3.4 Prevention and Control of Diseases (Health and Family Welfare department)

Summary Highlights

Tuberculosis and Blindness are two major diseases which are widely prevalent in the State.

National Tuberculosis Control Programme was implemented in the State since 1962 to control Tuberculosis. A revised strategy called Revised National Tuberculosis Control Programme was implemented from 1993 with the objective of achieving cure rate of over 85 per cent through Directly Observed Treatment Short Course Chemotherapy (DOTS). The envisaged cure rate was not achieved in Chennai city and Cuddalore even during 1999-2000. The DOTS was not introduced in 7 districts and implemented late in 23 districts. There were shortfalls in sputum examination, anti-TB drugs were not available at times, follow-up of treatment was poor and treatment was discontinued mid-way in several cases. Inadequate sputum culture facilities and shortage of staff also contributed to poor performance.

National Blindness Control Programme from 1976 and a World Bank Assisted Cataract Blindness Control Project from 1994 were being implemented in the State with the goal of reducing prevalence of blindness to 0.3 per cent by 2000 AD. As the physical targets for performing cataract surgeries were fixed by Government of India arbitrarily without taking into account all the parameters, the backlog of cataract surgeries in the State was 0.9 per cent as of March 2001 as against the envisaged rate of 0.3 per cent. The main reasons for the high prevalence rate were poor performance under Government Sector mainly due to less number of cataract operations performed by the surgeons and poor performance of Ophthalmic Assistants in mobilising and enrolling patients for surgeries, poor utilisation of funds under consumables, IEC activities and poor follow-up.

- Targets ranging between 0.99 lakh in 1996-97 to 0.84 lakh in 2000-2001 fixed by Government of India for new case detection were found to be very much on the lower side as 2.50 lakh new patients were estimated to be added to the existing pool of Tuberculosis patients every year. Shortfalls upto 100 *per* cent were noticed in sputum examination in 68 Primary Health Institutions mainly due to vacancies in the post of Laboratory Assistants.

(Paragraph 3.4.5.2.1 and 3.4.5.2.2)

- Although Government of India stressed the DOTS strategy as mandatory for World Bank assistance and State Government issued orders in April 1998 to follow it scrupulously, the strategy was

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Abbreviations used in this review are listed in the Glossary in Appendix XLVII (page).

implemented in 23 districts belatedly and was yet to be implemented in 7 districts as of April 2001, thus denying effective treatment to patients.

- Drug reaction and drug intolerance were not systematically recorded but treatment continued.

(Paragraph 3.4.5.2.3 (i))

- Expected rate of sputum conversion after 2 to 3 months of treatment were not achieved in 4 out of 6 districts.

(Paragraph 3.4.5.2.6)

- Although 4.61 lakh TB patients were detected during 1996-2000, 2.33 lakh patients (51 *per cent*) alone had completed treatment. The shortfall was mainly due to the failure of patients to turn up for treatment after diagnosis (initial defaulter) and after commencement of treatment.

(Paragraph 3.4.5.2.8)

- The facilities for sputum culture and sensitivity testing provided to 9 District Tuberculosis Centres at a cost of Rs 22.07 lakh were not utilised for want of manpower and other infrastructure.

(Paragraph 3.4.5.2.9)

- Twelve District Tuberculosis Centres did not have the full strength of staff essential for the proper implementation of the programme. District Tuberculosis Centres were not established in four districts.

(Paragraph 3.4.5.3)

- Time expired drugs worth Rs 24.51 lakh were noticed during test check.

(Paragraph 3.4.5.4)

- Of the funds released to District Blindness Control Societies, Rs 1.68 crore was lying unutilised as of March 2001; there was a vast backlog of payments due to Non-governmental Organisations to the tune of Rs 9.08 crore.

(Paragraph 3.4.6.1.2)

- While Government of India released Rs 155.40 lakh towards furnishing of eye wards and operation theatres during 1999-2001, Rs 77.40 lakh alone was sanctioned and released by State Government as of April 2001.

(Paragraph 3.4.6.2 (i))

- Against Rs 1.18 crore earmarked for IEC activities according to the approved Project Report, Government of India released only Rs 0.52 crore (44 *per cent*) upto March 2001, the end of the project period. The State Society spent only Rs 0.17 crore (32 *per cent*) and the remaining amount of Rs 35.23 lakh was lying unutilised.

(Paragraph 3.4.6.2 (ii))

- The performance of District Mobile Ophthalmic units in Ramanathapuram and Pudukottai was very poor.

(Paragraph 3.4.6.3)

- Unutilised Central assistance of Rs 43.67 lakh was remitted into State Government account as receipts, but not intimated to Government of India for adjustment in subsequent year's grants.

(Paragraph 3.4.6.4)

- Physical targets for cataract surgeries were fixed by Government of India arbitrarily without considering all the required parameters. Because of this, the backlog of Cataract operations in the State worked out to 5.61 lakh as of March 2001, which is 0.9 *per cent* of the projected population against the targeted prevalence of 0.3 *per cent.*

(Paragraph 3.4.7.2)

- Number of Cataract surgeries performed under Government Sector was very poor. Para Medical Ophthalmic Assistants failed to mobilise adequate number of patients for surgery. Each surgeon performed on an average of 208 surgeries per annum while the target was 700.

(Paragraph 3.4.7.4)

- Spectacles were provided by the District Societies only to 21.6 *per cent* of 0.70 lakh persons who had cataract surgeries performed during the period 1996-2001.

(Paragraph 3.4.7.5)

3.4.1 Introduction

Tuberculosis and Blindness are two major diseases prevalent in the State.

Tuberculosis (TB) is an infectious disease caused by a bacterium and spreads through the air from a person suffering from TB. It is estimated that in India about 14 million population was suffering from active TB of whom 3 to 3.5 million were in highly infectious stage. According to a National survey conducted by the Indian Council of Medical Research during 1955-58 about 10 lakh people suffered from TB in Tamil Nadu of whom one fourth (2.5 lakh) were infectious. This position remained the same even as of April 2000.

According to a survey conducted during 1986-1989 by World Health Organisation with a view to find out the magnitude and causes of blindness in the country in respect of blind people with visual acuity less than 6/60, the prevalence of blindness in the country was 1.49 *per cent* and in the State it was 1.65 *per cent*. According to this survey 82.8 *per cent* of the blindness in Tamil Nadu was due to cataract.

3.4.2 Programmes implemented

The programmes implemented for the prevention and control of Tuberculosis and Blindness in the State, sources of finance and funding pattern, the objectives and the envisaged goal were as follows:

	Programmes implemented	Source of finance and funding pattern	Objectives and envisaged goal
(i) Tuberculosis	(a) National Tuberculosis Control Programme was implemented in the State since 1962 to control the disease. Based on the findings of a review committee a revised strategy called Revised National Tuberculosis Control Programme (RNTCP) was evolved in 1993 with emphasis on cure of infectious cases through Directly Observed Treatment Short-course Chemotherapy (DOTS). (b) In addition, World Bank had agreed to provide assistance of US$142 million (equivalent to Rs 604 crore) to cover a population of 130 million in the country during 1999-2000 out of the total population of 400 million likely to be covered under RNTCP. Tamil Nadu was one of the States selected and project was implemented in the entire Chennai city and Cuddalore District during 1999-2000.	Central assistance is provided in cash and kind meeting 50 *per cent* of the requirement of anti TB drugs and equipment. State Government meets the entire expenditure on running the TB institutions (towards staff, maintenance of buildings, vehicles etc.) For 2000-01 the entire allocation by the centre was External Assistance in kind.	DOTS under RNTCP with World Bank aid aimed to achieve a cure rate of over 85 *per cent* with emphasis on the augmentation of case finding activities to detect 75 *per cent* of the estimated cases after having the desired cure rate. Besides, the standard regimen would be strengthened in non-RNTCP Districts, the Central institutions, State TB cell and State TB training Institutions.

		Programmes implemented	Source of finance and funding pattern	Objectives and envisaged goal
(ii)	Blindness	National Programme for Control of Blindness (NPCB) is being implemented in the State from 1976. A World Bank Assisted Cataract Blindness Control Project (WBCBCP) is also implemented in the State since April 1994. The project period was seven years and the outlay of the project was Rs 64.19 crore. The project was extended for one more year, upto 2001-2002.	NPCB was a cent *per cent* centrally sponsored scheme. Under the World Bank project also, GOI is releasing assistance as per the Action plan approved every year by the Ministry of Health and Family Welfare. Based on the claims made by the State Government, GOI would get back the amount from the World Bank.	The envisaged goal of NPCB and the World Bank project was to reduce prevalence of blindness in the State from 1.65 *per cent* to 0.3 *per cent* by 2000 AD by providing comprehensive primary, secondary and tertiary levels of eye health care and substantial reduction in eye disease in general and blindness in particular.

3.4.3 Organisational set up

Secretary, Health and Family Welfare Department was in overall charge of all the schemes. The other officers who were in charge of the schemes were as given below.

National Tuberculosis Control Programme	National Blindness Control Programme
At the State level, a full time State TB Officer in the post of Additional Director under the control of Director of Medical and Rural Health Services (DMRHS) coordinates and supervises the programme activities. At the District level, the Joint Director of Health Services (JDHS) is responsible for the implementation of the programme with the help of District Tuberculosis Centre (DTC) and Tuberculosis Unit (TU) at sub-district level and other health institutions in the district such as Taluk hospitals, Primary Health Centres (PHCs) being the microscopy centres.	At State level, the programme was implemented by State Ophthalmic Cell headed by Project Director (PD) in the post of Additional Director of Medical Education till March 1996. Tamil Nadu State Blindness Control Society (TNSBCS) was constituted as a registered society with headquarters at Chennai (June 1995). Since then it is functioning as an independent autonomous society vested with full executive and financial powers. Secretary, Health and Family Welfare Department is the ex-officio president of the society and the PD, NPCB is its Member Secretary. The society is vested with the responsibility of active implementation of the programme.
In addition, a State TB society in the office of DMRHS and District Tuberculosis Control Society (DTCS) in each district were established to ensure smooth implementation of the scheme.	The programme is also being implemented by Director of Medical Education (DME) in Medical College Hospitals, by DMRHS in District Headquarters hospitals and taluk hospitals and by Director of Public Health and Preventive Medicine (DPHPM) in PHCs in the State. District Blindness Control Societies (DBCS) were formed in all districts (except Ariyalur) of the State with the District Collector as the Chairman and the District Programme Manager , appointed by the District Collector on contract basis, to coordinate all NPCB activities in the district

3.4.4 Audit coverage

The implementation of the programmes for the period 1996-2001 was generally reviewed through test-check of records during November 2000-April 2001 in the Health and Family Welfare Department of the State Secretariat, offices of DMRHS, DPHPM, DME and in the following offices.

Control of Tuberculosis	Control of Blindness
(i) Five DTCs[1]	(i) TNSBCS
(ii) 36 Tuberculosis Units and 15 Government Hospitals in 6 districts[2]	(ii) Six District Blindness Control Societies[3].
(iii) Corporation of Chennai.	(iii) Regional Institute of Ophthalmology and Eye Hospital at Chennai.
(iv) Institute of Thoracic Medicine (ITM) at Chennai.	(iv) Medical College Hospitals at Madurai and Coimbatore
(v) Tuberculosis Research Centre (TRC), a unit of ICMR.	(v) Five District Headquarters Hospitals[4]
	(vi) Offices of six Deputy Director of Health Services (DDHS)[5]
	(vii) 18 NGOs

Significant points noticed are given in the succeeding paragraphs.

3.4.5 National Tuberculosis Control Programme

3.4.5.1 Financial performance

Details of Central assistance received, State share released, expenditure incurred under the programme for anti-TB drugs and equipment, during 1996-97 to 2000-2001 are as given below.

(Rupees in crore)

Year	Central assistance received	Assistance released and expenditure incurred towards purchase of drugs and equipment		
		Central share	State share	Total
1996-97	0.19*	NIL	NIL	0.19*
1997-98	1.38	1.38	1.49	2.87
1998-99	1.60	1.49	1.49	2.98
1999-2000	1.70	1.81	1.70	3.51
2000-2001	11.34[a]	NIL	NIL	NIL

***** **Central assistance in kind.**

a **External aid received in kind. The medicines were supplied to DTCs directly by GOI. The value of medicines received has not been booked in the Accounts.**

Entire Central and State assistance was released to Tamil Nadu Medical Services Corporation (TNMSC) for the purchase of drugs and equipment.

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1 Cuddalore, Dindigul, Kancheepuram, Salem and Thanjavur.

2 Chennai, Cuddalore, Dindigul, Kancheepuram, Salem and Thanjavur.

3 Chennai, Coimbatore, Cuddalore, Madurai, Tiruvannamalai and Villupuram.

4 Cuddalore, Coimbatore (at Tiruppur), Madurai (at Usilampatti), Tiruvannamalai and Villupuram

5 Cuddalore, Coimbatore, Madurai, Thiruvannamalai, Tiruppur and Villupuram

3.4.5.2 Physical performance

3.4.5.2.1 Targets and achievements

Targets fixed for the State by GOI and achievements reported by DMRHS under the three main components viz., sputum examination, new case detection and sputum positive cases during 1996-97 to 2000-2001 are as given below:

(In lakh number)

Year	Sputum examination		New case[6] detection		Sputum positive cases	
	Target	Achieve-ment	Target	Achieve-ment	Target	Achieve-ment
1996-97	2.97	5.05	0.99	1.38	0.30	0.24
1997-98	2.42	5.37	0.81	1.13	0.22	0.28
1998-99	9.10	5.40	0.82	1.16	0.30	0.30
1999-2000	3.06	4.65	0.83	0.94	0.31	0.28
2000-2001	3.09	3.85	0.84	0.74	0.31	0.25

Targets fixed for new case detection on the lower side.

The targets fixed by GOI for new case detection[7] were found to be very low, since 2.50 lakh new patients were estimated to be added to the existing pool of TB patients every year. Also, the achievement reported did not include cases detected/treated in private clinics, Government Medical College Hospitals, Government Hospital of Thoracic Medicine, ESI hospitals/dispensaries, hospitals in Railway, Port-Trust and Police Departments.

The continued incidence of the disease despite the implementation of the programme was mainly due to poor performance in case finding and treatment as discussed in the succeeding paragraphs.

3.4.5.2.2 Case finding

Short falls in sputum examination

Shortfalls in sputum examination upto 100 *per cent* in 68 PHIs.

According to technical guidelines of Central TB Division, efforts are required to be made under the programme to improve diagnosis of TB among patients attending health facilities, as it is expected that atleast 2 per cent of adult out-patients will be chest symptomatics. Every patient attending out-patient department (OPD) in a health unit for any reason should be specifically asked about the presence of cough and sputum samples obtained. Though the targets fixed for sputum examination were achieved at State level, as mentioned in para 5.2.1, yet shortfalls in sputum examination upto 100 *per cent* were noticed in 68 Public Health Institutions (PHIs) covered by test-check. The main reasons attributed for the shortfall were vacancies in the posts of Laboratory Assistants (LAs)/Laboratory Technicians (LTs) and non-cooperation of patients to give sputum for examination. The study committee constituted (June 1999) by State Government to assess the performance of the programme also pointed out that sputum examination was not done for most of

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6 Includes sputum positive, sputum negative (X-ray positive) and extra pulmonary tuberculosis cases.

7 Uniform target fixed by GOI at 135 per lakh population of the State.

the chest symptomatics who reported at OPD as required and consequently many sputum positive cases were let off without any diagnosis and treatment.

Vacancy in the posts of Laboratory Assistants.

Audit observed that the posts of Laboratory Assistants (LAs) remained vacant in 83 designated microscopy centres, specially established under RNTCP for carrying out sputum examination. Also for 1409 PHCs in the State, 1050 posts of LAs were sanctioned and the men in position were only 701. In the ITM, Chennai which examines sputum collected from Government Medical College Hospitals in Chennai and peripheral hospitals, 3 posts of LAs vacant from February 1998 and October 1998 had not been filled up.

To carry out sputum test exclusively, Government ordered (September 2000) to fill up 25 posts of Laboratory Technicians Grade I in 23 institutions/ hospitals attached to Medical Colleges on contract basis for the time being and then by redeployment from DMRHS. However, the posts are yet to be filled up (April 2001).

Though the Public Accounts Committee (PAC) in its 60th Report (April 1992) had recommended that the shortfall in sputum examination should be made good at all costs as it adversely affected the implementation of the programme, such shortfall still persisted and no effective action was taken by the department to overcome it. DMRHS requested (March 2001) DPHPM to atleast depute LAs from the adjoining PHCs to work in the 83 designated microscopy centres for sputum examination till these vacancies are filled by regular incumbents.

3.4.5.2.3 Treatment

(i) Administration of drugs

Under RNTCP, as recommended by Director General of Health Services (DGHS), New Delhi, State Government ordered (October 1995) to adopt a uniform drug regimen for all new sputum positive or seriously ill sputum-negative cases. The drugs were to be taken under direct supervision of health staff for the whole period of 6 months. However as the dropout rates were higher, Government modified (April 1996) the orders based on the suggestion of DMRHS that the drugs be supplied to the patients once in a fortnight for self administration at home. This did not have the concurrence of GOI.

Belated implementation of DOTS in 23 districts and non-implementation in 7 districts resulted in denial of effective treatment to patients.

When World Bank stipulated DOTS strategy for assistance under RNTCP, State Government once again revised the stand (April 1998) providing for DOTS strategy to be adopted scrupulously in all institutions. Under this strategy, drugs should be administered thrice a week under direct supervision of health staff during the intensive phase of first two months; in the continuation phase of next four months, the first dose of drugs are to be administered every week under supervision and the drugs for the next 2 doses for the week are to be given to the patients for self administration at home. However, Audit observed that DOTS commenced between February 1999 and August 2001, only in 23 districts[8] of the State including Chennai Corporation (from April 1999). In respect of Chennai and Cuddalore, the first two districts to implement RNTCP, the cure rate achieved was poor. In the remaining 7 districts, the effective treatment contemplated under DOTS is yet to be given

[8] February 1999:1, April 1999 : 1, March 2000:3, July 2000:1, September 2000:1, December 2000:5, March 2001:2, April 2001:3, May 2001:4, June 2001 : 1 and August 2001 : 1.

to the patients (August 2001). The main reasons for the delay in implementation were non-formation of DTCs which were essential for introduction of the programme, delay in carrying out civil works like upgrading of laboratories and drug stores and delay in conducting training programmes.

The following observations are made:

Prescribed drug regimen not followed due to insufficient number of health workers.

(a) A number of hospitals in the State did not implement DOTS scheme for various reasons like inadequate number of Health Workers/Treatment Supervisors.

Anti-TB drugs were given in advance to the patients instead of administration under direct supervision.

(b) In Kancheepuram and Salem Districts[9], anti-TB drugs were given in advance to the patients during the intensive phase instead of administering under direct supervision on alternate days. As a result, proper intake of drugs was not ensured. Such irregular treatment could develop multi-drug resistance hampering scientific cure of the disease. Treatment was continued without systematically recording drug reaction and drug intolerance.

3.4.5.2.4 Non-availability of anti-TB drugs

Non-availability of anti-TB drugs in 11 institutions of 3 districts.

Due to non-receipt of supply from DTC/TNMSC, anti-TB drugs such as Streptomycin Injection (0.75 gms) Rifampicin capsules, Ethambutol, Pyrazinamide and Isoniazid tablets were not administered to 346 patients in 11 institutions in Dindigul, Kancheepuram and Salem districts during February 1997 to February 2001 out of 56 institutions covered by test-check. By not following the drug regimen recommended the treatment would be ineffective.

3.4.5.2.5 Contacts of sputum positive cases

No evidence regarding sputum examination of persons in contact with sputum positive cases was on record in 6 sample districts.

Any person who has productive cough and is in contact with a sputum positive index case should have 3 sputum examinations as soon as possible. If the results are negative and symptoms persist after treatment with broad-spectrum antibiotics, the patient should have a chest X-ray and undergo examination by a Medical Officer (MO). Children who cannot produce sputum should undergo tests like X-ray.

A scrutiny of treatment cards in 6 districts disclosed no evidence of sputum examination of persons in contact with sputum positive cases. According to Central-TB Division, such non-examination would result in spreading of the disease. This explains the high prevalence rate of TB in the State.

3.4.5.2.6 Follow-up of patients

For monitoring patients' progress towards cure, follow-up sputum examinations are required to be conducted at prescribed intervals during the course of treatment.

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[9] Kancheepuram District : Government Hospital (G.H), Madurantagam
Salem District G.Hs at Attur, Mettur Dam
Government Public Health Centre (GPHC) Nangavalli and Malliakkarai.

Expected rate of conversion was not achieved in four sample districts regarding the number of sputum conversions made after 2 to 3 months of treatment in respect of new, relapse and failure cases during 1997-2001.

The data compiled in Appendix XVI clearly reveal that the expected rates of conversion[10] were not achieved in 4 districts viz., Kancheepuram, Dindigul, Salem and Thanjavur. While in Chennai, the expected rate of conversion was achieved only during 1999-2000 in respect of failure cases and during 2000-2001 in respect of new and relapse cases, in Cuddalore it was achieved during 1999-2000. The non-achievement was attributed to patients not turning up and migration/death of patients.

In Government Hospital of Thoracic Medicine, Tambaram, Chennai, no evidence was available in the treatment cards regarding the conduct of follow-up sputum examinations.

Though the PAC recommended in their report in April 1992 that effective follow-up action be taken in cases of large-scale dropouts, yet these deficiencies continued to persist as mentioned above.

It is evident that because of lack of follow up action, there was no reduction in the annual incidence of new TB patients (2.50 lakh) added every year.

3.4.5.2.7 Death rate

Despite there being1981 cases of death due to TB in the State during 1996-2001, the exact reasons were not examined and recorded.

Additional Director of Medical and Rural Health Services stated that there were 1981 cases of death due to TB in the State during 1996-97 to 2000-2001. As per the reports of DTOs in the six sample districts, 460 TB patients died during the period 1996-97 to 1999-2000. However, the reasons for the death of patients were not examined with a view to arrest the death rate.

3.4.5.2.8 Discontinuance of treatment

The fact that 49 *per cent* discontinued the treatment reveal that impact of IEC activities was poor.

Against 4.61 lakh TB patients detected for treatment during 1996-2000, only 2.33 lakh patients[11] (51 *per cent*) had completed treatment as reported (February 2001) by the DMRHS. The shortfall was mainly due to failure of TB patients to turn up for treatment after diagnosis and after commencement of treatment. Although huge amounts[12] have been spent on Information, Education and Communication (IEC) activities under the programme, impact is lacking on account of frequent changes in treatment policies/procedure.

Facts of home visits and reasons for default were not recorded in the treatment cards by health service providers.

Test-check of records in the 6 sample districts revealed that 9 to 80 *per cent* of the patients who commenced treatment during 1996-2000 discontinued it[13]. Under the programme, the patients who defaulted had to be motivated through home visits and brought back to treatment. A scrutiny of treatment cards, however, disclosed that the fact of home visits made by health service providers *viz.*, Lady Health Visitors, Multipurpose Health workers etc., and the reasons for the default were not recorded therein in most of the cases. As the responsibility for curing TB patients is placed on the health workers under the programme, high rate of default would indicate poor follow-up of patients

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10 From new sputum positive cases to sputum negative: 80 *per cent* after 2 months and 90 *per cent* after 3 months of treatment.
Retreatment (relapse and failure cases): 75 *per cent* after 3 months of chemotherapy

11 0.50 lakh in 1996-97, 0.72 lakh in 1997-98, 0.55 lakh in 1998-99 and 0.56 lakh in 1999-2000.

12 Rs 23.73 lakh in six test-checked districts during 1998-99 to 2000-01.

13 As against a limit of 5% desired by GOI guidelines.

by health workers. This had eventually led to low cure rate and transmission of TB. Though no specific reasons were given for less number of home visits, two DTCs (Salem and Kancheepuram) stated that the home visits would be recorded in future and reasons for default analysed.

Envisaged cure rate not achieved in Chennai City and Cuddalore District.

Against the cure rate of 85 per cent to be achieved under RNTCP, the cure rate actually achieved during 1999-2000 was only 75 per cent and 74 *per cent* in Chennai city and Cuddalore district which were selected under the World Bank Project.

3.4.5.2.9 Sputum culture

Facilities provided at a cost of Rs 22.07 lakh to nine DTCs for sputum culture and sensitivity testing were not utilised for want of manpower and infrastructure facilities.

Sputum culture and sensitivity testing is valuable for surveillance, planning and management of resistant/failure cases. As these facilities are not available in DTCs, the sputum samples of patients were sent for culture to TRCs at Chennai and Madurai, ITM at Chennai and TB Sanatorium, Tambaram (Chennai). For providing sputum culture facilities, Government sanctioned (August 1997) Rs 36 lakh at the rate of Rs 4 lakh per DTC. Equipment needed for this facility were purchased (March 1998-June 1999) at a cost of Rs 22.07 lakh and supplied to 9 DTCs.[14] However, the equipment were not installed and the facility is not yet established for want of manpower like microbiologist and other infrastructure like rooms with air-conditioning, resulting in the equipment lying idle. DTCs continued to send patients/samples for culture and sensitivity test to the two TRCs, ITM and TB Sanatorium.

Results of tests were not intimated to the referring DTC in all cases. Audit found the position in DTC, Dindigul and DTC, Salem as under.

	Referred cases	Period	Results received	From
DTC Dindigul	15	December 1997-Mach 2001	5	TRC, Madurai
DTC Salem	40	March 2000-March 2001	14	TRC, Chennai

Incidentally TRC, Madurai had requested (October 2000) the DTC Dindigul to refer fewer cases for testing as their work load and commitment had risen to a great extent owing to referral from different centres.

3.4.5.3 Establishment of District Tuberculosis Centres

One District Tuberculosis Centre (DTC) has to be established for an average population of 19 lakh under RNTCP with the key staff comprising District TB officer (DTO), Treatment Organiser, Laboratory Technician, X-ray Technician and Statistical Assistant. DTC functions as a specialised referral centre and is specifically responsible for the organisation of TB control activities in the district. As of March 2001, only 25 DTCs were functioning, against 30 as per norm.

Non-establishment of DTCs in four Districts.

(i) DTCs were not established in the four districts *viz.*, Ariyalur, Karur, Madurai (at Usilampatti) and Thiruvarur though the establishment of the DTC was a pre-requisite for the implementation of the World Bank assisted RNTCP. Proposals (April 1999 and April 2001) of the DMRHS towards establishment of these DTCs were pending with State Government (May

[14] Cuddalore, Dharmapuri, Dindigul, Kancheepuram, Pudukottai, Salem, Thanjavur, Thiruvannamalai and Tuticorin.

2001). Audit observed that the buildings for DTCs at Karur, Usilampatti and Thiruvarur were completed between December 1999 and September 2000 at a cost of Rs 88.16 lakh . However, the DTCs with required key staff were not yet established. The buildings were reported (September 2001) to be utilised for TB programme work with a M.O. posted locally.

(ii) Though Coimbatore District had a population of 38.87 lakh, only one DTC was functioning in the district against the requirement of two.

Posts vacant in DTCs.

(iii) Twelve DTCs already established did not have full strength of staff essential for proper implementation of RNTCP. DMRHS replied (May 2001) that his proposal (September 2000) for creation of 27 posts including 2 posts of DTOs (Nilgiris and Theni), 4 posts of second medical officers, 11 posts of Statistical Assistants and 3 posts of Pharmacists was pending with the State Government. The Central TB Division recommended (July 1997) that the headquarters of TB unit in Chennai Corporation be strengthened with additional manpower of one Data Entry Operator, Driver, IEC Officer, Medical Officer and Secretarial Assistant each. However except the post of driver, all the remaining posts were not filled up (August 2001).

The PAC in their report (April 1992) had observed that considering the importance of the scheme, the financial constraints should not stand in the way of establishing DTCs with required staff. However, the deficiencies in this regard still persist and affect the implementation of the programme. Correspondence between DMRHS and Government in this regard disclosed that there were financial constraints in establishing DTCs with required staff.

This has to be viewed in the background of substantial amounts of expenditure met by State Government on running the TB institutions towards staff, maintenance of buildings, vehicles etc. The *per capita* expenditure on this account worked out to Rs 543.69[15] per patient during 1996-2000.

3.4.5.4 Time expired and sub-standard drugs

(a) Time-expired drugs

Availability of time expired anti-TB drugs worth Rs 24.51 lakh in 5 sample districts.

Drugs worth Rs 24.51 lakh became time-expired in 5 sample districts *viz*., Chennai, Coimbatore, Cuddalore, Dindigul and Thanjavur. A detailed scrutiny of records revealed that the Injection Streptomycin and tablet Isoniazid became time expired in Coimbatore (June 1997) and Government Medical Stores Depot (GMSD), Chennai (September 1999) respectively, while these drugs were not administered to the patients during March 1997 and July-September 1999 in Kancheepuram district due to non- availability. The DTOs at Coimbatore and Cuddalore stated that the drugs became time-expired, as they had been supplied to them by DGHS/TNMSC without any indent/ in excess of indented quantity.

(b) Sub-standard drugs

3.37 lakh tablets of Pyrazinamide (500 mg) (cost: Rs.5.19 lakh) (3 lakh supplied by M/s C.T. Laboratories, Calcutta received from GMSD, Chennai during April 1996 by DTC, Thanjavur and 0.37 lakh supplied by firm Unicare (India) Private Limited between June 1999 and September 1999 to DTC, Dindigul) were declared as sub-standard in June 1997 and December

[15] Based on expenditure and number of new patients detected plus patients who completed treatment during 1996-97 to 1999-2000.

2000 by the Government Analyst, Drug Testing Laboratory, Chennai, as the sample tablets did not conform to the Indian Pharmacopoeia (IP) specification in respect of disintegration test. By the time the fact was intimated (June 1997 and January 2001) to DTCs, Thanjavur and Dindigul, 3.24 lakh tablets were distributed to various institutions and in turn would have been distributed to TB patients. In PHC, Eriyodu (Dindigul District) to which 5700 such tablets were supplied (June 1999 to January 2000) Audit found that they had been distributed to the patients. Information regarding action taken against the defaulting firms was not on record.

3.4.6 National Programme for Control of Blindness

The implementation of the programme in the State is vested with Tamil Nadu State Blindness Control Society (TNSBCS), a registered society. Under the programme, infrastructure facilities, equipment for quality eye care in Government hospitals and grants-in-aid to NGOs for performing cataract surgeries are provided; IEC activities are undertaken for creating awareness. GOI approved an outlay of Rs 64.20 crore[16] for implementation of the World Bank Project in Tamil Nadu during 1994-2001, which was later extended for one more year, 2001-2002.

3.4.6.1 Financial Performance

3.4.6.1.1 Allocation and expenditure

a) Details of amounts released by GOI, expenditure incurred under NPCB and WBCBCP during 1994-95 to 2000-2001 are as given below.

(Rupees in lakh)

Year	NPCB			WBCBCP		
	Allocation	Released by GOI	Expenditure	Allocation	Released by GOI	Expenditure
1994-95	28.41	28.41	10.09	149.48	77.48	87.59
1995-96	31.77	31.77	22.44	306.30	306.30	96.15
1996-97	21.50	-	24.22	344.98	106.54	79.60
1997-98	3.50	-	2.65	471.88	444.47	692.79
1998-99	20.00	-	3.83	560.00	551.00	704.39
1999-2000	-	-	3.52	405.00	462.18	328.03
2000-2001	5.00	5.00	-	190.00	190.00	487.44

The expenditure under the project is initially met from budget provision made by the State Government. At the year end, based on the expenditure statement furnished by TNSBCS, Chennai, claim is preferred with GOI. There is a backlog of assistance due to be received from GOI as of March 2001.

3.4.6.1.2 Grants to District societies

Central assistance to the tune of Rs 1.68 crore was lying unutilised with 20 DBCSs as of March 2001.

GOI released funds directly to District Societies upto December 1999 and through TNSBCS thereafter. The details of funds received by District Societies and expenditure incurred by them were not available with the Project Director TNSBCS. However, according to details furnished by TNSBCS,

[16] Includes direct funding to DBCS

Dues to the tune of Rs 9.08 crore to NGOs piled up because of inadequate release of funds by GOI.

Rs 1.68 crore were lying unutilised with 20 DBCSs on 31 March 2001. Of these, 7 DBCSs had closing balance exceeding Rs 10 lakh[17]. The DBCSs are required to give grants-in-aid to NGOs at specified rates for cataract surgeries performed. However as of March 2001, dues to the tune of Rs 9.08 crore were payable to NGOs by 24 DBCSs. The pendency was attributed to inadequate release of funds by GOI to District Societies.

3.4.6.2 Non-utilisation of funds

(i) Non-utilisation of funds allocated for furnishing eye wards and operation theatres

Non-release of central assistance of Rs 18 lakh by State Government.

GOI released a sum of Rs 95.40 lakh[18] towards furnishing of newly constructed eye wards and operation theatres. However, State Government accorded sanction for Rs 77.40 lakh[19].

Out of Rs 77.40 lakh sanctioned, only Rs 16.86 lakh utilised.

Out of the amount sanctioned by Government, Rs 10 lakh were credited to the Personal Deposit (PD) account of TNSBCS only in March 2000 and is lying unutilised (April 2001), as the Society had not received any proposals from the institutions. The original sanction for Rs 67.40 lakh issued (March 2000) to DMRHS (Rs 46.80 lakh) and DME (Rs 20.60 lakh) for furnishing 25 completed eye wards and operation theatres was revalidated in September 2000. As of April 2001, an expenditure of only Rs 16.86 lakh was incurred by DMRHS; details regarding the expenditure incurred by DME have not been made available to Audit.

Central assistance of Rs 60 lakh not released by State Government.

Similarly, a sum of Rs 60 lakh released (Rs 30 lakh each in April and May 2000) by GOI towards furnishing of newly constructed eye wards has not been released by State Government to TNSBCS (March 2001).

(ii) Non-utilisation of assistance earmarked for IEC activities

Non-receipt of earmarked funds for IEC activities from GOI and non-utilisation of Rs 35.23 lakh provided for IEC activities by TNSBCS.

Against the amount of Rs 1.18 crore earmarked for IEC activities, GOI released only Rs 0.52 crore (44 *per cent*) upto 2000-2001, the end of the project period, of which TNSBCS spent only Rs 0.17 crore (32 *per cent*). Remaining amount of Rs 35.23 lakh was lying unutilised with the Society. This would lead to non-availing of World Bank credit to the full extent.

TNSBCS stated (May 2001) that instruction for broadcasting through mass media are sent directly by GOI and only the bills are settled by TNSBCS and hence due to non-receipt of instructions/bills the funds could not be utilised. The contention of TNSBCS is not tenable as State Society is responsible for implementing IEC activities under the programme. Further, there are various other IEC activities on which the amount could have been utilised.

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17 Coimbatore : Rs 40.55 lakh, Karur : Rs 11.19 lakh, Dindigul : Rs 13.87 lakh, Tiruvallur : Rs 16.01 lakh, Madurai : Rs 11.96 lakh, Nagapattinam : Rs 13.20 lakh, Tiruchirappalli : Rs 12.05 lakh.

18 July 1998: Rs 10 lakh; June 1999: 85.40 lakh.

19 June 1999: Rs 10 lakh; March 2000: Rs 67.40 lakh.

(iii) Non-utilisation of assistance given under the component "consumables"

Funds to the tune of Rs 26.44 lakh given for consumables were not utilised.

GOI release in 1995-96 to State Government included Rs 29 lakh towards the component "consumables" under the World Bank Project. However, TNSBCS incurred an expenditure of only Rs 2.56 lakh under consumables during 1996-2000 and the balance amount of Rs 26.44 lakh was lying unutilised.

(iv) Non-utilisation of funds allocated to Eye-banks

Non-establishment of eye bank in Coimbatore Medical College Hospital.

GOI allocated Rs 12.50 lakh during 1994-2001 for establishment of 4 eye-banks under NPCB. Two eye-banks in Chennai have been established during 1994-95 to 1999-2000. The model eye-bank in Coimbatore Medical College Hospital has not been established as of April 2001 although it was ordered in July 1998. State Government had not issued orders till March 2001 for the establishment of fourth eye-bank sanctioned by GOI during 1998-99 During the period 1996-2000, an expenditure of only Rs 2.84 lakh was incurred in the two eye-banks, indicating poor performance.

Such non-utilisation of funds under the above components of the programme would hamper dissemination of information about the programme to the public and the quality of service.

3.4.6.3 Inadmissible expenditure on employment of excess staff for District Mobile Ophthalmic Unit

Mobile Ophthalmic Units were established to provide out reach services to the beneficiaries. As there are hardly any eye care facilities below the district level, these units were supposed to provide eye care services including cataract surgery in rural areas.

The approved staffing pattern for District Mobile Ophthalmic Unit (DMOU) was for 6 persons *viz*. Ophthalmic Surgeon, Ophthalmic Assistant, Operation theatre Technician, Staff Nurse, Group 'D' and Driver under World Bank Project. However the State Government while re-organising the Mobile Ophthalmic Units in the State, sanctioned (March 1997) 10 posts to each DMOU under the project. This had resulted in sanctioning of four additional posts *viz*., Civil Surgeon, Staff nurse, Junior Assistant and Nursing Assistant Gr II for each DMOU.

Expenditure of Rs 9.79 lakh incurred on excess posts operated in 2 sample districts.

GOI in their directions in December 1998 stated that the funds for salary component are allocated under the existing pattern and the additional requirement of funds over and above the existing pattern for the salary component may be met by the State Government from State Budget. Scrutiny of records in two sample districts (Coimbatore and Thiruvannamalai) disclosed that 3 posts were operated in excess of GOI norms and expenditure of Rs 9.79 lakh was debited to the project, though the expenditure has to be borne by State Government.

Number of surgeries performed by the DMOUs at Ramanathapuram and Pudukottai were between 122 and 589 and 120 and NIL during 1997-2000 against the norm of 1500 surgeries fixed per annum.

It was expected that each mobile unit would perform a minimum of 1500 cataract surgeries per annum. Two mobile units at Ramanathapuram and Pudukottai were functioning from 1997-98. Scrutiny of records in TNSBCS revealed that against the norm of 1500 per annum, the performance was between 122 and 589 in Ramanathapuram district and between 120 and NIL in Pudukkottai during 1997-98 to 1999-2000.

DBCS, Ramanathapuram attributed (August 2001) the shortfall to lack of awareness among the public and stated that action would be taken to achieve target. Specific reasons for the huge shortfall in Pudukkottai District have not been furnished.

3.4.6.4 Crediting unutilised Central assistance to the accounts of State Government

Perusal of records revealed that Rs 43.67 lakh, the unutilised amount of assistance received from GOI, was remitted to State Government account by TNSBCS as given below. This amount should have been retained by the Society for use in the programme.

Serial Number	Month of release	Purpose of release	Amount released (Rupees in lakh)	Expenditure incurred (Rupees in lakh)	Balance amount (Rupees in lakh)	Month of remittance
(i)	March 1995	Provision of dark room facilities	20.00	12.95	6.52*	June 1999
(ii)	February 1996	Programme activities	338.07	79.67 209.00	27.80	October 1998
(iii)	October 1994	Purchase of Ophthalmic equipment for PHCs	18.04	13.66	4.38	November 1998
(iv)	March 1995 and March 1996	Programme activities	--	--	4.97	November 1998 and January 1999
					43.67	

*** after transferring Rs 0.53 lakh to TNSBCS.**

The amounts were credited to State Government account as receipts which is improper. This was also not intimated to GOI for adjustment in subsequent year's grants.

3.4.7 Physical performance

3.4.7.1 Physical Achievement

As the incidence of Trachoma in the State was nil, GOI fixed targets only for performing cataract operations every year in the State. The number of operations performed against the target fixed during the period 1994-95 to 2000-2001 are as given below.

Year	Target fixed by GOI	Number of cataract operations performed			Percentage of achievement
		Government Sector	NGO/ Private	Total	
1994-95	2,20,000	47,364	2,04,427	2,51,791	114
1995-96	2,00,000	45,381	2,22,110	2,67,491	134
1996-97	2,75,000	43,588	2,53,259	2,96,847	108
1997-98	3,08,000	54,344	2,75,429	3,29,773	107
1998-99	3,38,800	64,790	3,08,900	3,73,690	110
1999-2000	3,50,000	62,758	2,94,195	3,56,953	102
2000-2001	3,75,000	62,132	3,02,465	3,64,597	97

On an analysis of the performance, Audit observed the following.

3.4.7.2 Fixation of unrealistic target

(a) According to the survey conducted by WHO-NPCB during 1986-87, the prevalence of blindness in the State was 1.65 *per cent*. Rapid prevalence survey, facility survey and beneficiary assessment survey conducted by GOI during 1997-98 also revealed that the prevalence rate had remained more or less the same as in 1986. The blindness due to cataract alone accounted for 80 *per cent*. The programme aims to reduce the prevalence of blindness to 0.3 *per cent* by 2000 A.D.

Fixation of targets by GOI, for performance of cataract surgeries in the State was done arbitrarily and the back log of cataract operations worked out to 5.61 lakh in the State as of March 2001 which was 0.9 *per cent* of the project population.

To achieve this goal, the targets need to be fixed taking into account the prevalence of blindness, incidence of cataract, rate of increase in incidence, correct net growth rate of population, the number of cataract surgeries already performed and the backlog of cases in the State. However, as seen from the references of GOI prescribing targets for the years 1994-95 to 2000-2001, the prevalence/incidence of blindness in the State were not considered while fixing the targets. The findings of the mid-term survey conducted by GOI itself during 1997-98 also confirmed that targets were set arbitrarily without taking into account the prevalence of blindness / incidence of cataract in the State.

Adopting the prevalence of blindness for estimated population of 606.7 lakh for the year 1997-98 and adding the annual incidence of blindness at 2.85 lakh, the cataract operations to be performed upto March 2001 would be 16.56 lakh. As against this, number of cataract operations actually performed was only 10.95 lakh leaving a balance of 5.61 lakh as of March 2001. This backlog works out to 0.9 *per cent* of the projected population for 2001 as against the targeted prevalence of blindness of 0.3 *per cent* by the year 2000 .

3.4.7.3 Inclusion of non-targeted group under achievement

Persons having visual acuity greater than 6/60, though they were not targeted, covered under the programme during 1999-2000.

According to the definition for blindness adopted by GOI, persons having a visual acuity of 6/60 or less are considered as blind and they were the targeted group both under NPCB and the World Bank Project. However a scrutiny of the new progress reports (C.Ex form) of 22 districts for the year 1999-2000, revealed that 74976 cataract surgeries had been performed for persons having visual acuity greater than 6/60, who belong to non-targeted group. If performance on this non-targeted group is excluded, the actual performance would work out to only 81 *per cent* of the target for the year as against 102 *per cent* shown as achieved during the year.

As these progress reports (C.Ex) in new format indicating pre-operative visual acuity were prescribed by GOI only from 1999-2000, the inclusion of non-targeted group under achievement during earlier years could not be ascertained by Audit.

3.4.7.4 Poor performance under Government sector

Poor performance of cataract surgeries under Government sector and the decline in achievement from 22 *per cent* in 1994-95 to 17 *per cent* in 2000-2001, against the targeted percentage of 55 and 23 respectively.

(a) Cataract surgeries have been assigned to three sectors *viz* Government, Non-Government Organisations and private sector. The break-up details of the performance under the programme during 1994-95 to 2000-2001 revealed that the Government sector contributed to only 22 *per cent* of the surgeries in 1994-95 and 17 *per cent* in 2000-2001 against the targeted 55 and 23 *per cent* respectively. The other two sectors contributed 93 *per cent* and 80 *per cent* of the achievement. Inspite of the provision of additional infrastructure to the tune of Rs 18.22 crore during 1994-95 to 1999-2000 mainly by upgrading

facilities in medical institutions and by creating 106 posts of Para Medical Ophthalmic Assistants (PMOAs) in as many PHCs, the target for Government Sector was scaled down from 1,20,000 (1994-95) to 85,000 (2000-01). TNSBCS in reply to Audit stated that since private sector has more number of beds than Government sector, target fixed for NGOs was increased. Even so, the achievement in Government sector was only 73 *per cent* of the target in 2000-01. Test-check of records in Directorates and in the sample districts revealed that the average number of cataract surgeries performed by one surgeon in Government sector was only 208, while the expected norm was 700 per annum, as given in World Bank (WB) Aid Memoire. Poor performance of PMOAs in mobilising and enrolling patients for surgery in Government institutions was another reason for the shortfall in achievement. PD, TNSBCS himself had admitted (July 1999) that the performance of ophthalmic surgeons in the State was far below the target and the output per bed was also found to be low.

The PD attributed (November 2000) the poor performance in Government sector to vacancies in posts of ophthalmologists in certain districts and less number of surgeries performed in Regional Institute of Ophthalmology at Government Ophthalmic Hospital.

Further, better facilities available with NGOs, pre-occupation of Medical College Ophthalmologists with other activities like teaching etc., cumbersome procedure in Government hospitals were also cited as reasons by field level officers.

3.4.7.5 Non-supply of spectacles after surgery

Spectacles were not provided to 78 *per cent* of patients after surgery in 4 sample districts during 1996-2001

Cataract can be treated by removing the entire lens including its surrounding capsule by conventional method of Intra Capsular Cataract Extraction (ICCE). This method requires the use of spectacles after surgery. The DBCS were to provide free spectacles to the poor patients who had undergone cataract surgery.

However, in four sample districts spectacles were provided by DBCS only to 15,152 (22 *per cent*) persons after surgery out of 70,148 surgeries performed during the period 1996-97 to 2000-2001. DBCS Coimbatore and Tiruvannamalai attributed the non-supply to cost of spectacles being higher than the rate allowed by GOI and non-receipt of prescriptions from PMOAs of PHCs. Where spectacles were not provided, complete restoration of eye sight after the surgery could not be ensured.

3.4.7.6 Non-restoration of vision even after cataract surgery

Percentage of failure in restoration of vision after surgery was between 1.2 and 0.5 during 1996-2001 in 25 DBCSs.

Compilation of details from the progress reports of 25 DBCSs during the period 1996-97 to 2000-2001 revealed that in 9,969 cases vision was not restored after surgery out of 12,44,823 cases and the percentage of failure ranged between 1.2 and 0.5 *per cent* during the above period. No strategy has been devised to reduce the number of failures by updating the quality of surgery.

3.4.8 Monitoring and Evaluation

3.4.8.1 Quality control

According to the Staff Appraisal Report of the World Bank, quality control should be monitored through (i) close supervision of service delivery, (ii) spot checks of records and surprise visits to camps, patients and hospitals by the Programme Coordinator or District Ophthalmic Surgeons, (iii) beneficiary assessment to be conducted by independent organisation to measure patients satisfaction and (iv) periodical evaluation by expert ophthalmologists to assess quality outcomes.

However, the annual beneficiary assessment envisaged under the programme was not carried out. Further, no independent beneficiary assessment by any external/ independent agency was done.

Findings of rapid assessment survey conducted in Nilgiris and Dindigul districts during December 1997 and January 1998.

Moreover, the findings of a rapid assessment survey, conducted by DGHS in Nilgiris and Dindigul Districts during December 1997 and January 1998, as a part of mid-term review of the project, revealed that the programme activities had covered only 73 and 86 *per cent* of affected persons in Nilgiris and Dindigul Districts respectively. Follow-up of cataract operated cases was not encouraging as most of the patients were not given correct glasses after performing refraction resulting in poor vision after surgery. Less than 12 *per cent* of surgeries conducted in Dindigul were in Government Hospitals and their contribution in Nilgiris was 23 *per cent*. Despite all inputs and funds for providing free eye care, only 57 *per cent* (Nilgiris) to 67 *per cent* (Dindigul) operations were done free of cost. Also the DBCSs did not perform the expected role in the implementation of the programme except as a channel of funding the NGOs as a result the coverage of population was grossly inadequate in the peripheral areas of the districts. The performance of the units under Government sector, which received maximum assistance was sub-optimal. There was no coordination between private and public sector hospitals resulting in avoidable duplication and waste of resources, poor selection and poor planning in holding eye camps and poor/negligible follow-up, poor focus on results/outcomes and non-provision of Intra-ocular lens (IOLs)/glasses to the poor.

3.4.8.2 Evaluation

Conclusions of All India Survey which included 3 districts *viz.*, Cuddalore, Madurai and Coimbatore of the State

An evaluatary study was conducted by DGHS for the year 1998-99 to assess whether cataract surgery performed in the project States had the desired level of effect on visual outcome. The conclusion of the All-India study which included 3 districts in the State *viz* Cuddalore, Madurai and Coimbatore revealed that (i) about half of the operated cases had vision less than 1/60 before surgery indicating that they waited for maturity of cataract either on their own or on Medical advice (ii) one fourth were only implanted with IOLs, (iii) one out of eight cases did not come for follow-up for refraction and prescription/provision of glasses and (iv) only about 70 *per cent* of persons affected with cataract were covered.

The above points were referred to Government in August 2001; reply had not been received (September 2001).

Appendix XVI

(Reference: paragraph 3.4.5.2.6; page)

Details showing the percentage of sputum conversion during 1997-98 to 2000-2001 (upto December 2000)

Name of the District	year	Percentage of sputum conversion for			
		New cases after 2 months treatment	New cases after 3 months treatment	Relapse cases after 3 months treatment	Failure cases after 3 months treatment
Chennai	1997-98	60	61	54	56
	1998-99	60	61	59	40
	1999-2000	73	80	65	75
	2000-2001	83	88	83	50
Cuddalore	1997-98	21	25	15	60
	1998-99	30	33	31	26
	1999-2000	94	94	85	88
	2000-2001	89	91	83	65
Kancheepuram	1997-98	12	12	17	NIL
	1998-99	19	19	50	NIL
	1999-2000	20	21	4	NIL
	2000-2001	41	49	28	40
Dindigul	1997-98	37	37	69	100
	1998-99	15	15	19	-
	1999-2000	21	21	23	-
	2000-2001	24	25	24	Nil
Salem	1997-98	66	69	50	40
	1998-99	46	50	41	49
	1999-2000	27	32	30	12
	2000-2001	41	44	22	25
Thanjavur	1998-99	45	57	48	38
	1999-2000	39	32	17	13
	2000-2001	48	53	14	17