from Dr Karin Bergstrom of WHO. The learning objectives of the various topics were based on job responsibilities and curriculum was designed to cover these objectives. The training was imparted in the form of lectures, case studies, discussions and presentation by the participants.

B. Training of Trainers

The objective of this training was to equip the participants with the skills to assess the training needs, plan, organize & evaluate RNTCP training programmes and also to function as good facilitators. Inputs for designing this training was also received from Dr Karin Bergstrom of WHO. The training was imparted in the form of lectures and discussions. The participants were encouraged to make presentations on selected topics. They were also exposed to skills of teaching methodologies and were asked to facilitate modules under observation by faculty.

The institute was also privileged to conduct an exclusive training programme during the year on behalf of WHO SEARO. The **sixth (6th) WHO South East Asia Regional Training Course on TB Control** was held at NTI from 10th – 21st March 2003. A total of 17 participants from Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Nepal, Srilanka, Thailand and East-Timor participated in the training course. The faculty and concerned staff of NTI, other national & international facilitators actively assisted in the conduct of the training course. As part of the training activity, the trainees were taken to the TB Units of Bangalore Mahanagara Palike for field demonstration. The Bacteriology Section and Computer Center of the Institute also participated in imparting training in TB Bacteriology and computer applications respectively.

The following were the training programmes conducted during the year:

A. At NTI

i. Modular training on RNTCP

Sl. No.	Category of participants	Number	Period	Sponsored by
1	MOs of Bangalore Mahanagara Palike	21	27 th –30 th Apr 2002	STC Karnataka
2	MOTCs of Karnataka	17	29 th May – 10 th June 2002	
3	LTs, STSs & STLSs of BMP	21	27 th May - 14 th June 2002	
4	DTOs of Maharastra	27	3 rd –14 th June 2002	Dte.GHS
5	DTOs/MOs from Madhya Pradesh	9	15 th July – 2 nd Aug 2002	
6	DTOs of Karnataka	2	24 th Sept - 1 st Oct 2002	STC Karnataka
7	LTs of Karnataka	29	5 th - 16 th Aug 2002	
8	DTOs and MOs of different states.	17	19 th Aug – 2 nd Sept. 2002	Dte.GHS
9	STSs of different states	22	19 th Aug – 2 nd Sept. 2002	
10	STLS of different states	17	19 th Aug – 2 nd Sept. 2002	
11	STLS of Karnataka	15	3 rd –18 th Sept 2002	STC Karnataka
12	STS of Karnataka	21	12 th –20 th Sept 2002	
13	DTOs & MOs of Chattisgarh, Maharashtra & Karnataka	23	3 rd –18 th Sept 2002	Dte.GHS
15	STLS of Karnataka	14	19 th Sept - 3 rd Oct 2002	STC Karnataka
16	STS of Karnataka	18	23 rd Sept – 1 st Oct 2002	
17	DTOs from different States	21	7 th - 21 st Dec 2002	Dte.GHS
18	DTOs & Medical College Faculty from different states	15	17 th Feb - 1 st Mar 2003	

ii. Training of Programme Managers

Sl. No.	Category of participants	Number	Period
1	State level TB Programme Managers & MOs working in state TB cell	8	7 th – 28 th Nov 2002

iii. Training of Trainers

Sl. No.	Category of participants	Number	Period
1	STS from NRL (an NGO), Nepal.	1	20 th – 31 st January 03
2	Medical Officers (13), STLS (5) and STS (6) from Karnataka, Kerala & Himachal Pradesh	24	

iv. Training of Post Graduates / Microbiologists etc.

Sl. No.	Category of participants	Number	Period
1	TB Control Programme for Post Graduate students	25	21 st Oct – 1 st Nov 2002
2	Skill based training for MSc students from Karnataka including development of Protocol, conduct of short research and preparation of Project Report	6	1 Month

v. Sensitization workshop on RNTCP

Sl. No.	Category of participants	Number	Period
1	Medical College faculty from Karnataka	11	12 th Nov 2002
2	Medical College faculty from Karnataka	20	29 th Nov 2002
3	Medical College faculty from Karnataka	20	20 th Dec 2002

vi. Special Training programmes for WHO fellows

Sl. No.	Category of participants	Number	Period
1	One (1) Lab. Technician, Two (2) Treatment Organizers and one (1) Computer Assistant from Nepal	4	15 th Jul – 6 th Sept 2002
2	Medical Officers from Srilanka	5	7 th – 18 th Nov 2002
3	In-country training programme on RNTCP & Epidemiology for the WHO consultants.	2	7 th Nov – 18 th Dec 2002
4	Comprehensive training on TB Control for Medical Officers from Bangladesh	2	20 th – 31 st Jan 2003
5	Comprehensive training on TB Control for Medical Officers from Myanmar	1	20 th Jan – 14 th Feb 2003
6	Comprehensive training programme for a WHO fellow from Bhutan.	1	3 rd Mar – 11 th Apr 2003

vii. Orientation training

The institute has been imparting orientation training of one-day duration to the visiting students of various academic courses viz., BSc Nursing, GNM, Pharmacy, Microbiology (under graduates & postgraduates) and Para-medicals viz., Health Assistants, Lady Health Visitors, Medical Assistants from Command Hospital Air Force, HIV/AIDS Counselors etc. The topic covered during the training are orientation on TB, ZN microscopy, isolation, sensitivity and identification tests & role of laboratory animals in Bio-medical research & importance of safe disposal of laboratory wastes through segregation, sterilization & incineration.

During the year, a total of 50 batches (1700 participants) of visitors were imparted the orientation training. The visiting trainees were by and large from various institutions of Bangalore. A few institutions located in Mangalore, Mysore (Karnataka), Madurai (Tamilnadu) and Sangli (Maharashtra) had also visited the institute.

B. Outside NTI

Period	Facilitator/s from NTI	Place of training	Nature of training
15.04.02 – 29.04.02	Statistical Assistant, Sister Tutor, X-ray and Lab Technician and UDC (Admn. Support).	STC Andaman and Nicobar Islands	Sensitization training on RNTCP to the para-medical staff
22.04.02 – 27.04.02	Sr Epidemiologist, Chief Statistical Officer, Chief Medical Officer, Sr Medical Officer	STC Andaman and Nicobar Islands	Sensitization training on RNTCP to the Medical Officers
27.5.02 – 2-06.02	Dr Sophia Vijay, Sr TB Specialist	STDC Trivandrum, Kerala	Modular training on RNTCP for MOTCs & DTOs and officers of STDC, Kerala
01.04.02 – 12.04.02	Dr VH Balasangameshwara & Dr.Chitra Nagaraj, Chief Medical Officer	STC, Manipur	Modular training on RNTCP for MOTCs and DTOs
13.06.02 – 24.06.02	Dr Chitra Nagaraj, Chief Medical Officer	DTC, Dibrugarh, Assam	

10. MONITORING

Performance of the National Tuberculosis Programme (January – December 2002)

National Tuberculosis Programme (NTP) formulated in 1962, covering the entire country is implemented through 440 District TB Centers (DTCs). NTI has been monitoring the performance of NTP since 3rd quarter of 1977 through periodic reports from the DTCs and supervisory visits. The programme was reviewed in 1993 and revised under the banner of RNTCP with DOTS strategy. The revised strategy is being implemented across the country in a phased manner. The Central TB division, Dte.GHS, Ministry of Health & Family Welfare, New Delhi is directly monitoring the performance of RNTCP districts. The RNTCP reports along with the report on Non-DOTS cases are also received at NTI. A database of RNTCP performance is being created at NTI for the purpose of research and training.

The quarterly reports brought out in 2002-03 appraise the performance of NTP districts in terms of reporting, case-finding and treatment activities. The report also contains the information on treatment of Non-DOTS cases in RNTCP districts.

Reporting performance

Census enumeration districts	: 591
NTP Districts	: 242
Additional DTCs	: 16
New Districts (Presumed to be continuing under NTP)	: 111
RNTCP Districts	: 263

A total of 882 quarterly reports were analysed during the year 2002. The reports with inconsistent data and other types of errors were excluded from the analysis. Some DTCs did not submit the report for one or more quarters. Out of 882 reports analysed, 52 reports pertained to non-DOTS cases from RNTCP districts.

Reporting Efficiency:

NTP districts	80%
RNTCP districts (DOTS)	81%
RNTCP districts (Non-DOTS)	5%
Reported with errors / not reported	20%

Case finding performance:

During the calendar year 2002 the number of cases reported under NTP or non- DOTS cases from RNTCP areas were as under:

New smear positive	150698
New smear negative	308776
Extra Pulmonary	47438
Total	506912

The states of Uttar Pradesh, Andhra Pradesh, Madhya Pradesh, Bihar, Haryana, Maharashtra, Karnataka, and Jharkand together account for 81% of the case finding activity during the year while they constitute 84% of the population under NTP. The overall ratio of Smear positive to Smear negative cases during the year was 1:2.05. The ratio was decreasing steadily over the years. However, the ratio for Assam and Chattisgarh were 1:4.94 and 1: 5.39 respectively, which were still very high. The overall percentage of smear positives among new sputum smear examined was 10.3%. The annualized case detection rate among reported NTP districts was 129/lakh population. The annualized new sputum positive case detection rate was 38/lakh population among reported NTP districts against the expected 50/lakh.

Treatment outcome performance

During the year, 2 months sputum conversion rate under SCC was 73% and under SR, it was only 56%. Treatment success rate under SCC was 64% and under SR it was only 54%.

11. OTHER TECHNICAL ACTIVITIES

A. HEALTH INTERNETWORK (HIN) - TUBERCULOSIS

The Health InterNetwork (HIN) Project, a public private initiative launched by Dr Kofi Annan, the United Nations Secretary General in September 2000 is aimed to bridge the digital divide in the health sector. Led by the World Health Organization, the initiative brings together international agencies, private sector, foundations, Non-Governmental organizations and country partners for "**equitable access to high quality, relevant and current information for health policy and practice using the Internet technology**". The cornerstone of the project is an electronic / Internet - based HIN portal, which will provide access to all types of information to the policy makers, researchers and health service providers.

India was selected as one of the first pilot country for the project as it has provided adequate priority to public health programmes and has valuable skills and resources. The focus in this project is to bridge the gap between health research, policy and practice. The pilot phase of the project is centered around Tuberculosis and Tobacco.

The RNTCP has been implemented in the country with enhanced managerial inputs. However, the success of the programme in reducing the burden of TB will largely depend on how the confluence between research, policy and practice could be achieved at the most peripheral level. Using the immense potential offered by the technology of Internet, the HIN proposes to bridge the information gap through the development of a National Health Information System (called **National Health Information Collaboration (NHIC)**, which is a *web enabled database* to serve as a one stop location for information on all health subjects relevant for India). The research on all aspects of tuberculosis viz. technical, operational and programme aspects conducted & published by all the National TB Institutions are hosted on this common portal. The NTI is the nodal centre for information consolidation and hosting. The major content categories catered by this portal are scientific publications, information collection, projects & funding, education and training, statistical data, directories etc.

Planning workshop

WHO (HIN) in collaboration with Rajiv Gandhi University of Health Sciences, (RGUHS), Bangalore and the Foundation for Research in Health systems, Ahmedabad organized the HIN-Planning workshop at the National Tuberculosis Institute, Bangalore from 2-3rd May 02. Approximately 40 participants, all potential beneficiaries' viz., State and District level Health Administrators from Bangalore and Orissa, Medical and Para medical staff from Primary Health Centers, Private practitioners, Sr faculty from 4 resource Research institution viz., NTI, Bangalore ; TRC, Chennai ; LRS, New Delhi & VP Chest Institute, New Delhi attended the workshop.

The objective of the workshop was to apprise the participants about the concept of electronic sharing of information and to formulate a plan of action for implementing the various components of the HIN project.

National level workshop

A one-day National level workshop to "Chalk out the action plan of resource institutions of HIN Project" was organized on 14th November 2002 at NTI, Bangalore. In all, Twenty-one participants from the four Resource Institutions (RI), media developers, and DANTB attended. Presentations were made and discussions were held on: Content development; Content uploading; Resource sharing and the concept of JCCC; Operation of list serve; use of information technology for strengthening training programme; Capturing of data from different levels of program on PDA and Demo on GIS based decision support system for better detection rate, smear conversion rate and treatment success rate. Mr Ranjan Dwivedi moderated the workshop, program manager, HIN WHO. An action plan was prepared with time schedules and was forwarded to all the Resource Institutions for necessary follow up. A detailed report was prepared and sent to all resource institutions.

Appointment of project team

Under an agreement with WHO, the institute was provided financial assistance for procurement of a couple of computers, networking and for internet facility through M/s DSL Dishnet Ltd. Ms Lakshmi Ravishankar was appointed as Project assistant to help the Librarian for content development for the NHIC portal under guidance of Prof Neelameghan who was taken as professional consultant for the project. The assistance of Dr Mrs Sujatha Chandrasekaran as Medical Consultant was taken for the selection and prioritization of scientific articles (published as well as unpublished) for inclusion in the HIN database. During the period under report the medical consultant completed the validation of NTI papers and publications. The details are as follows.

Total no. records verified	456
No. of records recommended for :	
a) Bibliographic data base	320
b) Full text	194
c) CDs	14 for CD 1*
	38 for CD 2**

*CD 1 - for MOs, LTs, DOT providers, MPWs and Health Workers.

**CD 2 - for the District team - DTO, MO, LT, TO, STS etc.

Creation of Union catalogue of core periodicals on TB

List of core periodicals were drawn after scanning 8,000 abstracts of Indian articles published over a period of 20 years in Excerpta Medica –15 Chest Diseases and approximately 500 abstracts down loaded from NLM data base. In all 73 periodicals were identified. After a series of discussion with Prof Neelameghan and NIC, Bangalore, a design was developed for uploading the data of core periodicals on the web. Formats for search strategies and search results were developed.

Digitization of NTI Papers and Publications

The following documents/publications were identified for digitization under the HIN project :

1. NTI Publications:

- Annals of the National Tuberculosis Institute
- Guidelines for laboratory procedures in tuberculosis- a chart 1996
- Manual on isolation, identification and sensitivity testing of mycobacterium tuberculosis
- A Manual for Tuberculin testers and readers
- TB and HIV
- Childhood Tuberculosis
- What you should know about tuberculosis - its diagnosis, treatment and prevention
- Document on State TB demonstration and training centre
- DTP Evaluation studies : ICMR, ICORCI and WHO reports (only findings and recommendations)

2. Training Modules

3. Government Circulars/ Reports

4. Research Protocols

5. Assignment Reports

6. Performance Reports

7. NTI Papers (the records selected by the medical consultant will be taken into consideration for digitization).

Thesaurus

The spadework for developing a thesaurus on TB was started with advise from Prof Neelameghan. Collection of terminologies from MEDLINE database has started. It was decided to segregate the primary and secondary descriptors of non-MeSH terminologies and provide the scope notes wherever required.

Workshops conducted

The NTI team attended a 2-day HIN planning workshop conducted at NTI Bangalore from 2-3rd May 2003.

One day National level workshop to chalk out action plan for Resource Institutions was held at NTI on 14th November 2002. Power point presentations were made on content development and union catalogue of core periodicals. An action plan was chalked with for contributions from the Resource Institutions.

Mobile Data Collection System for STS/STLS.

The development of a simputer [Personal Digital Assistant (PDA)] based system for maintenance of programme records at the most peripheral level in an electronic format, by the STS/STLS and its transmission to a central database with web enabled applications has been taken up under the HIN project. M/s Analytica Ltd., is the partner for development of the application and the device was proposed to be procured from M/s Bharat Electronics. The system was proposed to be pilot tested in Bangalore district. The system enables the Programme Managers at various levels to monitor the implementation of RNTCP in a much more qualitative manner.

Installation and operationalisation of Journal Custom Content for Consortia (JCCC)

Through the **Journal Custom Content for Consortia (JCCC)** , a web enabled database of the contents of the periodicals subscribed by the 4 resource institutions viz. National Tuberculosis Institute, Bangalore; TRC, Chennai; VP Chest Institute and LRS institute of TB and allied diseases, New Delhi will be available with abstracts as well as full text on electronic media on the NTI server for access by all the faculty and staff of these institutions. The benefits derived from this are that the users can access all the periodicals and obtain the full text at any point of time.

The JCCC was to be designed and implemented by M/s Informatics India Ltd and was expected to be hosted on the NTI server.

B. QUALITY ASSURANCE

Sputum Microscopy Under RNTCP.

The external quality assurance with the eight STDCs viz., Agra, Ahmedabad, Ajmer, Bangalore, Kolkata, Kangra, Patiala and Srinagar assigned to NTI were carried out. The methodology for the same was based on the protocol developed at NTI in consultation with various experts across the country. Fifty (50) coded stained smears of known grading was sent to the 8 STDCs (twice a year) for reading by their LTs. The results of the reading were analyzed as per the recommended procedure and the feedback was provided to the respective STDCs for necessary corrective actions under intimation to Central TB Division. During the year, two rounds of quality assurance were completed as per the guidelines.

Drug Susceptibility testing of M.tuberculosis

The Institute's laboratory was subjected to external quality assurance for assessing the extent of concordance with the results of WHO recognized supranational reference laboratory at Belgium and Tuberculosis Research Center, Chennai.

Twenty (20) Selected strains were sent to TRC Chennai for test checking in April 2002 and the results of cultures were received in October and November 2002 and there is 100% concordance for all four drugs except for one strain, which showed discordance to Rifampicin. Results from Supra National Reference Laboratory Belgium in respect of 8th round was received in June 2002 with 100% concordance for the strains tested using four drugs. Thirty (30) cultures for 9th round proficiency testing were received from Supra National Reference Laboratory Belgium in July 2002 and the results were finalized and sent back to Belgium in December 2002

C. SMEAR AND CULTURE SERVICES

The institute undertook smear and drug susceptibility tests for patients referred from various health facilities across the country. The methodology is based on the Standard Operating Procedure Manuals (SOPM) for smear microscopy, culture and susceptibility testing. During the year, a total of 2971 specimens were processed, including study specimens.

D. STATUS OF LABORATORY ANIMALS

Three Hundred Eighty Five (385) NTI-bred albino guinea pigs were raised in healthy condition. Appropriate preventive measures were taken to check sickness and outbreak of disease. One hundred and eighty one (181) animals were utilized for in-vivo experimentation.

E. X-RAY SERVICES

The X-ray wing of the institute is the only agency capable of providing technical expertise in servicing the roll film cassettes used in the Odelca cameras held by the DTCs/STCs/XCs. Five Roll Film Cassettes received from various DTCs were serviced during the year. The section has also been providing guidance for selection/repair/servicing and maintenance of MMR X-Ray units/equipments. Besides, it also provided X-Ray examinations for patients under different operational research studies conducted by the institute.

F. OTHERS

- The performance of RNTCP implementation in Bangalore Mahanagara Palike was reviewed at the instance of the Central TB Division and a report was submitted in November 2002.
- Data on action taking behaviour of TB patients and chest symptomatics were compiled from various research studies conducted in India and was furnished to Central TB Division.
- Technical assistance was rendered to the principal investigator (Dr Mahesh, Professor, JSS medical college, Mysore) in the proposed collaborative Project on Development of Predictors to detect Non-Compliance in Tuberculosis treatment.

12. LIBRARY AND INFORMATION SERVICES

The institute has a specialized health science library with its resources and services focused on TB and allied disciplines. The collections include core periodicals on TB and Respiratory diseases (80 journals) and its back volumes, published books on TB and other disciplines (around 6500), reports, proceedings, souvenirs, WHO unpublished documents, selected papers and non-print media viz., slides, cassettes, transparencies, CD-ROMs etc. The Library has strived to meet the information needs of personnel involved in TB control and research and the trainees attending various training programmes at the Institute. The Library coordinates the activities of the library and editorial committees.

The following are the highlights of the activities of the library during the year.

1. Information Services

- a. The NTI website was updated with new features viz., Frequently Asked Questions; Our Experiences; E-documents and success stories on RNTCP and handed over the appropriate text materials for uploading. The digitized documents were also put on website.
- b. The trainees attending the various courses at NTI derive maximum benefit of the library services during their stay in the campus. Video Shows on TB are also arranged for trainees as per requirements.
- c. Library services including computer facilities were provided to the Microbiology students doing their project work at NTI laboratory.
- d. Dr Khalleelullah, WHO Fellowship Officer, WHO SEARO visited the library to learn more about the resources and services available for the WHO fellows during their training.
- e. Post graduate students of Allahabad and Gulbarga university; Faculty and students of Kempegowda Institute of medical sciences, Bangalore; students pursuing joint CSIR- UGC eligibility test from various Medical Colleges Bangalore, Meenakshi Mission Hospital & Research centre, Madurai; Department of Microbiology, NIMHANS, Bangalore and Dept of community Medicine, CMC, Vellore utilized the resources for their academic pursuits.
- f. Mr SS Nair, former Sr Statistical officer, NTI, Bangalore; Dr Sreedhar Reddy from Indira Gandhi Institute of Child Health, Bangalore; Professor, Dept of community Medicine, SDU Medical college, Kolar; Professor John Willinsky, Pacific Press Professor of Literacy & Technology, University of British Columbia, Vancouver, Canada; Dr Sunil Amrtya from London School of Tropical Medicine & Hygiene, London; Dr Sudarshan Kumari, Regional Advisor, WHO SEARO; Dr Shivilal, Addl Director General and Director NICD, New Delhi; Dr Frazer Wares, WHO SEARO;

Dr S Sahu, WHO Programme Consultant; Dr Karim Bermstrgm, WHO Global Training Officer; Dr Robert Frazer, WHO SEARO Medical Officer etc., were some of the distinguished visitors to the library during the year.

2. Periodical Abstract Bulletin

During the year four issues of the bulletin (Vol.36/2002) with an average of 60 citations were brought out.

3. Digitization

In an effort to improve the dissemination of information simultaneously to several users, a decision was taken to digitize the NTI publications and to host the same on electronic media. The following documents were digitized during the year:

- Full report of National Workshop for Medical Colleges (NWMC);
- Summaries of NTI Studies - Vol. 1
- Annals of the NTI - 40 years of accomplishments
- Sociological aspects of Tuberculosis 1939-2000 - Summaries of Published literature
- NTI Annual Report for the year 2001-2002
- NTI Bulletin Vol.37/1-4, 2001

13. PUBLICATIONS

A publication section was created during the year to coordinate the publication activities of the Institute. The major responsibilities of this section are to over see the regularity of the publication of NTI Bulletin and the production of other specialized publications. The faculty and staff of the institute contribute research articles for publication either in NTI bulletin or other reputed national/international journals.

A. Documents published by NTI

1. NTI Bulletin Vol.37/1-4, 2001.
2. NTI Annual Report for the year 2001-2002 .

B. Research papers published

The following is the list of research papers published in various journals by the faculty & staff :

1. Chadha VK, Jagannatha PS, Vaidyanathan PS & Jagota P : PPD RT23 for tuberculin surveys in India; Int J TB and Lung Dis 2003, 7(2), 172-179.
2. Chadha VK, Vaidyanathan PS & Jagannatha PS : Annual Risk of Tuberculous Infection in Rural Areas of Junagadh District; J Commun Dis 2001, 33/4, 231-240.
3. Shashidhar J Savanur, Chadha VK & Jagannatha PS : Mixture Model for analysis of Tuberculin survey; Ind J Tuberculosis, 2002, 49/3, 147-152.
4. Sophia Vijay et al : Re-treatment outcome of smear positive tuberculosis cases under DOTS in Bangalore City; Ind J Tuberculosis , 2002, 49, 195-204.
5. Chadha VK: Technical basis of revised national tuberculosis control programme; NTI Bulletin 2002, 38/1&2, 3-10.
6. Chadha VK & Jagota P : Challenges and strategies for control of tuberculosis among agriculture workers; NTI Bull 2002, 38/1&2, 11-17.
7. Jagota P : Revised National Tuberculosis Control Programme A Success Story; Ind J Tuberculosis, 2002, 49, 69-76.
8. Mahadev B & Kumar P : Glimpses of TB programme and research in India – Yesterday Today and Tomorrow – TB Control in India, Ramakrishna Missions contributions; Dec 2002.
9. Mahadev B & Kumar P : History of TB Control Programme in India: JIMA 2003, 101/3, 142-143.
10. Chadha VK: Epidemiological situation of Tuberculosis in India, JIMA, 2003, 101/3, 144-147.

11. Unnikrishnan KP & Jagannatha PS: Performance of National Tuberculosis Programme 1992-2001 – A Trend Report; NTI Bulletin 2001, 37/1-4, 8-14.
12. Sumathi G & Jitendra R : Performance of National Tuberculosis Programme in Andhra Pradesh and Bihar – A perspective comparison; NTI Bulletin 2001, 37/1-4, 15-20.
13. Unnikrishnan KP, Mini PA & Jagannatha PS : Implementation status and performance of Revised National Tuberculosis Control Programme in India during 1993-2002; NTI Bulletin 2002, 38/1&2, 30-35.
14. Ravindra S: General information on MMR X-ray Units and its present status: NTI Bulletin 2002, 38/3&4, 4-7.
15. Saroja VN : Role of Senior Treatment Supervisors in Revised National Tuberculosis Control Programme; NTI Bulletin 2002, 38/3&4, 8-10.
16. Unnikrishnan KP & Jagannatha PS: Monitoring of Tuberculosis Control Programme - Recording, Reporting & Supervision ; NTI Bulletin 2002, 38/3&4, 11-17.
17. Chitra N: Musings from my visits to Hardoi & Jaunpur; NTI Bulletin 2002, 38/1&2, 36-38.
18. Lakshminarayana: Glimpses of my field experience in the National Sample Survey to Estimate Annual Risk of Tuberculous Infection : NTI Bulletin 2002, 38/1&2, 40-44.
19. Nagendra N: Interactions with tuberculosis patients – An experience; NTI Bulletin 2002, 38/3&4, 33-36.

C. Research papers under publication

The following research papers have been submitted for publication in the various journals :

(i) *International Journal of TB and Lung Disease*

1. Chadha VK, Preetish Vaidyanathan, Jagannatha PS, Unnikrishnan KP, Shashidhar J savanur & Mini PA: Annual risk of tuberculosis infection in West Zone of India.
2. Chadha VK, Preetish Vaidyanathan, Jagannatha PS & Lakshmi Narayana: Annual risk of tuberculosis infection in rural areas of Uttar Pradesh, India.

(ii) ***Bulletin of the World Health Organisation.***

Chadha VK et al: Annual risk of tuberculosis infection in North Zone of India

(iii) ***Indian Journal of Tuberculosis***

1. Sophia V et al: Defaults among tuberculosis patients treated under DOTS in Bangalore city - A search for solution.
2. Sophia V et al: Initial Drug Resistance among tuberculosis patients of a DOTS programme in Bangalore city.

(iv) ***TAI souvenir***

Vaidyanathan PS & Kumar P: Epidemiological studies of TB in India; TAI souvenir.

(v) ***NTI bulletin***

Field Experiences

- Testing the patience – Shivashankar BA
- Effective motivation –Victoria Lalitha

D. Papers presented in conferences

1. Sophia V et al: Defaults among tuberculosis patients treated under DOTS in Bangalore City – A search for solution – presented in the National Conference on Tuberculosis and Chest disease held at Goa in September 2002.
2. Sophia V et al: Initial drug resistance among TB patients treated under DOTS in Bangalore City - presented in the National Conference on Tuberculosis and Chest disease held at Goa in September 2002.
3. Chadha VK: Annual risk of tuberculous infection in three districts of Maharashtra - presented in the 57th National Conference on TB & Chest Diseases held at Goa in September 2002.
4. Chadha VK: Annual Risk of Tuberculous infection in Delhi - Presented in the joint Annual conference of the Indian Society for Malaria and other communicable diseases and the Indian Association of Epidemiologists held at New Delhi in November 2002.

13. PARTICIPATION IN MEETINGS / TRAINING PROGRAMMES / SEMINARS / CONFERENCES / WORKSHOPS / CONTINUING MEDICAL EDUCATION ETC.

Sl No	Particulars	Participated/attended by
1	Workshop on excellence in scientific writing course held at TRC, Chennai from 1 st to 5 th April 2002.	Dr Preetish S Vaidyanathan
2	Review meeting for screening of Research proposals held at Nirman Bhavan, New Delhi from 29 th – 30 th April 2002.	Dr L Suruyanarayana, Director in-charge
3	Review meeting at Dte. GHS, Nirman Bhavan, New Delhi, for screening the research protocols on 30 th May 2002	Dr P Kumar, Director
4	CME's held at Calicut, Udupi and Nelamangala on 9 th , 16 th and 21 st June 2002 respectively	Dr L Suryanarayana, CMO (NFSG)
5	Central Steering Committee meeting on Operational Research in RNTCP held at Nirman Bhavan, New Delhi on 2-3 rd July 2002	Dr P Kumar, Director Dr VK Chadha, Sr Epidemiologist
6	World Zoonosis Day held at Yavanika, Bangalore on 6 th July 2002 - Delivered a guest lecture on Zoonotic Importance of Tuberculosis.	Dr VK Challu, Veterinarian
7	WHO/NICD training course on Prevention & Control of Vector borne diseases with special emphasis on JE & Dengue/DHG held at National Institute of Communicable Diseases / Plague Surveillance Unit, Bangalore on 10 th July 2002 - Inaugural Address	Dr P Kumar, Director
8	Sensitization programme for involving private practitioners in RNTCP held at Badagara, Kozhikode district, Kerala on 13 th July 2002.	Dr B Mahadev, CMO
9	Meeting of the DTCS - BMP on 25 th July 2002.	Dr (Mrs) Sophia Vijay, Sr TB Specialist
10	Sensitization programme for involving private practitioners in RNTCP held at Ponnani, Mallapuram district, Kerala on 25 th July 2002.	KP Unnikrishnan, Chief Statistical Officer

Sl No	Particulars	Participated/attended by
11	State level co-ordination committee meeting of KHSDP to review the status of communicable diseases in the state held at Bangalore on 29 th July 2002	Dr (Mrs) Sophia Vijay, Sr TB Specialist
12	Meeting of Publishers, editors & content service providers held at National Informatic Centre, Ministry of Information Technology, New Delhi on 8-9 th August 2002	Dr P Kumar, Director
13	General body meeting of the Karnataka state TB coordination society, held at Bangalore, on 22 nd August 2002	Dr (Ms) Sophia Vijay, Sr TB Specialist
14	Meeting to discuss the role of shop keepers in TB control held at Hotel Comfort Inn, Bangalore on 11 th September 2002	Dr P Kumar, Director
15	WHO/NICD training course on Surveillance & control of Plague, held at NICD, NTI campus, Bangalore on 16 th September 2002 – Inaugural Address	Dr P Kumar, Director
16	57 th National Conference on TB and Chest Diseases held at Panaji, Goa from 26 th -29 th September 2002. Chaired the scientific session and participated in the panel discussion on RNTCP. Following papers were presented : a) “Defaults among tuberculosis patients treated under DOTS in Bangalore City – A search for solution” b) “Initial drug resistance among TB patients treated under DOTS in Bangalore City” c) Annual Risk of Tuberculous Infection three districts of Maharashtra	Dr P Kumar, Director Dr (Mrs) Sophia Vijay, Sr TB Specialist Dr VH Balasangameshwara, CMO (NFSG) Dr VK Chadha
17	53 rd TB Seal campaign inaugurated by his Excellency, Governor of Karnataka, held at Rajbhavan, Bangalore organized by Karnataka State TB Association on 2 nd October 2002 – Inaugural session	Dr P Kumar, Director
18	30 th meeting of the Scientific Advisory Committee of Tuberculosis Research Centre, Chennai from 8 th -10 th October 2002 - Special invitee.	Dr P Kumar, Director

Sl No	Particulars	Participated/attended by
19	Training of Trainer's of Adolescents under Rural Child Health Programme organized by National Institute of Public Co-operation & Child Development, Yelahanka, Bangalore on 22 nd October 2002 - discussion-cum-lecture on Personal Hygiene	Dr (Mrs) Chitra Nagaraj, CMO
20	Workshop "To operationalize nodal centres for RNTCP in Medical Colleges" held at All India Institute of Medical Sciences, New Delhi from 29 th to 31 st October 2002. Presentation of the preliminary findings of ARI survey. 'Research Priorities in RNTCP'.	Dr P Kumar, Director Dr VK Chadha, Sr Epidemiologist
21	Seminar on 'DOTS – involvement of Medical colleges' held at Mumbai in October 2002 - talk on 'Why DOTS'	Dr VK Chadha, Sr Epidemiologist
22	"Training of Trainers programme in RNTCP " sponsored by DANTB held at Konark/Bhubaneshwar from 7 th to 15 th November 2002 – as a facilitator.	Dr Preetish S Vaidyanathan, SMO
23	RNTCP/DANTB Health Systems Research Dissemination Seminar held at Vasant Continental Hotel, New Delhi on 21 st November 2002	Dr P Kumar, Director Dr VK Chadha, Sr Epidemiologist
24	National Symposium on Veterinary Public Health, held at G.P. University of Agriculture & Technology, Pantnagar, Uttaranchal on 28 th and 29 th November 2002 – presentation of paper on "Tuberculosis and its Zoonotic importance".	Dr VK Challu, Veterinarian
25	Meeting of the Screening & Monitoring Committee on Operations Research held at Central TB Division, Nirman Bhavan, New Delhi on 5 th December 2002	Dr P Kumar, Director Dr VK Chadha
26	Inaugural function of the "90 th Session of Indian Science Congress" on 3 rd January 2003 at Jnana Bharathi Campus, Bangalore University, Bangalore.	Dr P Kumar, Director

Sl No	Particulars	Participated/attended by
27	Meeting on "HIN Pilot Project on Tele-TB control and tele-paediatrics project" held in the Office of Commissioner, Health & Family Welfare Services, Anand Rao Circle, Bangalore on 25 th January 2003.	Dr P Kumar, Director
28	Lecture on 'Sensitization on RNTCP' for Doctors, Medical College faculty, students and staff of Victoria Hospital, and Jayanagar General Hospital on 3 rd and 5 th February 2003 respectively.	Dr (Mrs) Chitra Nagaraj, CMO
29	Sensitization programme under RNTCP for the faculty and post-graduate students of Bowring Hospital, Bangalore held at Bowring Hospital on 11 th February 2003 – as a facilitator.	Dr Preetish S Vaidyanathan, SMO
30	Workshop on 'Private-public partnership for tuberculosis control in India' organized at the Office of World Bank, New Delhi from 25-26 th February 2003	Dr P Kumar, Director
31	Adichunchanagiri Institute of Medical Sciences, BG Nagara, Mandya District, Karnataka - talk on 'RNTCP and Role of Medical Colleges under RNTCP'.	Dr VH Balasangameshwara, CMO (NFSG)

15. APPRAISAL VISITS

The faculty of the institute participated as team leaders in appraising the districts before commencement of service delivery under RNTCP. The objectives of such appraisals were to assess the readiness of the districts in terms of infrastructure and trained manpower for implementation of RNTCP. During the year, the NTI faculty appraised the following districts in the various states/union territories.

Akola, Maharashtra	Gulbarga, Karnataka
Nanded, Maharashtra	Bidar, Karnataka
Yavatmal, Maharashtra	Hasan, Karnataka
Ghadchiroli, Maharashtra	Mysore, Karnataka
Nizamabad, Andhra Pradesh	Vishakhapatnam, Andhra Pradesh
Warangal, Andhra Pradesh	West Godavari, Andhra Pradesh
Nagpur, Maharashtra	Khammam, Andhra Pradesh
Amaravathi Municipal Corporation, Maharashtra	Kurnool, Andhra Pradesh
Gadag, Karnataka	Chikkamagalur, Karnataka
Mangalore, Karnataka	Kolar, Karnataka
Shimoga, Karnataka	Hassan, Karnataka
Tumkur, Karnataka	

16. VISITORS

During the year the Institute was privileged to have the following dignitaries as visitors:

- a. Dr (Mrs) Sudarshan Kumari, Regional Advisor (Health Laboratory Services), WHO-SEARO
- b. Dr Shivlal, Additional Director General & Director, NICD, New Delhi.
- c. Shri Ranjan Dwivedi, IPS - HIN Project Manager, WHO, New Delhi on several occasions.
- d. Ms Deepika Nag from WHO, SEARO, New Delhi.
- e. Ms Sumathi Nayak, Joint Secretary, Indian Network for people living with HIV/AIDS
- f. Sri Ashok K Rau, Executive Trustee, Freedom Foundation, Centre for Chemical Dependency & HIV /AIDS.
- g. Dr Karim Bergstrom, In Charge Global Training Programme, World Health Organisation, Geneva.
- h. Dr Reuben Granich, Medical Officer, WHO-SEARO, New Delhi.
- i. Dr Mandal, Chief Medical Officer, Central TB Division, New Delhi.
- j. Dr VK Arora, Director, Lala Ram Saroop Institute of Tuberculosis & Allied Diseases, New Delhi
- k. Dr Tushar Kanti Ray, Advisor, DANITB, Orissa
- l. Dr LS Chauhan, Deputy Director General (TB), Directorate General of Health Services, New Delhi.
- m. Swamy Japananda, Chairman, Swamy Vivekananda Integrated Rural Health Centre, Pavagada, Tumkur district, Karnataka.
- n. Dr KG Uma, Director, Centre for Women's Studies, Bangalore University, Bangalore.
- o. Sri S Arunachalam from Swaminathan Research Foundation, Chennai.
- p. Shri Ashok Vaishnavi from Telehealth project, Bangalore.
- q. Dr Khalilullah, Regional Fellowship Officer, WHO-SEARO, New Delhi.
- r. Prof John Willinsky, Pacific and Technology, Department of Language and Literacy Education, University of British Columbia, Vancouver, Canada.

- s. Dr John, Christian Medical College , Vellore, Tamilnadu.
- t. Dr Frazer wares, Short-term Professional (Stop TB), WHO-SEARO, New Delhi.
- u. Dr Shanta Pande, Sr. Research Officer, Nuffied Institute, UK, based at National TB Centre, Kathmandu, Nepal.
- v. Dr Vinod Arora, Prof & Dean, Indian Institute of Health Management Research, Jaipur.

17. IMPORTANT DAYS CELEBRATED AT NTI

15th August 2002

Independence Day was celebrated in the Institute. The staff along with family members, trainees, staff from other offices situated in 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.

16th September 2002

43rd Foundation Day of the Institute was celebrated. Dr Shivlal, Addl. DGHS & Director, NICD, New Delhi was the chief guest. Dr RL Icchpujani, HOD, Zoonosis department of NICD, New Delhi was the guest of honour. The speakers recollected the contributions made by NTI towards the prevention and control of TB and urged the present faculty and staff to rededicate themselves to this noble cause.

6th - 13th September 2002

The Hindi week was observed from 6-13th September 2002 and Hindi Divas was celebrated on 16th September 2002. Smt Archana Dutta, Director, DAVP, Bangalore was the chief guest on the Hindi Divas. As part of the observance of the Hindi week, Anthakashri competition and **Ek Shyam Bachonke Naam** (cultural programme for the children of NTI staff) were organized. Prizes were distributed to the winners of the events and also to the concerned officials who participated in writing one Hindi word a day on the notice boards of Avalon Block and PV Benjamin Block to promote usage of official language.

31st Oct-6th Nov 2002

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. Director addressed the gathering in which he highlighted the need for observance of high standards of morality and to be vigilant against corrupt practices..

26th January 2003

The **Republic Day** was celebrated in the Institute. The faculty, staff and trainees attending the trainers training programme at NTI participated. Director hoisted the National Flag. The faculty, staff and trainees sang patriotic songs. Hoops display / cultural

programmes were presented by Bethesda School children, Bangalore. The Director addressed the gathering.

24th March 2003

World TB day was observed in the Institute. The faculty and staff of NTI and other offices viz., NICD, CPWD, PAO located in the NTI campus participated. Officers from TB Units of Bangalore Mahanagara Palike (BMP), Bangalore, cured TB patients identified and developed as partners for TB control and the TB patients under treatment were invited. The partners narrated their success stories to create awareness about TB, the available services for TB patients and requested the patients under treatment to consume drugs regularly and become partners like them. The partners were also being utilized in the community for creating awareness about TB and RNTCP. One representative of NTI along with partners for TB control attended the function at SDS Sanatorium, organized by the State TB authorities of Karnataka on 24th March 2003 where Hon.ble Health Minister of Karnataka addressed the gathering. A detailed report on 'World TB Day observance' is being prepared by the World TB Day Organizing Committee.

On this occasion, Director announced formation of the IEC Section in the Institute for strengthening IEC activities, documentation of NTI's contribution in human resource development and exploring a joint project with BMP to study the impact of IEC on RNTCP.

Acknowledgements

The Director acknowledges the efforts of the Annual Report compilation committee under the Chairmanship of Shri KP Unnikrishnan, Chief Statistical Officer in editing and organizing the publication of this report. The efforts put in by Dr Vijay Kumar Challu, Veterinarian, Smt Sudha S Murthy, Sr Librarian, Smt MA Sharada, Statistical Assistant, Shri Ramesh Kumar Srivatsav, Field Investigator and Shri. Raghunandan, Lab Technician in compiling the report is gratefully acknowledged. The untiring secretarial assistance provided by Shri R Ravi, Stenographer Gr.II in processing and preparing this report-using computer deserves deep appreciation.