

**Report of the
Comptroller and Auditor General of India**

on

General and Social Sector

for the year ended March 2018

**Government of Tamil Nadu
Report No. 1 of 2020**

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PREFACE

This Report for the year ended March 2018 has been prepared for submission to the Governor of Tamil Nadu under Article 151 of the Constitution of India.

The Report contains significant results of the Performance Audit and Compliance Audit of the departments of the Government of Tamil Nadu under the General and Social Services including departments of Health & Family Welfare, Home, Prohibition & Excise, Municipal Administration & Water Supply, Higher Education, Social Welfare & Nutritious Meal Programme, School Education, Special Programme Implementation, Revenue & Disaster Management and Labour & Employment.

The instances mentioned in this Report are those, which came to notice in the course of test audit for the period 2017-18 as well as those which came to notice in earlier years but could not be reported in the previous Audit Reports; instances relating to the period subsequent to 2017-18 have also been included, wherever necessary.

The audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.

CHAPTER I

INTRODUCTION

CHAPTER I

INTRODUCTION

1.1 About this Report

This Report of the Comptroller and Auditor General of India (CAG) on Government of Tamil Nadu (GoTN) relates to matters arising from Performance Audit of selected programmes and activities and Compliance Audit of Government departments, Autonomous Bodies and Local Bodies.

The primary purpose of the Report is to bring important results of audit to the notice of the State Legislature. Auditing standards issued by the CAG require that the materiality level for reporting should be commensurate with the nature, volume and magnitude of transactions. The audit findings are expected to enable the Executive to take corrective actions as also to frame appropriate policies and directives that will lead to improved financial management of the organisations, thus, contributing to better governance.

Compliance Audit refers to examination of transactions relating to expenditure, receipts, assets and liabilities of audited entities to ascertain whether provisions of the Constitution of India, applicable laws, rules, regulations and various orders and instructions issued by the competent authorities are being complied with.

Performance Audit examines the extent to which objectives of an organisation, programme or scheme are achieved economically, efficiently and effectively.

This Chapter provides profile of audited entities, planning and extent of audit and synopsis of audit observations. Chapter II of this Report deals with findings of Performance Audit and Chapter III deals with findings of Compliance Audit of various departments, Autonomous Bodies and Local Bodies.

1.2 Profile of Audited Entities

There are 37 departments in the State at the Secretariat level, headed by Additional Chief Secretaries/Principal Secretaries/Secretaries who are assisted by Commissioners/Directors and Subordinate Officers. Of these, 23 departments including 16 Public Sector Undertakings and 1,900 Autonomous Bodies/Local Bodies, falling under these departments, are under the audit jurisdiction of the Principal Accountant General (General and Social Sector Audit), Tamil Nadu.

A comparative position of expenditure incurred by the Government during the year 2017-18 and in the preceding four years is given in **Table 1.1**.

Abbreviations used in this report are listed in the Glossary at Page 238.

Table 1.1: Comparative position of expenditure

(₹ in crore)

Disbursements	2013-14	2014-15	2015-16	2016-17	2017-18
Revenue expenditure	1,09,824	1,28,828	1,40,993	1,53,195	1,67,874
General services	35,729	41,655	45,512	51,452	60,451
Social services	45,276	50,349	54,806	55,297	59,790
Economic services	19,644	26,843	29,943	33,980	36,162
Grants-in-aid and contributions	9,175	9,981	10,732	12,466	11,471
Capital expenditure	17,173	17,803	18,995	20,709	20,203
Loans and advances	2,242	4,319	2,331	26,046	6,517
Repayment of public debt	4,977	6,488	6,605	8,200	8,991
Contingency fund	19	Nil	19	Nil	Nil
Public account	1,44,022	1,59,384	1,77,442	1,73,007	1,84,209
Total	2,78,257	3,16,822	3,46,385	3,81,157	3,87,794

(Source: Finance Accounts for the respective years)

1.3 Authority for Audit

The authority for audit by the CAG is derived from Articles 149 and 151 of the Constitution of India and the Comptroller and Auditor General's (Duties, Powers and Conditions of Services) Act, 1971. The CAG conducts audit of expenditure of the departments of GoTN under Section 13¹ of the CAG's (DPC) Act, 1971. The CAG is the sole auditor in respect of 33 Autonomous Bodies which are audited under Sections 19(2)², 19(3)³ and 20(1)⁴ of the said Act. Audit of Government companies is also conducted under Section 19(1) of the CAG's (DPC) Act. In addition, the CAG conducts, under Section 14⁵ of the Act, audit of other Autonomous Bodies, which are substantially funded by the State Government. Audit of Urban Local bodies (ULBs) are conducted under Section 14(2) of the CAG's (DPC) Act, 1971. The CAG also provides technical guidance and support to the Local Fund Audit for audit of Local Bodies. The principles and methodologies for various audits are prescribed in the Auditing Standards and the Regulations on Audit and Accounts, 2007 issued by the CAG.

¹ Audit of (i) all transactions from the Consolidated Fund of the State, (ii) all transactions relating to the Contingency Fund and the Public Account and (iii) all trading, manufacturing, profit & loss accounts, balance sheets & other subsidiary accounts.

² Audit of the accounts of Corporations (not being Companies) established by or under law made by the Parliament in accordance with the provisions of the respective legislations.

³ Audit of the accounts of Corporations (not being Companies) established by or under law made by the State Legislature at the request of the Governor.

⁴ Audit of accounts of any body or authority on the request of the Governor on such terms and conditions as may be agreed upon between the CAG and the Government.

⁵ Audit of (i) all receipts and expenditure of a body/authority substantially financed by grants or loans from the Consolidated Fund of the State and (ii) all receipts and expenditure of any body or authority where the grants or loans to such body or authority from the Consolidated Fund of the State in a financial year is not less than ₹ 1 crore.

1.4 Planning and conduct of audit

Audit process starts with the risk assessment of the Departments/organisations as a whole and that of each unit based on expenditure incurred and its type, criticality/complexity of activities, level of delegated financial powers, assessment of internal controls, concerns of stakeholders and the likely impact of such risks. Previous audit findings are also considered in this exercise. Based on this risk assessment, the frequency and extent of audit are decided. An Annual Audit Plan is formulated to conduct audit on the basis of such risk assessment.

After completion of audit of units, Inspection Reports (IRs) containing audit findings are issued to the Heads of the audited entities. The entities are requested to furnish replies to the audit findings within one month of receipt of the IRs. Whenever replies are received, audit findings are either settled or further action for compliance is advised. Important audit observations pointed out in these IRs are processed for inclusion in the CAG's Audit Reports, which are submitted to the Governor of Tamil Nadu under Article 151 of the Constitution of India for being laid before the State Legislature.

1.5 Response to Audit

1.5.1 Draft Paragraphs and Performance Audit

Fourteen Draft Paragraphs and four draft Performance Audits were forwarded demi-officially to Additional Chief Secretaries/Principal Secretaries/Secretaries of the departments concerned between May and November 2018, requesting them to send their responses within six weeks. Departmental replies for 13 Draft Paragraphs and two Performance Audits were received. The replies received are suitably incorporated in the Report. In respect of Performance Audits, the views expressed by the representatives of the Government during Exit Conferences were considered while finalising the Report.

1.5.2 Pendency of Inspection Reports

(a) As on March 2018, 4,798 IRs issued to various departments and their subordinate offices with 18,018 paragraphs remained outstanding for more than six months as detailed in **Appendix 1.1**.

(b) In respect of ULBs, 605 IRs with 2,738 paragraphs remained outstanding for more than six months as on 31 March 2018.

1.6 Audit observations on Performance Audit

This Report contains four Performance Audits. The focus was on auditing the specific programmes/schemes and offering suitable recommendations with the intention to assist the Executive in taking corrective action and improving service delivery to the citizens. Significant audit observations are discussed below:

1.6.1 Road Safety System in Tamil Nadu

During the last five years, the State had the highest number of road accidents and the second highest number of fatalities at all India level. The State performed poorly in terms of the number of road accidents as a proportion to the vehicle population as well as road length. Despite being the first State to frame a Road Safety Policy and attempt an institutional framework for road safety measures, the goals set were not fully achieved. The number of road accidents kept increasing, despite the silver linings in terms of a marginal dip in the number of road accidents as a proportion of the vehicle population and road length. The Performance Audit on Road Safety System disclosed lapses in planning, enforcement and emergency care as detailed below:

- Absence of proper testing tracks and poor quality of testing of applicants compromised the quality of drivers on the roads, posing threat to road users. Inadequate testing and ignorance combined with non-observance of traffic rules contributed to driver error being responsible for *77 per cent* of accidents.
- Under reporting of accident data, including fatalities, to an extent of *33 per cent* in the sampled districts, made the accident data incomplete.
- Enforcement was ineffective due to non-prosecution of offenders driving motor vehicles without driving licence, failure to suspend the driving licences for drunken driving, non-revision of rates of fines for traffic rule violations for 18 years and lack of a system to identify repeat offenders, in the absence of smart card driving licences.
- Poor contract management resulted in abandoning the ambitious Integrated Traffic Management System to upgrade traffic management in Chennai City resulted in a liability of ₹ 72 crore and non-achievement of the project's objectives.
- Road engineering issues also contributed to accidents due to deviations from prescribed standards in maintenance of roads, shortfalls in conducting road safety audits and failures in rectifying 'black spots'.
- Failure to ensure implementation of decisions taken at Road Safety Council and District Road Safety Committee meetings rendered monitoring ineffective.

(Paragraph 2.1)

1.6.2 Performance Audit on Provision of Health Care Services and Medical Education through Indian Systems of Medicine

The policy of the Government is to provide holistic health care by bringing Indian Systems of Medicine (ISM) into the mainstream. Government seeks to achieve its objectives by expanding the existing network of ISM institutions, improving the quality of medical education, etc. The significant audit observations are:

- Delays in procurement of equipment resulted in huge sums lying in the bank accounts of Tamil Nadu Medicinal Plant Farms and Herbal Medicine Corporation Limited (TAMPCOL) and State AYUSH Society. The Department parked unutilised funds with TAMPCOL.
- The shortage of manpower across various posts ranged from 10 to 38 *per cent* in regular ISM wings, 48 *per cent* in ISM wings created under NRHM and up to 100 *per cent* in ISM wings created under AYUSH.
- Out of 297 ISM wings in the sampled districts, 31 stopped functioning and 25 functioned for four days or less per week due to shortage of medical personnel.
- TAMPCOL, the PSU which manufactures and supplies medicines to ISM wings supplied only 47 and 50 *per cent* of the total quantity of medicines indented by the hospitals/wings during 2016-17 and 2017-18 respectively due to inadequate provision of funds and short production. No medicines were supplied to Unani wings during 2016-17.
- During 2013-18, 82 drugs found to be 'Not of Standard Quality' could not be frozen or recalled immediately from distribution due to delay in drug testing on account of shortage of staff in drug testing laboratory.
- Ayurveda, Unani and Homoeopathy colleges of Government did not offer Post Graduate courses, hampering expansion of the reach of ISM.
- The Research and Development wing sanctioned by Government in 2013 at a cost of ₹ 12 crore did not start functioning even as of August 2018 and the assets created were lying idle due to lack of coordinated action in procuring equipment and recruiting staff.

(Paragraph 2.2)

1.6.3 Computerisation of functions in Urban Local Bodies

GoTN launched the Urban Tree Information System as an e-Governance tool to improve service delivery by Urban Local Bodies. The system envisaged timely, cost-effective and transparent service delivery with ease of access and seamless flow of information across all levels. The Performance Audit on Computerisation of functions in Urban Local Bodies covering the period 2013-18 revealed improvements in the system in terms of availability of a centralised database for ease of transactions and facilitation of online tracking of service requests, etc. Deficiencies were noticed in planning, implementation of modules and monitoring.

- Urban Tree Information System adopted Closed Source Software in place of Open Source Software resulting in avoidable recurring liability of ₹ 1.73 crore per annum.
- Licences procured for Disaster Recovery software at a cost of ₹ 2.62 crore expired without utilisation.
- The Citizen Web Portal provided only limited services defeating the objective of ‘Anywhere Anytime’ services to the public.
- The Grievance Redressal system module did not provide for toll free complaints. The project scheduled for completion in two phases by August 2015 was under progress even as of December 2018.
- Implementation of the project under various modules had deficiencies such as inaccuracies in data migration, non-correlation of mandatory fields in tables across various modules, incorrect capture of data, incorrect cancellation of assessments, missing demands and leakage of revenue.

(Paragraph 2.3)

1.6.4 Observance of Development Regulations for planning permission and building licence in Chennai Metropolitan Area

The Chennai Metropolitan Area measuring 1,189 square kilometres, cuts across three districts in the State of Tamil Nadu viz., Chennai, Kancheepuram and Tiruvallur. The local bodies under Chennai Metropolitan Area include the Greater Chennai Corporation, eight Municipalities, 11 Town Panchayats and 179 Village Panchayats in 10 Panchayat Unions. All types of building developments within Chennai Metropolitan Area limits require planning permission and building licence. The grant of planning permissions within Chennai Metropolitan Area is regulated in accordance with the Development Regulations forming part of Second Master Plan for Chennai Metropolitan Area. The Performance Audit on observance of Development Regulation for planning permission and building licence in Chennai Metropolitan Area covering the period from 2013 to 2018, conducted between April and September 2018, revealed the following:

- Planning permissions were issued for the construction of ordinary buildings with more than permissible floor area. Additional floors were constructed without planning permission. Structural stability of buildings was not ensured by local bodies.
- Local bodies and Chennai Metropolitan Development Authority did not explore the options for creation of green cover within Chennai Metropolitan Area despite availability of funds.
- Incorrect adoption of various parameters for calculation of floor space index resulted in non-assessment of premium floor space index charges of ₹ 66.94 crore.
- Provision of inadequate parking facilities was in violation of specified parameters. Enforcement Cell to monitor and control the unauthorised buildings was not strengthened.

(Paragraph 2.4)

1.7 Audit observations on Compliance Audit

We observed several deficiencies in critical areas, which had adverse impact on effective functioning of Government departments/organisations. Key audit findings of compliance issues are as under:

Implementation of “Hogenakkal Water Supply and Fluorosis Mitigation Project”

With a view to mitigate Fluorosis and to provide sustainable and protected drinking water to Dharmapuri and Krishnagiri districts, Government implemented “Hogenakkal Water Supply and Fluorosis Mitigation Project”. Audit scrutiny revealed that the inadequate supply of protected water through the “Hogenakkal Water Supply and Fluorosis Mitigation Project”, coupled with mixing of ground water with the river water, defeated the objective of supplying safe and potable drinking water. The Project failed in addressing the impact already caused by Fluorosis because of underperformance and deficiencies in household survey, inadequate micronutrient supply and corrective dental and orthopedic surgeries. Fluorosis mitigation activities require active co-ordination with the Public Health Department. Lapses in execution of civil works resulted in avoidable expenditure of ₹ 2.51 crore and the widening gap between O&M expenditure and revenue posed threat to proper maintenance of the project and its financial viability.

(Paragraph 3.1)

Irregular procurement resulted in an avoidable expenditure of ₹ 4.29 crore in respect of medical kits supplied to the seven sampled Medical College Hospitals as the equipment procured were neither required nor put to use. This raised a question on the entire procurement at a cost of ₹ 10.60 crore.

(Paragraph 3.2.1)

Failure of the University of Madras to assess the demand for new hostel facility resulted in non-utilisation of newly constructed hostel building for more than three years and consequent unfruitful expenditure of ₹ 10.10 crore.

(Paragraph 3.2.2)

Irregular purchase of two Ayurvedic medicines by Employees' State Insurance (ESI) hospitals and Director of Medical and Rural Health Services (ESI) resulted in an avoidable expenditure of ₹ 2.67 crore.

(Paragraph 3.2.3)

Tamil Nadu Water Supply and Drainage Board laid pipes without obtaining the mandatory permission from National Highways Authorities of India, leading to avoidable expenditure of ₹ 2.42 crore.

(Paragraph 3.2.4)

Cafeterias and common rooms constructed at a cost of ₹ 1.35 crore were kept idle for more than six years at Chengalpattu Medical College, Chengalpattu and more than two years at Mohan Kumaramangalam Medical College, Salem, for want of basic amenities and Rent Reasonableness Certificate from Public Works Department.

(Paragraph 3.2.5)

Lack of concerted efforts in completing a hostel project for working women resulted in an avoidable expenditure of ₹ 1.05 crore and idling of central assistance of ₹ 2.48 crore in bank account. The objective of the scheme was also not achieved in full even after 10 years of its sanction, leading to estimated escalation of project cost by ₹ 20.54 crore.

(Paragraph 3.2.6)

Irregular award of ₹ 5.12 crore Annual Maintenance Contract for computer systems and electronic devices by the Director of Public Libraries and lack of due diligence in contract management resulted in avoidable expenditure of ₹ 0.85 crore.

(Paragraph 3.2.7)

Non-compliance to applicable codal provisions and deviations from financial propriety resulted in loss of ₹ 124.43 crore to the Government in the implementation of the scheme for free distribution of electric fans, mixies and grinders to women beneficiaries in the State.

(Paragraph 3.3.1)

In violation of scheme guidelines and the directions of Hon'ble Supreme Court, Tamil Nadu Construction Workers Welfare Board diverted ₹ 44.24 crore from Manual Workers General Welfare Fund for construction of building to house Government offices.

(Paragraph 3.3.2)

Inordinate delay in revising and fixing lease rent resulted in non-realisation of revenue of ₹ 4.10 crore.

(Paragraph 3.3.3)

The objective of establishing Bio-Methanation-cum-Power Generation Plant at a cost of ₹ 89.75 lakh in Tiruttani Municipality in Tiruvallur District remained unachieved for want of desired quantity of bio-degradable waste

(Paragraph 3.3.4)

Improper planning and non-adherence to International Hockey Federation standards resulted in non-utilisation of artificial hockey turf created at a cost of ₹ 3.24 crore.

(Paragraph 3.3.5)

Incorrect assessment of property tax resulted in loss of revenue of ₹ 40.02 lakh and short levy of ₹ 67.51 lakh.

(Paragraph 3.4.1)

1.8 Recommendations

This Report contains specific recommendations on a number of issues involving non-observance of the prescribed internal procedure and systems, compliance with which would help in promoting good governance and better oversight on implementation of departmental programmes and objectives at large. The State Government is requested to take cognizance of these recommendations and take appropriate action in a time bound manner.

1.9 Follow-up on Audit Reports

The Committee on Public Accounts of the Legislature prescribed a time limit of two months from the date of placement of the Audit Reports for furnishing Explanatory Notes by Government departments on the audit observations included in the Audit Report. The Explanatory Note should indicate the corrective action taken or proposed to be taken by them.

The position of pendency of paragraphs/Performance Audits, for which Explanatory Notes were not received as of 31 December 2018 is shown in **Table 1.2**.

Table 1.2: Paragraphs/PAs for which Explanatory Notes not received

Details of number of Paras/Performance Audits for which Explanatory Notes are awaited	Audit Report			
	Upto 2013-14	2014-15	2015-16	2016-17
General and Social Sector	52	16	31	11
Local Bodies	101	12	18	9

Further, Government departments are to submit Action Taken Notes (ATNs) on the recommendations of PAC. As of December 2018, Government Departments did not furnish ATNs on 1,656 recommendations made by PAC in respect of Audit Reports on Civil, State Finances, General and Social Sector and Local Bodies pertaining to the period 1973-74 to 2010-11.

CHAPTER II
PERFORMANCE
AUDITS

CHAPTER II

PERFORMANCE AUDITS

This Chapter contains findings of four Performance Audits on (i) Road Safety System in Tamil Nadu (ii) Provision of Health Care Services and Medical Education through Indian Systems of Medicine (iii) Computerisation of functions in Urban Local Bodies and (iv) Observance of Development Regulations for planning permission and building license in Chennai Metropolitan Area.

HEALTH & FAMILY WELFARE, HIGHWAYS & MINOR PORTS AND HOME, PROHIBITION & EXCISE DEPARTMENTS

2.1 Road Safety System in Tamil Nadu

Executive Summary

During the last five years, the State had the highest number of road accidents and the second highest number of fatalities at all India level. The State performed poorly in terms of the number of road accidents as a proportion to the vehicle population as well as road length. Despite being the first State to frame a Road Safety Policy and attempt an institutional framework for road safety measures, the goals set were not fully achieved. The number of road accidents kept increasing, despite the silver linings in terms of a marginal dip in the number of road accidents as a proportion to the vehicle population and road length.

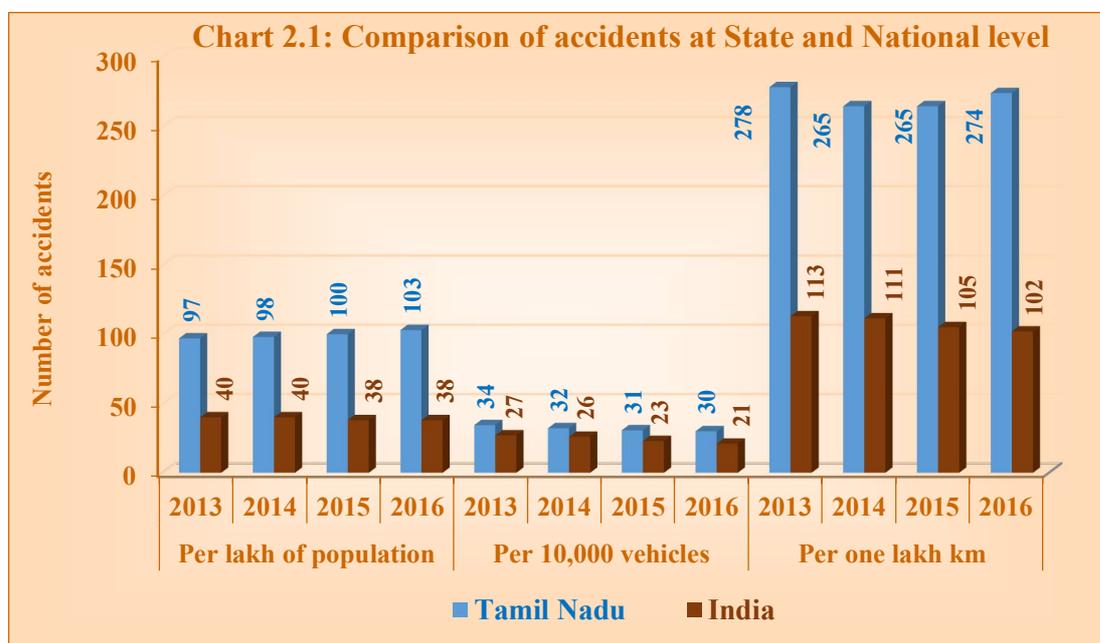
The Performance Audit on Road Safety System disclosed lapses in planning, enforcement and emergency care as detailed below:

- *Absence of proper testing tracks and poor quality of testing of applicants compromised the quality of drivers on the roads, posing threat to road users. Inadequate testing and ignorance combined with non-observance of traffic rules contributed to driver error being responsible for 77 per cent of accidents.*
- *Under reporting of accident data, including fatalities, to an extent of 33 per cent in the sampled districts, made the accident data incomplete.*
- *Enforcement was ineffective due to non-prosecution of offenders driving motor vehicles without driving licence, failure to suspend the driving licences for drunken driving, non-revision of rates of fines for traffic rule violations for 18 years and lack of a system to identify repeat offenders, in the absence of smart card driving licences.*

- *Poor contract management resulted in abandoning the ambitious Integrated Traffic Management System to upgrade traffic management in Chennai City resulted in a liability of ₹ 72 crore and non-achievement of the project's objectives.*
- *Road engineering issues also contributed to accidents due to deviations from prescribed standards in maintenance of roads, shortfalls in conducting road safety audits and failures in rectifying 'black spots'.*
- *Failure to ensure implementation of decisions taken at Road Safety Council and District Road Safety Committee meetings rendered monitoring ineffective.*

2.1.1 Introduction

Road accidents are close to five lakh per annum in the Country and about 70,000 in Tamil Nadu in 2016. In addition to loss of life or reduced quality of life, road accidents carry economic and psychological consequences for the survivors and their families. Tamil Nadu with a population of six *per cent* of the Country, accounted for 14 *per cent* of the road accidents and 11 *per cent* of the fatalities due to road accidents in the Country during 2013-16. The State had the highest number of accidents and was second to Uttar Pradesh in number of fatalities during 2013-16 at all India level. It performed poorly in terms of other parameters concerning accidents as given in **Chart 2.1**.



(Source: Ministry of Road Transport and Highways, New Delhi - Report on Road Accidents in India - 2016 and 2017)

2.1.1.1 Road Safety Policy

The Tamil Nadu Road Safety Policy, 2007 emphasises on four E's of road safety viz., Education, Engineering (both of roads and vehicles), Enforcement

and Emergency Care. The Medium Term objective under the Road Safety Policy was to achieve a 20 *per cent* reduction in fatalities and injuries by 2013, considering 2006 as the base year. GoTN put in place an institutional framework for implementation of the Road Safety Policy as given in the succeeding paragraphs.

2.1.1.2 State Road Safety Council

The State Road Safety Council (SRSC), headed by the Minister for Transport is the apex advisory body on road safety, established under Section 215 of the Motor Vehicles Act, 1988 with the objective of improving road safety aspects in road transport sector in the State. The Council is responsible for reviewing implementation of various programmes of different departments and suggesting policy initiatives to the Government.

2.1.1.3 District Road Safety Committee

GoTN established the District Road Safety Committee in each district under the Chairmanship of the District Collectors with the job of considering various measures needed to promote road safety, prepare road safety plans with special attention to the accident prone spots/stretches, maintenance of roads, driver training, accident analysis, publicity initiatives, traffic planning, highway patrol, passenger amenities, providing assistance to accident hit/affected people, etc., in the districts. The District Road Safety Committee for Chennai under the Chairmanship of the Commissioner of Police (CoP), Chennai, would address various Road Safety related issues in Chennai City. These Committees are required to meet at least once in a month.

2.1.1.4 Inter-Departmental Committee on Road Safety Fund

GoTN created (July 2000) Road Safety Fund with the objective of implementation of road safety measures in the State. The Fund constituted out of the proceeds of spot fine and compounding fee collections of the Police and Transport departments is administered by an Inter Departmental Committee formed with the Secretary to Home Department as the Chairperson, Road Safety Commissioner as the Member-Secretary and nine¹ members.

2.1.1.5 Statutory arrangements

The Motor Vehicles Act, 1988 and the Tamil Nadu Motor Vehicle Rules, 1989 provide the legal and regulatory framework for enforcement.

Indian Roads Congress (IRC) has developed the standards, methods and mechanisms of road safety for all the stakeholder departments and road users.

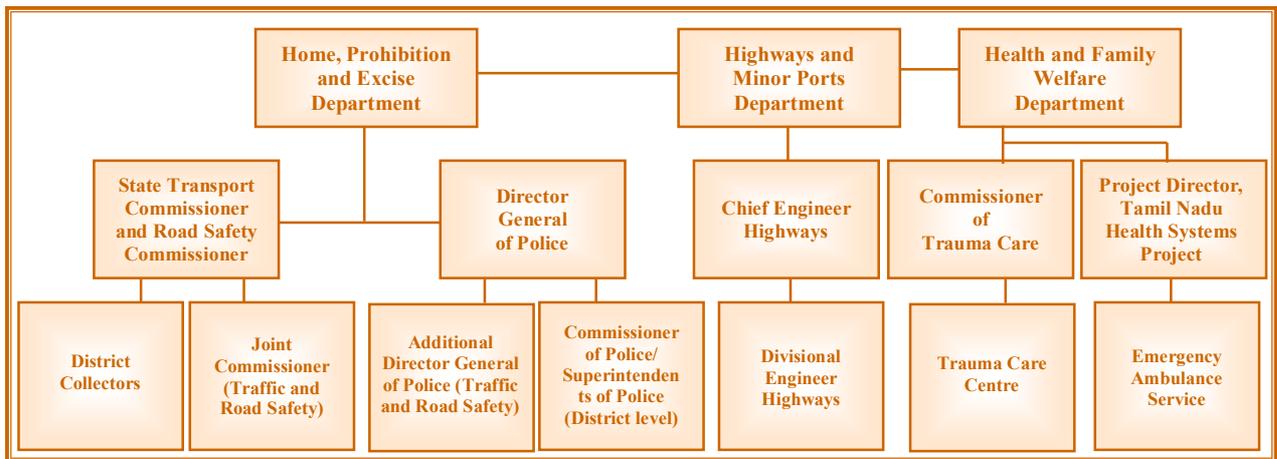
Hon'ble Supreme Court's Good Samaritan Guidelines and directions of the Supreme Court Committee on Road Safety form part of the principles or provisions of road safety in India.

¹ Inspector General of Police (Law & Order), Commissioner of Police, Commissioner of Greater Chennai Corporation, Member Secretary of Chennai Metropolitan Development Authority, Chief Engineer/National Highways, Chief Engineer/Highways & Rural Roads, Managing Director of Chennai Metropolitan Transport Corporation, Managing Director of State Express Transport Corporation and Secretary of Finance Department.

2.1.2 Organisational structure

The Transport Commissioner, who is the ex-officio Road Safety Commissioner (RSC) coordinates road safety measures in the State. Transportation planning is the responsibility of Chennai Metropolitan Development Authority and Local Planning Authorities in districts. Highways Department and Urban and Rural Local Bodies construct and maintain roads. The Director General of Police heads the traffic planning and enforcement tasks of the Police Department. The Mission Director, State Health Society, who is the ex-officio Commissioner of Trauma Care, coordinates trauma care services to accident victims. An organisation chart is given in **Exhibit 2.1**.

Exhibit 2.1: Organisation Chart



2.1.3 Audit objectives

The objectives of audit were to assess whether:

- planning for enforcing road safety measures on Education, Emergency care, Enforcement and Engineering and achieving the objectives of Road Safety Policy of Tamil Nadu was comprehensive;
- the initiatives planned for road safety measures were implemented as per the provisions of the Acts and Rules in force and as per Tamil Nadu Road Safety Policy, 2007;
- adequate funds were provided and released to implement the plans under road safety measures and whether funds so provided were utilised in conjunction with the stated objectives; and
- the monitoring system was effective in achieving the road safety policy of reduction in road accident fatalities and injuries and in ensuring road safety at various levels.

2.1.4 Audit criteria

The audit findings were bench-marked against the following sources:

- The Motor Vehicles Act, 1988, the Central Motor Vehicles Rules, 1989 and the Tamil Nadu Motor Vehicles Rules, 1989;
- Road Safety Policy of Government of Tamil Nadu formulated in 2007;
- Indian Road Congress specifications on road engineering;
- Codal provisions, Orders, Circulars and instructions of competent authorities;
- Tamil Nadu Road Safety Fund Rules, 2000 and
- Tamil Nadu Motor Vehicles Taxation Act, 1974.

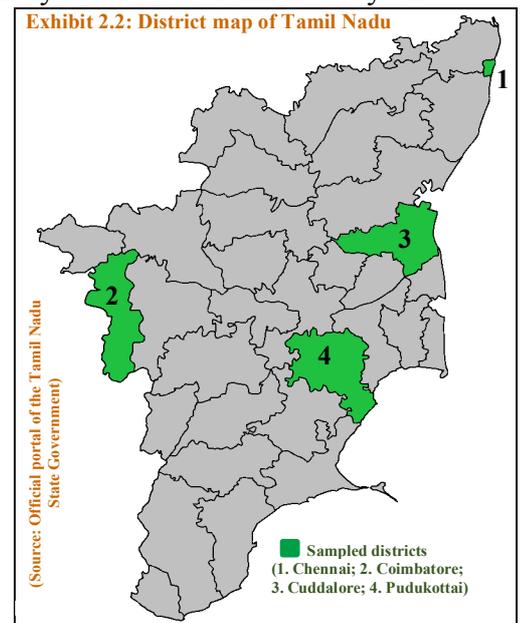
2.1.5 Scope and methodology

The Performance Audit was conducted from March to August 2018 covering the activities relating to road safety, carried out by departments of Health and Family Welfare; Highways and Minor Ports; and Home, Prohibition and Excise and selected field offices (**Appendix 2.1**) in the four sampled districts² out of 32 districts covering the period 2013-18. An Entry Conference with the related departments was conducted on 27 June 2018, wherein the audit objectives, scope and methodology were discussed. The audit findings were discussed in an Exit Conference with the Principal Secretary to Government, Home Department on 11 December 2018. GoTN furnished a detailed reply on 10 December 2018. GoTN's reply and responses in the Exit Conference were duly considered while drafting the Report.

The Audit methodology included collection and examination of information from the records of Auditee institutions, analysis of data furnished by the auditee, including the data extracted from computerised database. Along with departmental officers, the Audit teams conducted joint physical verification of various roads, driving schools, tracks used for testing the driver's skill and hospitals with trauma care facility in the sampled districts.

Sampling process

Four out of thirty two districts viz., Chennai, Coimbatore, Cuddalore and Pudukottai, were sampled (**Exhibit 2.2**) using data analytics tool. The sample selection process is given in **Appendix 2.2**.



² Chennai, Coimbatore, Cuddalore and Pudukottai.

Audit Findings

2.1.6 Outcome of road safety programmes

The data on road accidents is an indicator of the outcome of the road safety programmes. The Road Safety Policy, *inter alia*, envisages improvement to the system of accident data collection and to pursue the policy of computerisation and centralisation also of data relating to vehicles, drivers, road conditions, load impact, crash details, etc.

One of the objectives of the Road Safety Policy, 2007 was the reduction of road accidents by 20 *per cent* by 2013 taking 2006 as the base year. GoTN committed (April 2017) an action plan to the Supreme Court Committee on Road Safety for gradual reduction of road accidents by 15, 17 and 18 *per cent* in 2017, 2018 and 2019 respectively to achieve the envisaged reduction by 50 *per cent* in 2020 with base year as 2015. The increase in 2017 *vis-à-vis* 2006 in number of road accidents (19 *per cent*), fatalities (47 *per cent*) and accident severity³ (five *per cent*) paints a grim picture of road safety in the State.

2.1.6.1 Non-achievement of target for reducing road accidents

Taking 2015 as the base year, the Sustainable Development Goals (SDG) of the United Nations aims for 50 *per cent* reduction in the fatalities due to road accidents by 2020. The Road Safety Policy, 2007 targeted to reduce road accidents and fatalities by 20 *per cent* by 2013 taking 2006 as the base year. It was, however, noticed that the number of road accidents was actually on the increase but the accident as a proportion to vehicle population and road length registered a marginal decline (**Table 2.1 and Chart 2.2**).

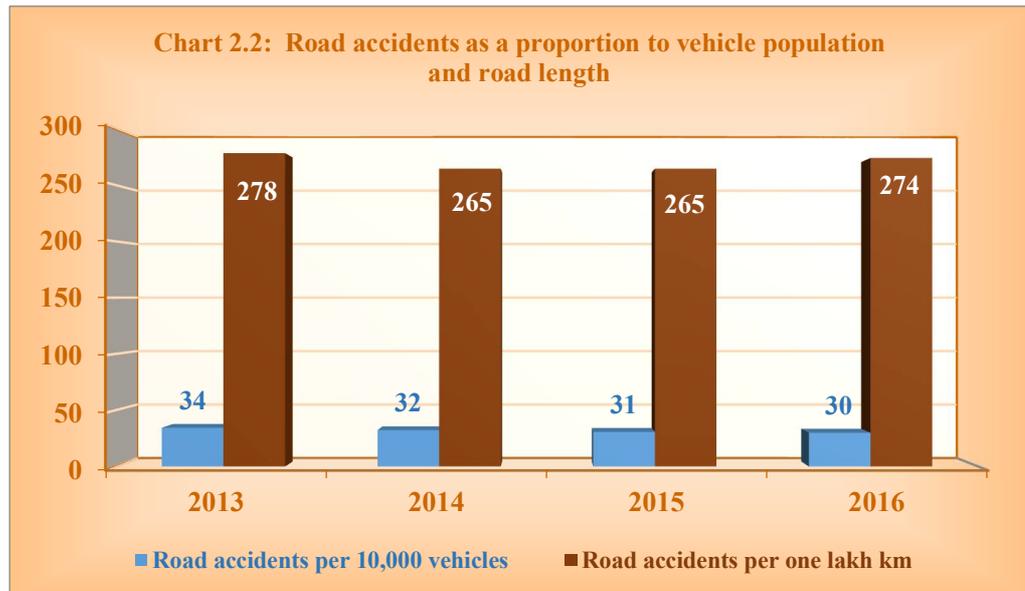
Table 2.1: Number of road accidents and fatalities in the State

2006			Target for 2013		Actual 2017			Increase with reference to 2006			Increase with reference to target	
Number	Fatality	Accident severity (in <i>per cent</i>)	Number	Fatality	Number	Fatality	Accident severity (in <i>per cent</i>)	Number	Fatality	Accident severity (in <i>per cent</i>)	Number	Fatality
55,145	11,009	20	44,120	8,800	65,562	16,157	25	10,417 (19)	5,148 (47)	5	21,442 (49)	7,347 (84)

Figures in brackets indicate percentage

(Source: State Crime Record Bureau Data)

³ Accident severity is the percentage of number of fatalities to number of road traffic accidents.



(Source: Ministry of Road Transport and Highways, New Delhi - Report on Road Accident in India - 2016 and 2017)

As could be seen from **Table 2.1** and **Chart 2.2**, not only the target set in the Road Safety Policy was not achieved, the actual number of accidents and fatalities has gone up, indicative of lacunae in implementing road safety measures. Considering the past performance, Audit observed that there would be possible slippages in achieving the SDG targets set for 2020 also. GoTN, while accepting (December 2018) the data on fatalities pertaining to 2017, stated that during January to October 2018, the fatalities stood at 10,378 indicating falling numbers in fatalities. The reply is not acceptable as part year data of 2018 cannot be compared with the full year data of 2017.

2.1.6.2 Accident data

(a) Cause-wise accidents

Causes for accidents in the country are negligent driving, over speeding, drunken driving, vehicle faults, animal crossing, lack of road infrastructure, parking on Right of Way, bad weather, pedestrian crossing, passengers fault and other conditions (**Exhibit 2.3**).

Cause-wise details of number of fatal accidents, number of accidents causing grievous/minor injury during 2013-18, compiled by Audit are given in **Table 2.2**.

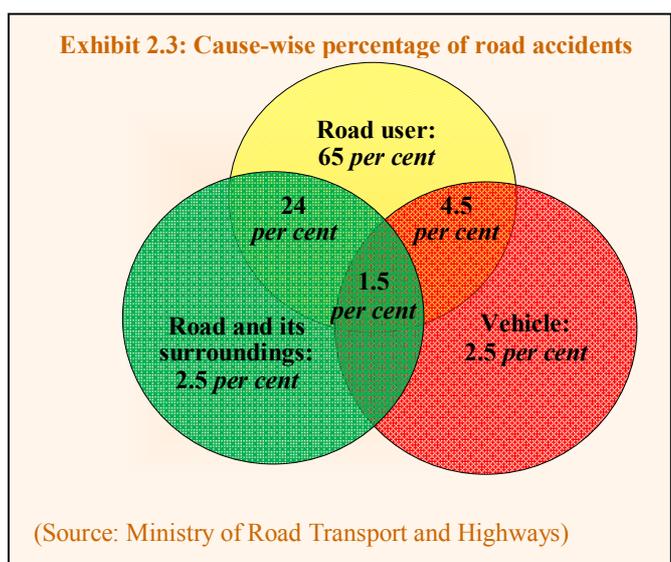


Table 2.2: Cause-wise accidents Tamil Nadu

Types of causes	Fatal		Grievous injury		Minor injury		Non-injury	Total	In per cent
	No. of accidents	Nos. killed	No. of accidents	No. of persons	No. of accidents	No. of persons	No. of accidents	No. of accidents	
Negligent driving*	718	840	637	559	1,800	3,904	126	3,281	77.11
Over-speeding	53,777	59,542	41,176	39,963	1,49,766	2,66,919	6,852	2,51,571	
Drunken Driving	106	130	82	48	171	405	26	385	0.12
Vehicle fault	60	79	54	55	148	426	86	348	0.11
Lack of road infrastructure#	122	138	88	75	238	441	21	469	0.14
Parking on ROW	43	53	35	27	128	269	23	229	0.07
Other causes@	13,965	15,094	16,445	16,404	41,167	69,172	2,645	74,222	22.45
Total	68,791	75,876	58,517	57,131	1,93,418	3,41,536	9,779	3,30,505	100.00

* Includes aggressive driving, disregarding traffic controls, failure to signal, failure to yield right of way, unsafe lane changing, impaired driving, overloading, sudden braking, tailgating and talking on mobile phone while driving.

Defect in road condition, neglect of civic bodies and poor lighting conditions.

@ Bad weather, cause not known, falling of boulders, fault of cyclist and unknown or not entered.

(Source: Details compiled from Road Accident Data Management System (RADMS))

Seventy seven *per cent of the* accidents in the State during 2013-18 was reportedly due to ‘rash/negligent driving’. Audit reviewed all the 265⁴ First Information Reports (FIRs) in the sampled police stations, where ‘rash/negligent driving’ was reported as the reason and the review revealed that 149 of these accidents were caused by reasons other than ‘rash/negligent driving’, viz., (i) improper pedestrian crossing, (ii) animal crossing, (iii) blind curve, (iv) vehicle fault, (v) avoiding big crater, etc. This indicated that the reasons recorded for accidents were not correct and hence there is a need for more accurate reporting of the cause of accidents, instead of clubbing it under rash/negligent driving. Such inappropriate reporting prevents taking up of remedial action including those where road engineering works are required.

(b) Vehicle-wise accidents

Accidents when classified according to type of vehicles revealed that during 2013-18, 45 *per cent* of accidents were caused by motor cycles followed by pedestrians (19 *per cent*) as given in **Table 2.3**. The data shows that efforts to reduce accidents should focus on the safety of two wheeler riders and pedestrians.

⁴ 146 in Chennai, 55 in Coimbatore, 42 in Cuddalore and 22 in Pudukottai districts.

Table 2.3: Vehicle-wise accidents

Year	Auto-rickshaw	Bus	Car/Jeep/Van/Taxi	HGV	Tempo/Tractor	MC	Pedestrians	Total
2013-14	2,873	7,872	17,678	7,836	984	40,514	19,921	97,678
2014-15	3,164	7,342	16,448	7,647	892	43,010	18,475	96,978
2015-16	3,211	8,382	18,744	7,484	914	46,776	20,699	1,06,210
2016-17	2,940	7,184	18,047	6,885	875	47,980	19,215	1,03,126
2017-18	2,808	6,349	16,902	6,134	954	45,186	18,238	96,571
Total	14,996 (3)	37,129 (7)	87,819 (18)	35,986 (7)	4,619 (1)	2,23,466 (45)	96,548 (19)	5,00,563

HGV: Heavy Goods Vehicles; MC: Motorcycles

Figures in brackets indicate the percentage to the total number of accidents.

(Source: Details compiled from RADMS)

(c) Inaccuracies in accident data

Acknowledging that accident data is crucial to address road safety problems, GoTN in its Road Safety Policy, 2007, proposed to improve the system of accident data collection and pursue computerisation and centralisation of data relating to vehicles, drivers, road conditions, load impact, crash details, etc. While the centralised data relating to vehicles and drivers (*Parivahan*) are maintained by GoI, Ministry of Road Transport and Highways, data on road accidents are captured in Road Accident Data Management System (RADMS) of the Police Department. RADMS is a robust database, well customised to the needs of Police Department in handling road accident data. It is a very effective management tool in planning and implementing measures to reduce road accidents.

Audit, however, noticed the following inaccuracies in the RADMS data, which compromised its utility:

- After road accidents, the Police file FIR. The FIR details initially captured in the State Crime Record Bureau (SCRB) database are again entered in RADMS. Audit noticed that FIRs would not be filed in accidents where the parties involved reconcile amicably. In those cases, the Police make entries in the Community Service Register⁵ (CSR) and provide a copy of the CSR to the parties involved in a road accident to facilitate claiming of third party insurance. FIRs were not filed in those cases. Further, Audit also noticed that there were shortfall in entering in RADMS database. During 2013-18, 4,259 FIRs were not captured in RADMS, evidently due to omissions in data entry. Thus, due to the CSR not being captured in RADMS and omissions in capturing FIRs in RADMS, the number of accidents in the State was understated by as

⁵ All complaints lodged by public on alleged crime are entered in CSR. After initial enquiry by Police, if the case is found to be a cognizable offence, FIR is filed by Police.

much as 47 per cent in Chennai District and to an extent of three to nine per cent in the other three sampled districts (Table 2.4).

Table 2.4: Details of accidents not entered in the RADMS during 2013-18

District	As per CSR	As per FIR	Total number of accidents	Total number of accidents as per RADMS	Under reporting of RADMS data*
Chennai	30,050	41,241	71,291	37,508	33,783 (47.39)
Coimbatore	948	12,221	13,169	12,193	976 (7.41)
Cuddalore	1,323	18,406	19,729	17,943	1,786 (9.05)
Pudukottai	170	6,330	6,500	6,295	205 (3.15)
Total	32,491	78,198	1,10,689	73,939	36,750

* Figures in brackets indicate the percentage to the total number of accidents
(Source: CSR data, RADMS and State Traffic Planning Cell)

- Scrutiny of CSR in 45 out of 105 police stations during 2013-18, disclosed that three fatal road accidents with three fatalities⁶ were included in the CSR. Non-filing of FIRs even in the case of fatal accidents was a matter of serious concern. The Police Department did not furnish any response to this finding.

GoTN stated (December 2018) that instructions were issued to file FIR in all cases of road traffic accidents (RTA) so as to ensure accuracy in RADMS data.

2.1.7 Planning

The TN Road Safety Policy, 2007 envisages (i) improving the data collection process for reliable information, (ii) providing safe road infrastructure for ensuring safe driving and safety of vulnerable road users, (iii) strengthening institutional and financial mechanism and (iv) effective enforcement measures. The Policy also enjoins upon the departments viz., Health, Highways, Police and Transport, to formulate specific measures and take appropriate action to achieve the policy objectives.

2.1.7.1 Functioning of State Road Safety Council

The SRSC was to (i) review the statistics relating to traffic accidents in the State and analyse the same with reference to black spots, (ii) review the action taken by the authorities of the Transport Department, (iii) look into road engineering and (iv) look into educational awareness programme for the people and also the work towards the objective of reducing road accidents and such other issues related to road safety measures.

- While Tamil Nadu drew up a Road Safety Policy and put in place an institutional framework, there was a lack of a comprehensive plan with milestones for achieving the strategies in place to make

⁶ Royapuram, St. Thomas Mount and Washermanpet Traffic Investigation Police Stations in Chennai District.

roads in Tamil Nadu safer for road users. The Road Safety Policy had a mission, vision and a target for reduction in the number of accidents. However, there was a requirement to draw up micro-plans centered on the four E's viz., Enforcement, Education, Engineering and Emergency Care. The Road Safety Council and the District Road Safety Committees met intermittently. It was noticed from the minutes of SRSC that the departments did not draw up their sub-plans with objectives for improvement in functioning of the areas under their jurisdictions. No plans for inter-departmental coordination were evident. The meeting of the District Road Safety Committees did not set targets on an annual basis for improvement in road infrastructure, creation of awareness among two-wheeler riders, pedestrians who account for the maximum number of accidents and also fatalities. The minutes of the meetings indicated directives for actions to be taken; however, the minutes of subsequent meetings lacked any indication of accountability and reporting in detail on the follow up action taken. Thus, there was a need for a comprehensive Road Safety Plan in line with the TN Road Safety Policy with micro-plans both at the departmental and geographical unit levels, with committed resources to achieve the mission goals of the TN Road Safety Policy.

- Review of the TN Road Safety Policy was also one of the objectives of SRSC. The target fixed in the TN Road Safety Policy viz., reduction of road accidents by 20 *per cent* by 2013 taking 2006 as the base year was not achieved. Further, as per the commitment given (April 2017) to the Supreme Court Committee on Road Safety and as per the SDGs of the United Nations, the number of accidents are to be reduced by half between 2015 and 2020. These new goals make it necessary to review the TN Road Safety Policy. But, this was not done as of October 2018 for the last 11 years.

GoTN replied (December 2018) that a draft of revised Road Safety Policy was under consideration.

2.1.7.2 Home (Transport) Department

(a) Planning by Inter Departmental Team

GoTN ordered (October 2007) the constitution of an Inter Departmental Team (IDT) comprising officers from Departments of Home (Police), Transport and Highways. Immediately on occurrence of a fatal road accident, the IDT was to visit the accident spot, make a comprehensive study from different angles, prepare a detailed report after critically analysing the data and suggest preventive measures to avert such incidents in future. The IDTs were, however, not formed in any of the districts. No action was initiated by the RSC and District Collectors to form the team despite orders of GoTN in 2007. In the absence of IDT, the 75,876 RTA fatalities that occurred in the State

during 2013-18 were not studied to frame a micro level plan to correct deficiencies in road engineering, signage, encroachment etc. The RSC did not furnish any reasons for not forming the IDT. GoTN replied (December 2018) that suitable instructions were issued in this regard.

(b) Road safety awareness campaign

The TN Road Safety Policy stressed on undertaking of vigorous safety campaigns and to follow it up with effective enforcement as per statutes. During 2014-18, the RSC released ₹ 4 lakh to each district for creating awareness among public about road accidents. Road Safety Week was also observed during the first week of January every year and road safety messages were broadcast through FM channels. Police, Regional Transport Officers, Chief Educational Officer and Tamil Nadu State Transport Corporations conducted road shows about road safety by issuing pamphlets.

GoTN and the Inter Departmental Committee (IDC) on Road Safety decided (2015) for screening short films on road safety in movie theatres across the State. Though seven short films on road safety were produced, they were not screened in theatres in the sampled districts. The District Collector, Cuddalore replied to Audit that as the theatres had moved on to a different technological platform (Qube technology⁷) for screening movies, the short films supplied to movie theatres in CD format were not screened. No further action was taken on this issue. The Superintendents of Police, Coimbatore and Pudukottai replied that action will be taken to screen short films on road safety. The reply was not acceptable as Audit observed that GoTN failed to put in place an effective system to create awareness by harnessing the power of diverse and popular digital and social media. The RADMS data also indicated that the maximum number of accidents and deaths took place among two-wheeler users and in the age group of 26-40. The data on poor usage of helmets also point to a need for targeting awareness among the youth and in educational institutions for safe driving and use of helmets.

2.1.7.3 Home (Police) Department

(a) State Traffic Planning Cell

GoTN formed (2005) the State Traffic Planning Cell (STPC) with an Additional Director General of Police (ADGP) as the head. As per the mandate, STPC is responsible for (i) planning road safety measures, (ii) coordinating with various NGOs/other agencies, (iii) procuring road safety equipment and materials and (iv) studying traffic problems in major cities, etc. Audit, however, noticed that ADGP, STPC had no technical manpower to support him and as a result STPC either played only a limited role or had no role in procuring road safety materials, studying traffic problems, preparing area specific plans for traffic improvement, coordinating with NGOs to promote awareness, etc.

⁷ A digital technology to distribute movies from digital servers located at a distance, and differs from the conventional method of sourcing from media such as film rolls, CDs, etc.

Though GoTN accepted (November 2008) the recommendations (2008) of the Tamil Nadu Third Police Commission for additional staff to STPC, DGP's proposal (2009) for sanction of 17 posts⁸ was not approved. Scrutiny of files disclosed that GoTN instructed (March 2016) DGP to reduce the staff requirement. But, DGP's revised proposal for 14 staff (March 2016) was also rejected (June 2017) by the Government without citing any reasons. As a result, the objective of forming STPC was not met and its envisaged functions viz., monitoring Highway Patrol Teams (HPTs), planning for provision of signals and CCTV cameras, preparing area specific plans for traffic improvement, etc., were not carried out.

Audit noticed that GoTN frequently shifted the ADGPs heading STPC. During the 13 year period of 2005-18, 12 officers occupied the post of ADGP, STPC except for one officer who held the office for four years, the average tenure of the other 11 officers was just ten months. Thus, GoTN itself stymied the functioning of the STPC, which was intended to play a critical role in the functioning of the traffic wing of the Police.

(b) System to penalise repeat offenders

Section 208 of the Motor Vehicles Act, 1988 read with Rule 164 of the Central Motor Vehicles Rules, 1989 provides for endorsing driving licence by Courts in respect of nine types of traffic offences/violations. In September 2006, Transport Commissioner proposed for introduction of smart card based driving licence, *inter alia* to identify repeat offenders. In October 2007, GoTN introduced Smart Card based Driving Licence (DL) and vehicle Registration Certificates (RC) in three Regional Transport Offices⁹ on pilot basis. The smart card DL and RCs digitally capture biometrics, photographs, signatures, etc., of individual licence/permit holders in non-erasable but updatable form. It also facilitates a permanent audit trail and prevents tampering. It was envisaged to equip Police and Transport officers with hand held terminals to enable quick access to DL and RC databases maintained by Transport Department. Satisfied with the pilot project, GoTN decided (May 2010) to roll out the smart card DL and RC throughout the State. The RSC entrusted (April 2013) the work through tender process to a consortium¹⁰ for a total value of ₹ 293.72 crore. The work, however, did not commence as it was embroiled in legal wrangles initiated by aggrieved bidders and was under stay orders (July 2013) of the Hon'ble Madras High Court. On vacation of the stay order in August 2017, considering the developments that took place in the technological and administrative structure, it was decided (December 2017) to go in for another round of negotiation with the original vendor. The matter was pending as of September 2018.

⁸ Deputy Superintendent of Police: one, Inspector: one, Sub Inspector (Technical): three, Superintendent: one, Sub Inspector: two, Grade II Driver: four and ministerial staff: five.

⁹ Regional Transport Offices Chennai (South), Cuddalore and Sivagangai.

¹⁰ Comprising M/s Bon Ton Softwares Private Limited and M/s M Tech Innovations Limited.

Thus, the long drawn legal action apart, even after the vacation of Court order staying the award of contract, the technically advanced and state of the art tool for ensuring road safety through effective enforcement, was yet to be initiated (September 2018). In the absence of a system to identify repeat offenders through smart card based technology, Audit noticed that all traffic offences were treated as first offence. To a specific Audit enquiry, the SP, Coimbatore replied that the matter would be taken up with the DGP. Also, in the absence of details, Audit could not verify the repeat offenders who deserved stringent penal action for repeat violations.

With a suitable database in place, identification of repeat offenders and levying of fines at appropriate higher rates for the second and subsequent offences would have been easier. Audit observed that the deterrent nature of enforcement was diluted.

(c) Non-revision of amount of spot fines and systemic issues

In 1992, GoTN introduced the system of spot fines in Chennai City and extended it to cover the cities of Madurai and Coimbatore in 1995. Later in 2000, while extending it to Tiruchirappalli, GoTN revised and doubled the rate of spot fine. Thereafter, the rate of spot fine was not revised. In August 2019, GoI amended the Motor Vehicles Act and increased the fines for traffic violations. GoTN, however, has not amended spot fines. In December 2011, GoTN extended the system of spot fine for traffic violations to all districts in the State and

prescribed two slabs of spot fines viz., lower rate for first time offenders and higher rate for repeat offenders. As per the orders, while Sub Inspectors of Police and above were authorised to collect spot fines in cities, in rural areas only Inspectors of Police and above were authorised to collect spot fines.

Non-revision of the rates of spot fine for nearly 18 years, i.e., after January 2000, together with non-identification of repeat offenders failed to help address the problems of vehicular accidents on roads and deter traffic violators as could be seen from the large number of cases reported every year.

Case study of Traffic enforcement in Maharashtra

Maharashtra had the highest vehicular population (2.98 crore against 2.34 crore in Tamil Nadu as of 2016-17). The State, however, ranked well below Tamil Nadu in terms of road accidents and fatalities. Major difference in enforcement was higher rate of fines and authority to Police Constables to collect spot fines.

Sl. No.	Category of Offence	Amount of fine* (₹)	
		Tamil Nadu	Maharashtra
1	Failure to produce Driving licence	100	200
2	Without Insurance	500	2,000
3	Without Helmet	100	500
4	Using mobile phone while driving	100	200
5	Not using seat belt while driving	100	200
6	Racing/speed test violations	500	2,000
7	Speed violations	400	1,000
8	Without fitness certificate	100	2,000

* For first offence

(Source: Notifications of Government of Maharashtra and Government of Tamil Nadu)

GoTN, while admitting (December 2018) the lack of system to identify repeat traffic offenders, stated that action was being taken to issue Smart Card licences with bio-metric facilities to address this issue.

2.1.7.4 Highways Department

Lack of detailed plan for road furniture

Road furniture¹¹ help to reduce accidents and improve traffic flow conditions. Apart from signals, IRC specifications provide for road markings, sign boards, railings, speed breakers and other caution boards to be provided by the Highways Department/local bodies on the roads under their jurisdiction.

Audit noticed that, the Highways Department/local bodies did not plan for including road furniture in any of the 67 test-checked detailed estimates out of 4,469 road work estimates undertaken in the sampled districts during 2013-18. In the estimates for road relaying, road strengthening, etc., except under Comprehensive Road Infrastructure Development Programme (CRIDP) launched from 2016-17¹², two *per cent* of the estimate was provided as lumpsum towards road furniture. Scrutiny of 26 estimates wherein two *per cent* was provided as lumpsum towards road furniture disclosed that the allotted amount was insufficient to meet even the expenditure on road markings. This observation was substantiated by the reply of Executive Engineer, Cuddalore that the lumpsum provision of two *per cent* was insufficient. The Executive Engineer, Pudukottai replied that based on Chief Engineer's instructions, separate estimates would be prepared for road furniture from 2018-19. Lack of comprehensive plan prevented provision of adequate road safety furniture.

GoTN replied (December 2018) that in respect of National Highways (NH) the estimate of road furniture was not restricted to two *per cent* and that in respect of other roads, needy locations of the roads were prioritised for providing road furniture keeping in mind the budgetary constraints.

2.1.8 Traffic Enforcement

As per the RADMS data, driver error was a major cause of road accidents. Consequently, (i) effective enforcement of traffic rules for ensuring road discipline by all road users and (ii) promotion of properly equipped Regional Transport Offices/Unit Offices/driving schools gain much importance. An efficient and comprehensive traffic management system with accurate and reliable data collection can be utilised for the specific objectives of traffic law enforcement. Further, adequate manpower, infrastructure *viz.*, signals and CCTV cameras, highway patrolling, etc., also become indispensable for traffic law enforcement. Deficiencies noticed in this regard are discussed in the succeeding paragraphs.

¹¹ Including thermo plastic road markings, reflector units, overhead gantry boards, raised pavement markers, signals, railings, speed bumps, rumpers, solar delineators, solar studs (solar powered reflective road surface marking), sign boards, guideposts, etc.

¹² Roads re-laid under CRIDP had separate estimates for road furniture.

2.1.8.1 Lapses in ensuring driver quality

(a) Manual testing track

Drivers of motor vehicles are primary users of roads. Proper evaluation of driving skills of an individual applying for driving licence is of paramount importance in road safety. Quality driving schools, stringent driving tests are pre-requisites for ensuring competence of drivers before issue of driving licences. In order to qualify for driving licence, the applicant has to pass an online test on road signals and a driving test on a testing track. The testing tracks were required to have ‘S’ bends, ‘H’ bends, gradients, road signage, etc. Availability of a well designed and maintained testing track is a pre-requisite for administering proper driving test.

Audit noticed that 47 out of 86 Regional Transport Offices (RTO) in the State did not have a formal testing track with required features such as ‘S’ bends, ‘H’ bends, gradients, road signages, etc. Similarly, 53 out of the 59 Unit Offices (UO) of RTOs also did not have formal testing tracks.

Good Practices

Out of the four RTOs/UOs with designated testing tracks, in Pollachi and Virudhachalam, the tracks were maintained in good condition (Exhibit 2.4).

Exhibit 2.4: Well maintained Testing Track at RTO, Pollachi, Coimbatore District



Joint physical verification disclosed that in the sampled districts, eight¹³ out of the 12 RTOs and UOs did not have formal testing track. In the eight informal testing tracks in the sampled districts, ‘S’ bends and ‘H’ bends were formed by placing tyres and the tracks did not have any gradients or traffic signages (Exhibit 2.5). Audit observed that informal practices in administering driving test would be detrimental to the objective of ensuring the quality of drivers and would adversely impact road safety.

¹³ Four in Chennai, two in Coimbatore and one each in Cuddalore and Pudukottai.



Audit also noticed that in the sampled RTOs, no proposal for construction of testing track was under consideration even as construction of 13 computerised testing tracks was yet to be completed (**Paragraph 2.1.8.1 (b)**). The lapse of the Transport Department in ensuring driver quality/driver testing is a serious failure and needs immediate attention.

(b) Computerised testing track

With a view to introduce scientific methods and latest technology in conducting driving tests, GoTN sanctioned (January 2014) ₹ 10 crore for Computerised Testing Tracks in 14 out of the 86 RTOs in the State. The Computerised Testing Track assesses the candidate's performance automatically based on pre-assigned criteria and records the test in a video file for each test.

After more than four years of sanction, as of March 2018, the project was completed only at RTO, Karur and inaugurated in May 2018. Among the sampled districts, the project sanctioned for RTO, Cuddalore did not progress after spending ₹ 13.65 lakh on civil works as the tender for electrical works was cancelled in 2017 due to non-allotment of funds and no further action was taken.

(c) Lack of rigorous testing process for licensing

As per RADMS data, driver errors contribute to 77 per cent of the accidents as a result of rash/negligent driving. Thus, accidents can be reduced by ensuring quality of the drivers through a rigorous process of testing for issue of driving licence. Introduction of a more effective and efficient licensing procedure is one of the strategies envisaged by the Tamil Nadu Road Safety Policy to check the competency of drivers. Audit scrutiny of the licensing process disclosed lacunae in the process as discussed below:

- **Shortage of Motor Vehicle Inspectors:** In 1992, the Transport Commissioner fixed the number of candidates to be tested per day by each Motor Vehicles Inspector (MVI) as 20. In addition to administering track testing of licence seekers, MVIs responsibilities include inspection of motor vehicles for registration and renewal, inspection of vehicles for Fitness Certificate, on road enforcement of the MV Act, inspection of Driving Schools, etc. During field visits, based on the work allotment of MVIs, Audit observed that each MVI spent approximately four hours every day for conducting driving tests, which meant an average of 12 minutes¹⁴ for testing each candidate so as to cover 20 candidates per day. There were 26 Men-in-position as against sanctioned strength of 34. Audit calculated the requirement of MVIs based on the norm of 20 tests per day per MVI and found that as against the normative requirement of 32 MVI in the 12 sampled RTOs, there was a net shortage of six MVIs in six RTOs, after adjustment of three surplus MVIs of three RTOs (**Table 2.5**).

Table 2.5: Calculation of shortage/surplus of MVIs based on 20 tests per day

District	Test-checked RTOs	No. of MVIs (03/18)		Licenses issued in 2017-18	Actual tests per MVI/ annum (Col 5/Col 4)	Shortage/ Surplus (As per norm ¹⁵ - MIP Col 4)
		SS	MIP			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Chennai	Tambaram	2	2	16,689	8,344	Short - 1 (As per norm 3-MIP 2)
	KK Nagar	6	4	36,626	9,156	Short - 4 (As per norm 8 -MIP 4)
	North	4	3	17,251	5,750	Short - 1 (As per norm 4 -MIP 3)
	Meenambakkam	2	2	20,146	10,073	Short - 2 (As per norm 4 -MIP 2)
Coimbatore	North	5	4	13,804	3,451	Surplus - 1 (As per norm 3 -MIP 4)
	South	3	3	9,567	3,189	Surplus - 1 (As per norm 2 -MIP 3)
	Pollachi	3	2	6,548	3,274	Surplus - 1 (As per norm 1 -MIP 2)
Cuddalore	Cuddalore	4	2	9,640	4,820	0
	Panruti UO	1	1	4,013	4,013	0
	Virudhachalam UO	1	1	7,251	7,251	0
Pudukottai	Pudukottai	2	1	10,869	10,869	Short - 1 (As per norm 2 -MIP 1)
	Illupur UO	1	1	5,264	5,264	0
	Total	34	26	1,57,668	-	Short -6

UO: Unit Office

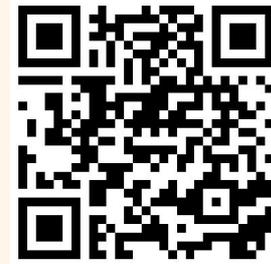
(Source: Data furnished by RTOs)

¹⁴ (4 hours * 60 minutes) / 20 candidates.

¹⁵ Based on 4,640 tests per annum calculated at 20 tests per day for 232 working days per annum.

- Further, in two of the 12 sampled RTOs, the number of tests administered by MVI exceeded 40 per day and in another six RTOs, it was between 20 and 40 per day. This indicated a need to rationalise the manpower distribution in the RTOs.
- **Reduced test duration:** In March 2007, the Transport Commissioner drastically reduced the duration for driving test to 4, 8 and 12 minutes per test in respect of two wheelers, Light Motor Vehicles and Transport vehicles¹⁶ respectively. Audit observed that the reduction of duration of test was, *inter-alia*, to facilitate clearance of backlog in driving licence applications and was a serious compromise on the quality of the test which involved verification of application, ensuring identity of the applicant and watching the competency of the applicant on the test track, which included specified manoeuvres¹⁷. During field inspection in two RTOs¹⁸, Audit found, that on the days of visit¹⁹, the MVIs took 29.06 minutes to test 57 candidates for two wheeler licence which works out to an average of 30 seconds per test for two wheeler licences (**Video 2.1**). Assessing the applicant's competence within 30 seconds raises a doubt on the efficacy of the tests. Thus, reduction in the duration of the test was not a justifiable strategy for clearance of backlogs.
- **Computerised testing tracks:** Audit found further evidence of the poor quality of testing of candidates applying for driving licence. In RTO, Karur, after launch of Computerised Testing Track, the pass percentage of driving licence applicants in the driving test came down drastically from a monthly average of about 95 *per cent* to 64 *per cent* (**Table 2.6**).

Video 2.1: Scan for video showing lack of rigorous testing process



¹⁶ This was again revised (October 2007) to 4, 10 and 15 minutes per test in respect of two wheelers, Light Motor Vehicles and Transport vehicles.

¹⁷ Driving on 'H' and 'S' bend tracks, gradients, observance of signalling, reverse driving, parking on designated place, etc.

¹⁸ RTO, Meenambakkam and RTO, Tambaram where driving tests of 57 candidates were videographed by the Audit Team in the presence of Departmental officers.

¹⁹ 28 March and 7 April 2018.

Table 2.6: Fall in success rate in driving test after computerisation

Month and Year	Number of applicants	Numbers passed	Pass percentage
Before computerisation			
June 2017	540	520	96.30
July 2017	440	410	93.19
August 2017	360	345	95.84
September 2017	300	282	94.00
October 2017	528	500	94.70
November 2017	545	523	96.00
After computerisation			
June 2018	202	123	60.90
July 2018	256	163	63.68
August 2018	247	160	64.78
September 2018	245	161	65.72
October 2018	246	161	65.45
November 2018	237	156	65.83

(Source: Details furnished by Road Safety Commissioner)

- The fall in pass percentage in driving tests in the automated environment, indicated the liberal issuance of driving licence in the manual system, in vogue in all the RTOs across the State. It is indicative of a highly substandard quality of manual testing. More number of Computerised Testing Tracks will ensure that drivers who obtain driving licences are cleared only after stringent quality tests. GoTN replied (December 2018) that Computerised Testing Tracks will be established in all RTOs in due course.

Best practices in driver testing

New Zealand: Driver testing is done in three stages. After clearing a theory test, the Learner Licence is issued. The second stage is restricted licence, which requires passing a 60 minutes practical test, including 45 minutes of drive time. The third stage is full licence, which requires passing a 30 minutes test including 20 minutes of driving.

The United Kingdom: Testing is done in two stages as in India. The theory part is multiple choice questions on Highway Code and vehicle safety. The practical driving test is conducted for 40 minutes.

- **Testing infrastructures:** The prescribed tests under Rule 15(3) of the Central Motor Vehicles Rules, 1989 viz., (i) driving downhill, (ii) driving on a steep upward incline and (iii) taking correct and prompt action on the signals were not carried out in the absence of testing tracks in 100 out of 145 RTOs/UOs.

Thus, despite clear statistics on the role of driver errors in road accidents and a policy directive to introduce a more effective and efficient licensing procedure, the State continued to lack adequate infrastructure to test the competence of candidates seeking driving licence and the rigour in the testing process was diluted to compensate for the low number of MVIs. As a result, drivers were not tested adequately and a widespread ignorance and non-observance of traffic rules turned out to be the root cause of road accidents. Focussing on applicants clearing driving tests, which are correctly conducted will ensure that drivers on the road are competent and fully aware of driving rules both in theory and practice.

In the Exit Conference (December 2018), the Transport Commissioner opined that quality of testing for issue of licences had no relationship with the RTA happening in the State. The reply was not accepted as driver error contributed to 77 per cent of RTAs in the State and adequate testing of driver at the time of issuing licence would definitely have a bearing on the accident data.

2.1.8.2 Lapses in enforcement action

(a) Failure to contain 'hit and run motor accidents'

Section 161 of the MV Act, 1988 defines 'hit and run motor accident' as an accident arising out of the use of motor vehicle or motor vehicles, the identity whereof cannot be ascertained in spite of reasonable efforts for the purpose. The details of hit and run incidents in the State/sampled districts during 2013-18 are given in **Table 2.7**.

Table 2.7: Details of hit and run road accidents and victims during 2013-18

District/city	Total number of accidents	Number of fatalities	Number of injured	Total
(1)	(2)	(3)	(4)	(3) + (4)
State	23,423	8,281	15,986	24,267
Chennai	1,718	286	1,460	1,746
Coimbatore	1,577	527	1,037	1,564
Cuddalore	1,051	292	774	1,066
Pudukottai	522	165	362	527

(Source: Compiled from RADMS)

Tamil Nadu Third Police Commission recommended to the Government to install CCTV cameras in all high risk locations as early as in 2008. Though ADGP/STPC identified high risk locations during 2013-14 for installation of CCTVs, there was no follow up action. The Police Department, however, using private sponsorship and Road Safety Fund, installed CCTVs in 86 locations in the three sampled districts. Audit, however, noticed that CCTVs were not provided in any of the high risk areas/identified black spots in the sampled districts.

CCTVs are the only means of identifying and holding the culprits accountable in hit and run cases. Therefore, it is necessary to install more CCTVs. Thus, despite advancements in technologies, the failure to install this technological tool contributed to continued increase in the number of unresolved 'hit and run motor accident' cases.

GoTN replied (December 2018) that installation of CCTV cameras under various schemes was under progress.

(b) *Non-prosecution of persons caught driving without licence*

The MV Act, 1988, makes it mandatory that no person shall drive a motor vehicle in any public place unless he holds an effective driving licence issued to him authorising to drive the appropriate class of vehicle. Under Section 180 of the MV Act, 1988, driving a motor vehicle without a valid licence is a punishable offence with imprisonment upto three months or with fine, which may extend to ₹ 1,000 or with both.

As per RADMS data, during 2013-18, 2,89,074 vehicle drivers, who were involved in road accidents in the State did not possess valid driving licences. The data on the number of persons committing accidents without driving licence indicated the enormity of the issue.

Audit, however, noticed that Police authorities levied only spot fine on offenders without valid licence. From the instructions given (August 2017) by the Transport Commissioner to prosecute drivers caught without driving license under the provisions of the MV Act, it was evident that there was no system of initiating criminal proceeding to punish the offenders so as to create a moral fear and stop this dangerous practice of driving without valid licence.

Further, Section 180 of the MV Act provides for imprisonment, upto three months, of anyone who causes or permits any person who does not satisfy the eligibility to drive the vehicle. During 2013-18, 869 road accidents were caused by children in the age group of 10-15 years. Further, in Chennai District, the Traffic Police collected (2016-17) only spot fines from all the 674 juvenile offenders driving two/four wheelers and hence failed to prosecute the parents/guardian of the juvenile offender under the MV Act, 1988. In Cuddalore, Coimbatore and Pudukottai districts, no separate data was available in this regard.

Audit observed that the increasing trend in the number of persons caught without driving licence, indicated deficiency in stringent enforcement measures by instituting criminal prosecution. Poor enforcement of law encourages the drivers to violate traffic rules, thus, posing a threat to other road users.

(c) *Laxities in dealing with drunken driving, over speeding, etc.*

Drunken driving: Sections 184 and 185 of the MV Act, 1988 read with Section 21 prescribe suspension of driving licence of offenders in cases involving drunken driving for a period of six months. As per the existing system, the Police Department has to send the identified cases to the Regional Transport Officer (RTO) concerned for suspension of driving licence.

Drunken driving is a rampant offence in the State with 10.35 lakh identified cases during 2014-18²⁰. Audit, however, noticed that only 65,657 (6.2 per cent) of the 10.35 lakh cases were sent to the RTOs concerned for suspension of driving licence. Of this, only 25,133 (38 per cent) driving licences were actually suspended by the RTOs. Details of cases registered, licences suspended or cancelled during the years 2014-18 in the sampled districts are given in **Table 2.8**.

Table 2.8: Details of drunken driving cases

District	Total cases registered by Police	Cases sent to RTO for suspension	Licences suspended by RTO
Chennai	2,35,804	14,142	10,015 (71)
Coimbatore	38,263	8,156	3,683 (45)
Cuddalore	22,794	25	25 (100)
Pudukottai	14,424	281	281 (100)
Total	3,11,825	22,604	14,004 (70)

Figures in brackets indicate the percentage of licenses suspended.

(Source: Details furnished by Police Department)

Over speeding, overloading and mobile phone usage: Section 19 of the MV Act, 1988 read with the recommendations of the Supreme Court Committee on Road Safety provides for suspension of driving licence in the cases of over speeding, overloading and using mobile phone while driving vehicle. Details of road accidents in the State and in the sampled districts during 2013-18 due to over speeding, overloading and use of mobile phone while driving are given in **Table 2.9**.

Table 2.9: Road accidents due to over speeding, overloading and mobile phone usage

District	Total accidents			Fatalities		
	Over-speeding	Over-loading	Use of Mobile phone	Over-speeding	Over-loading	Use of Mobile phone
State	2,51,571	138	374	59,542	43	177
Chennai	10,685	2	22	1,705	0	4
Coimbatore	16,200	7	60	4,186	1	41
Cuddalore	16,411	2	5	2,428	1	0
Pudukottai	2,885	0	16	732	0	6

(Source: Compiled from RADMS)

During 2013-18, Police Department registered 9.22 lakh cases for driving at high speed, 1.82 lakh cases for carrying overload and 10.82 lakh for using mobile phone while driving. During 2013-16, Audit noticed that no action was taken by the Police Department for suspension of driving licence. During 2017 and 2018 (upto March 2018), the Police Department took action, albeit in a very few number of cases as given in **Table 2.10**.

²⁰ Data on drunken driving was maintained only from 2014 based on the instructions issued (2014) by the Supreme Court Committee on Road Safety.

Table 2.10: Suspension of Driving Licences

District	Total cases registered by police	Cases sent to RTO for suspension	Licences suspended by RTO
Chennai	6,96,589	2,986 (0.43)	1,628
Coimbatore	95,643	17,973 (18.79)	9,812
Cuddalore	23,436	1,902 (8.12)	1,902
Pudukottai	40,649	1,593 (3.92)	0
Total	8,56,137	24,454 (2.86)	13,342 (1.56)

Figures in brackets indicate percentage of total cases registered.
(Source: Details furnished by Police Department)

As seen from **Table 2.10**, even the miniscule number of cases referred by Police Department to RTOs was not acted upon in full to suspend the licence, except in Cuddalore, where the RTO suspended licences of all the 1,902 cases referred by the Police Department. This indicated the lack of coordination between Police and Transport Departments.

Based on detailed analysis of all the 269 cases of suspension of driving licences at RTO, Mettupalayam, during 2016-18, it was observed that the suspension was initiated after 21 to 364 days after receipt of proposal from the Police authorities for suspension of licence. As the suspension for a period of three months took effect from the date of proposal, in 235 out of the 269 cases (87 per cent), the suspension was of no effect.

In reply, the Superintendent of Police, Pudukottai and CoP, Coimbatore stated (June 2018) that all cases of offenders were not sent to RTOs due to shortage of Police personnel in the districts and that proposal for suspension of driving licence was sent only in respect of drivers who carry the original licence. The reply was not acceptable as the copy of the driving licences should have been forwarded to the RTO for initiating action against the licence holder. Driver error is one of the main causes of road accidents and poor follow up action by the police authorities will lead to drivers continuing to disregard the law and indulge in negligent driving.

Thus, the system in place to check drunken driving, over speeding, over loading and using mobile phone while driving, which are major causes for accidents, is severely compromised due to inadequate manpower to deal with the magnitude of cases reported as discussed in **Paragraph 2.1.8.4 (a)**.

(d) Vehicles without third party insurance

Section 146 of the MV Act, 1988, provides that no motor vehicle shall be used in a public place unless there exists a policy of insurance to cover third party risks. The Supreme Court Committee on Road Safety directed (December 2016) that the Police authority should check the vehicles to ascertain availability of third party insurance cover and in case the vehicles are not covered by third party insurance, the vehicles should be detained till a valid insurance certificate is produced by the vehicle owner.

Details of vehicles caught by Police without third party insurance, detained, etc., are given in **Table 2.11**.

Table 2.11: Details of vehicles caught without third party insurance

Name of the District	Number of vehicles			Percentage of vehicles insured [(Col.4 x 100)/ Col.2]
	Found without Third Party Insurance	Detained	Insured after detention	
(1)	(2)	(3)	(4)	(5)
State	83,528	21,788 (26 per cent)	21,475	25.71
Chennai	7,451	466	421	5.65
Coimbatore	10,129	1,767	1,761	17.39
Cuddalore	10,848	969	969	8.93
Pudukottai	2,560	0	0	0

(Source: Details furnished by Police Department)

The fact that only in 26 *per cent* of the cases, the vehicles were detained and others were let off with a fine indicated the weakness in enforcement as there was no scope to ensure third party insurance for these vehicles. In reply, the Police Department stated that vehicles were not detained for want of manpower to take custody of vehicles. It further stated that since the roads are narrow in the districts and if the vehicles are detained for production of insurance certificate, this may add to traffic congestion. Audit observed that difficulties in enforcement would not justify non-enforcement as the onus is on Police Department including arranging space to house the detained vehicles.

(e) Helmet rule violations

As per extant orders (February 2007) of Transport Department, wearing helmet is mandatory in the State. Audit, however, noticed that, out of 2,23,466 two wheeler accidents in the State during 2013-18, data on whether the rider was wearing helmet or not was available only in respect of 75,094 accidents. Out of which, in 69,804 accidents, the riders were not wearing helmet (93 *per cent*). **Table 2.12** shows the number of fatalities due to head injury of two wheeler drivers driving without wearing helmets.

Table 2.12: Statement showing fatalities due to head injury of two wheeler drivers not wearing helmets

Particulars	2013-14	2014-15	2015-16	2016-17	2017-18	Total
State	1,291	1,105	1,062	1,130	988	5,576
Chennai	122	64	80	105	76	447
Coimbatore	49	68	65	107	63	352
Cuddalore	18	13	15	11	11	68
Pudukottai	87	26	17	104	59	293
Total	276	171	177	327	209	1,160
(In per cent)	21.38	15.48	16.67	28.94	21.15	20.80

(Source: Compiled from RADMS)

It is seen from **Table 2.12** that during 2013-18, both in the State and the sampled districts, the number of fatalities due to non-wearing of helmets by two wheeler riders kept fluctuating without showing any appreciable improvement. Audit observed that lapses in the system to award severe punishment to repeat offenders (**Paragraph 2.1.7.3 (b)**) and the low amount of spot fine (**Paragraph 2.1.7.3 (c)**) failed to deter the violations.

2.1.8.3 Inadequate manpower in Traffic Police Wing for enforcement activities

(i) Bureau of Police Research and Development (BPRD) norms stipulate (September 2015) the number of traffic police personnel required in cities for enforcing traffic laws based on human and vehicle population (2014). Despite GoTN's assurance (January 2016) to the Supreme Court Committee on Road Safety to implement BPRD norms, no action was taken to sanction additional traffic police (May 2018) in two sampled districts of Chennai and Coimbatore.

As against the required²¹ traffic police personnel²² (as per BPRD norms) of 8,250 and 1,874 in Chennai City and Coimbatore City respectively, the sanctioned strength was 4,174 and 325 and the Person-in-position was 3,358 and 217. The shortfall was 59 and 88 *per cent* respectively.

(ii) The Tamil Nadu Third Police Commission in its Report (2008) recommended that all towns with significant vehicular traffic must have traffic Police Stations and that more number of Home guards and other voluntary organisations were to be engaged to regulate traffic. Despite accepting (November 2008) the Commission's recommendations, GoTN failed to act promptly to bridge the gap in manpower as discussed below:

- In Pudukottai District, the shortfall was 41 *per cent*. The proposal of the Superintendent of Police (May 2018) for additional traffic Police Stations and 16 traffic police personnel in view of increased vehicular traffic was pending (June 2018) with DGP.
- In Cuddalore District, no action was taken on the proposals of the Superintendent of Police (July 2016, February and March 2017) for additional Police Stations in three places²³ and 54 police personnel.
- DGP's proposal (September 2010) seeking sanction for additional expenditure of ₹ 12.55 crore towards extra callout duty for home guards to assist the traffic police in regulating traffic duty at various stations in cities and districts was pending with the Government since September 2010.

To an Audit enquiry on manpower shortage, the ADGP replied (May 2018) that the proposal was pending with the Government.

²¹ Based on vehicle population on December 2017.

²² For Field, Headquarters and Supervisory staff.

²³ Kattumannarkoil, Neyveli and Veppur.

Thus, the reluctance of the Government to adopt BPRD norms despite assurance to the Supreme Court Committee on Road Safety and to implement the accepted recommendation of the Tamil Nadu Third Police Commission resulted in shortage of manpower for traffic rule enforcement.

2.1.8.4 Inadequate Highways patrolling

As per RADMS data, during 2013-18, 2,66,563 of the total of 3,30,505 accidents occurred on National and State Highways (SH). As of March 2018, there were 272 HPTs for patrolling 272 stretches of National (156 teams) and SH (116 teams) in the State. HPT serve as mobile enforcement team. Scrutiny of records relating to functioning of HPTs in Coimbatore, Cuddalore and Pudukottai districts disclosed the following deficiencies.

(a) Shortage of manpower: The crew strength of one batch of each HPT (operating in two batches) should consist of a Sub-Inspector, a Driver and four Police Constables. Audit, however, noticed that in the three sampled districts, as against the required strength of 444, only 159 police personnel were in position. While the overall shortage was 36 per cent, it ranged from 52 per cent in Pudukottai District to 80 per cent in Coimbatore District.

(b) Shortage of fuel: Each HPT was allotted stretches of 20 to 60 kms in State/National Highways and 450 litres of fuel per month per Highway Patrol Vehicle (HPV). Audit noticed that District Police Officers (DPOs)/CoPs issued only 160 litres of fuel per month to each HPT. From the reply it was noticed that HPVs patrolled only 22 to 39 per cent of allotted stretches in the three sampled districts.

(c) Diversion of vehicles: During 2013-18, 14 out of 37 HPVs in the three sampled districts were permanently diverted for other purposes²⁴, effectively reducing the number of vehicles available for patrolling.

(d) Poor condition of HPVs: Out of 272 HPVs purchased during 2005-12, 41 HPVs were condemned (2017) and eight were under condemnation (since May 2017). Audit observed that HPTs continue to use the condemned vehicles as DGP's proposal (2017) for purchase of 41 new vehicles was pending with GoTN (September 2018).

(e) Monitoring: HPVs were fitted with GPS gadgets for round the clock tracking of their movement by ADGP/STPC at State level and by DPOs/CoP at district level. However, monitoring was not done in STPC due to shortage of manpower and the equipment was lying idle (September 2018). In the sampled districts, the GPS monitoring system was not available. Thus, the objective of GPS monitoring was not achieved. Audit checked the live data of the movement of HPVs on 14 May 2018 and found that, out of the 261 vehicles fitted with GPS gadget, 207 vehicles (79 per cent) had switched off the GPS mode, making monitoring impossible.

²⁴ Details of diversion not available in records produced to Audit.

Thus, the functioning of HPTs in the sampled districts was impaired due to shortage of manpower, vehicles, fuel, frequent diversion of vehicles and switching off the GPS mode.

2.1.8.5 Non-implementation of Integrated Traffic Management System in Chennai City

With a view to upgrade traffic management in Chennai City, GoTN sanctioned (February 2012) ₹ 150 crore for setting up an Integrated Traffic Management System (ITMS). Under ITMS, signalling in 100 traffic intersections in the City was to be networked for real-time monitoring of traffic flow, checking traffic violations, creating green corridor for emergency services and VIPs, etc.

The Commissioner of Police, Chennai awarded (July 2012) the work of designing, supplying, installing, commissioning and five years maintenance of ITMS to a contractor for ₹ 117 crore. The project was to be completed by January 2013. The project, however, was not completed even as of September 2018.

Scrutiny of records in the office of the CoP, Chennai disclosed that the Additional Commissioner of Police Traffic (ACoP Traffic) issued (March 2013) a notice to the contractor, proposing termination of the contract for his failure to complete the project in January 2013, as per schedule. Following this, a Committee constituted by the CoP in April 2013 observed (October 2013) that the contractor did not have sufficient expertise, experience and adequate financial resources to execute ITMS and endorsed the termination notice of the contract. The aggrieved contractor initiated arbitration proceedings (December 2013) seeking ₹ 72 crore on account of costs incurred for material procured, services rendered, loss of profit, compensation for loss of goodwill, interest, etc., which was pending as of September 2018.

Audit observed that non-ensuring contractor's capacity to carry out the project together with the hasty decision to terminate the contract without probing the appropriate course of action through professional help resulted in ITMS, a crucial technological intervention to improve traffic management in the City, coming to a standstill and GoTN ended up with a liability of ₹ 72 crore (pending payment for work done under Phase I).

GoTN replied (December 2018) that the issue was under Arbitration and action would be taken based on decision reached.

2.1.9 Road Engineering

Engineering is one of the four E's of road safety, which includes Education, Enforcement and Emergency Care also. According to Indian Road Congress (IRC), roads and its surroundings are exclusively responsible for 2.5 per cent of the accidents and roads and its surroundings, together with errors of road users and vehicles contribute to a total of 28 per cent (**Exhibit 2.3**) of the accidents. The role played by the roads in causing accidents is quite big and

that warrants proper addressing of the issues connected with road engineering. Appreciating the importance of roads in road safety measures, the Tamil Nadu Road Safety Policy, 2007, suggested to (i) Introduce latest planning, design and construction techniques, (ii) Carry out road safety audit (RSA) and create institutional arrangements to sustain this activity, (iii) Continuously identify accident prone areas (“black spots”) and (iv) Remove encroachments and obstructions affecting the full use of roads. Results of Audit scrutiny of the activities envisaged in the policy are discussed in the succeeding paragraphs.

2.1.9.1 Non-adherence to road safety measures in road engineering

The IRC provides for road safety measures at intersections, road markings, lane markings in carriageway, pedestrian facilities, etc. In the joint physical verification carried out (May and June 2018) with Highways officials in two roads in Chennai City, viz., (i) Grand Southern Trunk Road (SHU 88) and (ii) Grand Northern Trunk Road (SHU 87) and in seven²⁵ bus route roads with



officials of Chennai Corporation (June 2018), Audit noticed several instances of non-adherence to IRC provisions such as lack of (i) retro reflective Object Hazard Markers (OHMs), (ii) Chevron sign board, (iii) granular/paved shoulders of adequate size, (iv) traffic lane marking, (v) speed breakers to give visual, audible and tactile stimuli, etc. Unregulated openings in median was a common sight (**Exhibit 2.6**). The deficiencies noticed are given in detail in **Appendix 2.3**. Audit observed that none of the sampled roads met the standards stipulated by IRC.

GoTN stated (December 2018) that the defects pointed out by Audit were rectified immediately. Audit could not verify the reply.

2.1.9.2 Deficiencies in road safety audit

Road Safety Audit is a formal procedure for assessing accident potential of roads under construction as well as existing roads. IRC stipulates RSA at planning, construction and completion stages of new highways. In respect of existing roads, the audit was to be conducted every year by specialists not related to construction/maintenance of the road. RSA envisages study of accident potential due to change in road use, encroachment, design inconsistency, ageing infrastructure and inadequate maintenance of road and

²⁵ Alandur Road, East Ramanathan Salai, Race Course Road, Sir Theyagaraya Road, Usman Road, Uthamar Gandhi Salai and Wallajah Road.

traffic control devices. Tamil Nadu Road Safety Policy also envisages institutional arrangement for conducting RSA.

Audit noticed that:

- None of the four sampled Highways Divisions carried out RSA for four years, during 2013-17. During 2017-18, based on an instruction from the Chief Engineer, Highways Department, all sampled Divisions carried out RSAs. Highways Divisions of Coimbatore, Cuddalore and Pudukottai reported (between October 2017 and March 2018) completion of RSA of all SH and Major District Roads. In Chennai, RSAs were completed only in 12 out of the 16 SH. The Other District Roads were not audited in Coimbatore and Pudukottai districts.
- RSAs in the sampled districts carried out during 2017-18 did not meet the main stipulation of IRC that the audit should be conducted by persons who are not related to the roads. The RSAs were, however, conducted by the same set of engineers who were in charge of maintenance of these roads. Thus, an independent assessment of the roads was not carried out.
- RSAs were conducted only on selected vulnerable stretches of the roads, not on the full length of the road as contemplated, as given in **Table 2.13**.

Table 2.13: Position of conducting RSA on all reaches of roads

District	Total reaches where RSA was to be conducted			Number of reaches where RSA was not conducted		
	SH	MDR	ODR	SH	MDR	ODR
Chennai	328	28	44	320 (98)	21 (75)	39 (88)
Coimbatore	574	233	10	462 (80)	167 (72)	8 (80)
Cuddalore	576	96	209	504 (88)	69 (72)	150 (72)
Pudukottai	556	206	18	523 (94)	204 (99)	18 (100)
Total	2,034	563	281	1,809	461	215

SH: State Highways; MDR: Major District Roads; ODR: Other District Roads

Figures in brackets indicate percentage

(Source: Records of Highways Divisions)

- Joint physical verification (May to August 2018) of 2,485 reaches left out of RSA disclosed deficiencies in road conditions. The roads did not have road markings, sign boards, delineators and hazard markers on culverts, bridges, temples, etc., speed breakers with reflectors in branch roads meeting highways, adequate berms and medians as per IRC specifications (**Exhibit 2.7**).

Exhibit 2.7: Illustrative image depicting constituents of road furniture



- Though the RSA reports pointed out (between May and August 2017) the lack of several basic road safety measures²⁶ in Cuddalore District, the suggested rectifications were not carried out (July 2018). During a joint physical verification (June 2018) of 23 roads, Audit noticed that important road safety measures *viz.*, road markings, adequate height of median, reflectors on culverts and medians, berms, delineators, etc., were lacking.
- The Highways Department lacked adequate capacity building to carryout RSA as only 57 out of 488 engineers were trained during 2013-18 on conducting RSA.

While the practice of initiating RSA is a welcome step, it is necessary to ensure that all stretches of Highways are audited in line with the IRC specifications and the shortcomings corrected. Failure to do so will render the very purpose of RSAs futile.

GoTN replied (December 2018) that RSAs of all roads except ODRs were carried out during 2017-18 and that RSA of ODRs would be completed soon. The reply was not tenable as only selected reaches of the roads were subjected to RSA.

2.1.9.3 Deficiencies in correcting black spots

The Supreme Court Committee on Road Safety instructed (2015) to submit a time bound programme to rectify black spots and report the progress of work from time to time. The Chief Engineer (Highways) Construction and Maintenance Division instructed (November 2016) all Divisional Engineers to inspect the identified black spots (**Table 2.14**) and suggest suitable short term engineering measures for execution/rectification and recommend long term measures to the State Road Safety Council for approval. The details of black

²⁶ Road studs for edge lines, road markings, hazard markings, caution boards for curve and narrow bridges ahead/branch roads, extra width of pavement at horizontal curves, chevron boards, speed breakers with reflectors, speed limit sign boards and various sign boards like 'U' turn board, school zone board, etc.

spots identified in the sampled districts and rectified were as given in **Table 2.14**.

Table 2.14: Number of black spots identified and rectified by Highways Department

Name of the Highways division	Number of black spots identified				Number of black spots rectified				Number of black spots to be rectified			
	2013-15 ^A	2014-15 ^B	2016 ^C	Total	2013-15	2014-15	2016	Total	2013-15	2014-15	2016	Total
Chennai City	3	-	-	3	-	-	-	-	3	-	-	3
Coimbatore	5	1	5	11	4	1	-	5	1	-	5	6
Cuddalore	-	9	-	9	-	2	-	2	-	7	-	7
Pudukottai	3	4	2	9	1	1	-	2	2	3	2	7
Total	11	14	7	32	5	4	-	9	6	10	7	23

A Based on more than five fatal road accidents at one road location.

B Based on more than three fatal road accidents at one road location.

C Based on more than two fatal road accidents within a stretch of 500m.

(Source: Details furnished by Highways Divisions)

Audit scrutiny of records and joint physical verification conducted (July/August 2018) by Audit along with officers of Highways Department disclosed deficiencies in the rectification as given in **Table 2.15**.

Table 2.15: Deficiencies noticed during joint physical verification of rectified black spots

District	Number of rectified black spots	Number of black spots lacking required improvements			
		Hazard Marking	Speed breaker	Caution sign board	Removal of Obstruction
Coimbatore	5	3	2	8	4
Cuddalore	2	0	1	4	1
Pudukottai	2	1	6	7	3
Total	9	4	9	19	8

(Source: Joint physical verification)

In addition to the black spots identified by Highways Department, during 2013-14, the Police Department identified 765 black spots in the State which included (i) 33 black spots in Cuddalore District, (ii) 21 in Pudukottai District, and (iii) 21 in Coimbatore District. In Chennai District, no black spots were identified. The Superintendent of Police, Cuddalore, had identified four black spots in Cuddalore-Virudhachalam-Salem Road (NH-532). In these stretches, the Police Department identified speed breakers and erection of caution board as the required Road Safety measures. Audit conducted (July 2018) joint physical verification of these four black spots along with Highways officials and found following shortcomings with reference to IRC specifications:

- Inadequate provision of berms to match with the traffic volume of more than 10,000 Passenger Car Units,
- Encroachment of Right of Way by erecting party flag, basement beam, tea shops and hotel menu board were resultant hindrance to vehicle users,

- Footpath with pedestrian guard rails, bus lane, zebra crossing for pedestrian, pavement marking at bus stop were not provided,
- Electric power lines not shifted from edge of roads and
- Non-provision of Channelisation of island to regulate the vehicles approaching the major road from minor road (T Junction), speed breaker at uncontrolled junctions and where vehicles travel at high speeds and Reflectors and Object Hazard Markers in the minor bridge.

GoTN replied (December 2018) that rectification of black spots was in progress.

2.1.9.4 Road encroachments and obstructions

Encroachments obstructing road margins are common occurrences. A joint physical verification (July/August 2018) by Audit of selected roads in the sampled districts indicated 378 encroachments on 505 km long stretches of roads. The details are given in **Table 2.16**.

Table 2.16: Encroachment and obstructions on roads noticed during joint physical verification

District	Number of Highway roads	Length (in km)	Length of roads jointly inspected (in km)	Number of encroachments noticed
Chennai	9	80	80	50
Cuddalore	23	184	174	134
Coimbatore	10	163	94	134
Pudukottai	6	216	157	60
Total	48	643	505	378

(Source: Joint physical verification)

The State Road Safety Council and the Police Department did not frame any action plan to identify encroachments and obstruction in roads *viz.*, road-side parking, encroachment of shops into roads/foot path, hazards like trees, electricity boxes, lamp posts, etc. As per Urban Street Vendor Act, 2014, respective local body should constitute a Town Vending Committee (TVC), who has to identify and issue a certificate of vending to eligible street vendors. Other vendors were to be evicted. Audit observed in the sampled districts, that though TVC was constituted and street vendors were issued bio-metric identification, certificate of vending was not issued to any street vendor in the sampled districts. However, no action was taken by the local bodies to evict ineligible vendors and to identify the place to shift eligible vendors.

Non-removal of encroachments by local authorities posed serious threat to road safety for both pedestrians and vehicle users as it reduced the road width.

2.1.10 Emergency Medical Response

Emergency Medical Response (EMR) is an integral part of the road safety framework. In order to strengthen EMR, the Tamil Nadu Road Safety Policy, 2007, envisages to (i) improve the capacity of Government hospitals to deal with EMR, (ii) involve private practitioners and hospitals in EMR and (iii) upgrade and disseminate awareness about the system of accident care.

Moreover, the Sustainable Development Goals (SDG) of the United Nations also targeted to halve the number of global deaths and injuries from RTA by 2020.

The State has made rapid strides in expansion in ambulance services for RTA victims. Audit, however, found shortcomings in several other fronts of EMR as discussed in the succeeding paragraphs.

2.1.10.1 Pre-Hospital Care

(a) Emergency Ambulance Services

GoTN has established 24x7 ambulance services with a fleet of 932 ambulances (as of June 2018). The ambulance service functions free of charge with a toll free telephone number (108 Ambulance Service). As per the data furnished by the Project Director, Tamil Nadu Health System Project, during 2013-18 in the sampled districts, the 108 ambulance services transported 1.03 lakh RTA victims. At State level, RTA victims constituted 21 per cent of the total patients transported during this period. These ambulances provide pre-hospital care at the scene of the accident and en-route to the appropriate hospital.

Good Practices

Scrutiny of data furnished by Commissioner of Trauma Care revealed that during 2013-18, an overwhelming 80 per cent of road accident victims were admitted within the 'Golden Hour' in the sampled districts and 79 per cent at the State level.

'Golden Hour' is the first one hour after the accident. RTA victims treated within the 'Golden Hour' had better chances of survival. **Table 2.17** gives district-wise details of cases admitted beyond the Golden Hour.

Table 2.17: RTA cases admitted after the Golden Hour

District	Total number of RTA cases during 2013-18	Number of cases admitted beyond golden hour	Percentage of cases admitted beyond golden hour
Chennai	28,805	3,042	10.56
Coimbatore	31,790	4,835	15.21
Cuddalore	26,613	8,560	32.16
Pudukottai	15,642	3,900	24.93
Total	1,02,850	20,337	19.77

(Source: Details received from Tamil Nadu Health System Project)

The data in the **Table 2.17** revealed the urban-rural divide; the predominantly urban districts of Chennai and Coimbatore performing far better than the rural districts of Cuddalore and Pudukottai. The Project Director, Tamil Nadu Health System Project stated that (i) traffic congestion, (ii) non-availability of

hospital in the close proximity and (iii) nearest ambulance being busy were the reasons for the delayed transporting of RTA victims.

Analysis of ambulance performance during March 2018 disclosed that it took less than 10 minutes to assign an ambulance in 91.17 *per cent* of the cases in Coimbatore District. Whereas, it took less than 10 minutes to assign an ambulance only in 84.45 to 85.83 *per cent* of the cases in the other three districts. Audit observed that the time taken to assign an ambulance was a crucial factor requiring better management of the fleet. GoTN replied (December 2018) that 76 new institutions located in close proximity to highways were identified for strengthening emergency care network and that action was underway to bring out a standard for Ambulance Services.

(b) Emergency Accident Relief Centres

In line with the Tamil Nadu Road Safety Policy, 2007, which envisaged involvement of private practitioners and hospitals in Emergency Medical Response (EMR), during 2001-06, GoTN established 100 Emergency Accident Relief Centres (EARC) along Highways across the State in partnership with private hospitals. EARCs are facilities on highways manned by para-medical staff who provide first aid to victims before their ultimate transfer to nearest Trauma Care Centre (TCC). EARCs were established to help stabilise the RTA victims before transporting them to appropriate hospitals. Sixty six of the EARCs were fully sponsored by private hospitals and 34 others were partially funded by GoTN. Audit noticed that this system of pre-hospital care was not functioning as envisaged as many of the EARCs stopped functioning over the years. As of August 2018, only 18 EARCs²⁷ were functioning, pointing to slackness in roping in private hospitals for EMR.

In terms of administrative mechanism, Audit noticed that while ambulance services and Trauma Care Centres were coordinated by the Commissioner of Trauma Care, the EARC came under Road Safety Commissioner. Bringing EARCs within the ambit of Commissioner of Trauma Care would facilitate more effective functioning.

GoTN replied (December 2018) that with the introduction of 108 Ambulance Services the EARC activities reduced gradually. The reply, however, did not indicate the Government's policy on running EARC after introduction of 108 Ambulance Service.

2.1.10.2 Trauma Care Centre

During the Eleventh (2007-12) and Twelfth (2012-17) Five Year Plan period, GoI provided funds for establishment of TCCs in 14 Government Hospitals²⁸ located along NH. TCCs are specialised facilities functioning 24 hours to treat RTA victims. As per the policy of GoTN, there should be one TCC for every 50 to 60 km stretch on NH and SH. GoTN also prescribed (October 2014) the scale for equipping the TCCs. The number of TCCs required based on the scale of one TCC per 50-60 km needs to be worked out through proper survey

²⁷ Fully sponsored: 12 and partially sponsored: 6.

²⁸ Nine hospitals in Eleventh Five Year Plan and five hospitals in Twelfth Five Year Plan.

as the highways intersect each other requiring strategic location of TCCs. However, no such survey was done and as of March 2018 the State was having only 59 TCCs for a total road length of 17,154 km of NHs and SHs.

Audit noticed that the 59 TCCs in the State included 45²⁹ started in 2014, which were yet to be fully equipped. Audit scrutiny of 10 TCCs in the sampled districts disclosed that in addition to the shortage of TCCs, the available TCCs lacked adequate manpower and equipment to render effective service as discussed in the succeeding paragraphs.

(a) Shortage of equipment

TCCs were to be equipped with Operation Theatre, Blood Bank etc., and 39 items of medical equipment including major equipment viz., C-Arm Image Intensifier, CT Scan, Electrocardiogram (ECG), Ultrasonography, Ventilator, etc. However, none of the test-checked TCCs were fully equipped. Four TCCs³⁰ did not have separate emergency operation theatre. In terms of item-wise number of equipment, the shortage ranged from 51 to 100 *per cent* (**Appendix 2.4**). Audit noticed the Commissioner of Trauma Care did not initiate any action to equip the TCCs as per the prescribed standards. No reason was furnished to Audit in this regard.

(b) Shortage of staff

Each TCC was to be provided with 61 medical and paramedical personnel including 13 doctors. Audit noticed that the shortage of medical and paramedical personnel in the 10 test-checked TCCs ranged from 59 to 100 *per cent*. TCC-wise shortage is given in **Appendix 2.5**.

Audit noticed that while establishing 45 new TCCs in October 2014, GoTN directed to redeploy existing posts. No new posts were sanctioned. Audit observed that neither GoTN studied the feasibility of redeploying an estimated 3,000 medical and paramedical personnel nor the heads of sampled hospitals with TCC, initiated any action to redeploy the personnel.

(c) Deficiency in service delivery

Audit scrutiny of records in the sampled TCCs revealed that during 2013-18, 5,988 RTA victims died in TCCs. Further, 12,276 out of the 1,57,377 RTA victims brought to the TCC during this period were referred to other hospitals due to lack of facilities.

- In 7 of the 10 sampled TCCs, RTA victims were only provided first aid treatment and referred to other hospitals for further treatment due to want of basic infrastructure like fully equipped operation theatre, central oxygen supply, uninterrupted power supply in Operation Theatres, etc.

²⁹ Excluding 14 TCCs established under Eleventh and Twelfth Five Year Plans.

³⁰ GH, Aranthangi; Kilpauk Medical College Hospital, Chennai; GH, Cuddalore and GH, Virudhachalam.

- In GH, Pollachi, TCC functioned for only one shift (from 7.30 AM to 1.30 PM) due to lack of human resources. RTA cases received after 1.30 PM were admitted after initial stabilisation and taken to Trauma Operation Theatre on the next day.

(d) Functioning of GoI funded TCC

Under Eleventh Five Year Plan, GoI sanctioned (January 2008) financial assistance of ₹ 80 lakh for construction of a new building and ₹ 5 crore for purchase of equipment for establishing a TCC in Kilpauk Medical College Hospital (KMCH), Chennai. The Public Works Department handed over the completed TCC building to the Hospital in May 2011. As of September 2018, two and half years after its release (February 2016), the GoI assistance of ₹ 5 crore for equipment was yet to be utilised and procurement of equipment was at tender stage due to non-finalisation of specifications by KMCH. The fund provided for the purchase of equipment was lying with Tamil Nadu Medical Services Corporation since February 2016. The slow pace of work indicated the lack of adequate importance attached by GoTN and KMCH. Audit noticed shortage of equipment as indicated in **Appendix 2.4**. Although being a major TCC established under GoI scheme, KMCH referred 348 out of 5,046 RTA victims during 2013-18, showing the sub-optimal functioning of the Centre.

2.1.11 Funding Road Safety Measures

GoTN provides funds towards minor works, procurements etc., for improving road safety, through budget, to the ‘Road Safety Fund³¹’ managed by an Inter Departmental Committee (IDC) headed by the Secretary to Government, Home Department. The Road Safety Commissioner is the Member Secretary of IDC. GoTN also provides funds to Highways Department towards capital works for improving road safety³² (**Table 2.18**).

Table 2.18: Expenditure on road safety activities

Year	Expenditure		Total
	Road Safety Fund under Commissioner of Road Safety	Capital expenditure by Highways Department	
2013-14	7.50	0	7.50
2014-15	34.59	20.51	55.10
2015-16	10.04	99.58	109.62
2016-17	61.55	183.26	244.81
2017-18	51.69	154.21	205.90
Total	165.37	457.56	622.93

Does not include establishment expenditure on the associated agencies

(Source: Appropriation Accounts of respective years and information provided by auditees)

³¹ 2041-00-800-AG - Implementation of Road Safety Programmes.

³² 5054-80-800-KO - Special Project for attending Road Safety.

Management of the funds provided for road safety activities are discussed in the succeeding paragraphs.

2.1.11.1 Constitution of Road Safety Fund

In order to streamline the system of provision of funds for road safety measures, in July 2000, GoTN decided to constitute a 'Road Safety Fund' out of the receipts of Compounding Fees and Spot Fines collected by Transport and Police Departments respectively. Audit, however, noticed that no such fund was constituted separately and the annual budget provision for road safety measures was treated as the provision for Road Safety Fund. This Fund, being a budget provision, lapses at the close of the financial year and therefore, technically it was not a 'Fund' at all. Details of Compounding Fees and Spot Fines collected during 2013-18 and funds provided in the budget for Road Safety Fund are given in **Table 2.19**.

Table 2.19: Budget provision for Road Safety Fund

(₹ in crore)

Year	Compounding Fees	Spot fines	Total	Budget provision	Re-appropriation	Expenditure
2013-14	63.69	81.39	145.08	65.00	(-) 54.58	7.50
2014-15	78.12	91.02	169.14	65.00	(-) 30.40	34.59
2015-16	76.14	104.64	180.78	65.00	(-) 52.39	10.04
2016-17	81.85	101.02	182.87	65.00	0	61.55
2017-18	79.21	189.11	268.32	65.00	(-) 12.88	51.69
Total	379.01	567.18	946.19	325.00	(-) 150.25	165.37

(Source: Details furnished by Road Safety Commissioner)

As could be seen from **Table 2.19**, against ₹ 946.19 crore collected as Compounding Fees and Spot Fines during 2013-18, only ₹ 325 crore (34 *per cent*) was provided for Road Safety Fund and only ₹ 165.37 crore (17 *per cent*) was actually utilised as commented in **Paragraph 2.1.11.2**.

Although GoTN ordered in July 2000 to constitute Road Safety Fund out of the receipts of Compounding Fees and Spot Fines, percentage of collection to be transferred to the Fund was not specified by GoTN. During 2013-18, every year a lumpsum provision of ₹ 65 crore was made in the budget for Road Safety Fund. After the intervention (November 2016) of the Supreme Court Committee on Road safety, GoTN finally constituted (March 2018) a non-lapsable Road Safety Fund with a contribution of 50 *per cent* of the Compounding Fees and Spot Fines collected every year.

While the delay in deciding the percentage of receipts to be credited to the Fund resulted in short provision of ₹ 148.10 crore³³, the delay in constituting the Fund outside the Consolidated Fund of the State resulted in surrender of unutilised provision of ₹ 150.25 crore during 2013-18.

³³ Calculated with reference to 50 *per cent* of the total receipt and actual provision during 2013-18 i.e. (₹ 946.19 crore ÷ 2) - ₹ 325 crore.

2.1.11.2 Deficiencies in utilisation of Road Safety Fund

The Tamil Nadu Road Safety Fund Rules, 2000, framed by GoTN to regulate utilisation of Road Safety Fund envisages an Inter Departmental Committee (IDC) under the Chairmanship of the Secretary to Government, Home Department to sanction funds for road safety measures. The Departments concerned send requests for financial assistance for road safety measures through the District Collector who is the Chairman of District RSC. Funds to execute the proposals approved by the IDC are released by the Road Safety Commissioner to the Department / District. Details of funds provided in the budget, approved for projects by IDC and expenditure incurred during 2013-18 are given in **Table 2.20**.

Table 2.20: Utilisation of Road Safety Fund

(₹ in crore)

Year	Budget provision	Requisition of funds from line departments	Approved by the IDC	Expenditure incurred
2013-14	65.00	117.19	14.17	7.50
2014-15	65.00	87.24	61.90	34.59
2015-16	65.00	173.77	13.33	10.04
2016-17	65.00	102.58	65.45	61.55
2017-18	65.00	314.25	65.12	51.69
Total	325.00	795.03	219.97	165.37

(Source: Details furnished by Road Safety Commissioner)

The inadequate provision, non-utilisation and diversion of funds are discussed in the succeeding paragraphs.

(a) *Inadequate provision of funds*

During the year 2013-14, IDC restricted sanction of works under Road Safety Fund so as to utilise ₹ 54.58 crore from the Fund for the proposed procurement and free supply of GPS enabled digital fare meters for auto rickshaws. Audit observed that the decision (August 2013) of GoTN to utilise ₹ 54.58 crore for digital fare meters was irregular as this proposed expenditure was in no way connected with road safety as it is not part of items eligible for assistance under the fund. The IDC continued to restrict allotment of funds for road safety works during 2014-15 and 2015-16 with the view to fund procurement of GPS enabled digital fare meters for auto rickshaws. The procurement, however, was never made, and the moneys earmarked thereof were not utilised for road safety measures, leading to surrender at the year end. It was also noticed that IDC sanctioned ₹ 31.96 crore out of ₹ 61.90 crore for 2014-15 only in February 2015 leading to under-utilisation. Similarly, during 2016-17 and 2017-18 also funds were released in March 2017 and February 2018 respectively leading to under-utilisation and surrender (**Table 2.20**).

Thus, short provision of funds in the budget and the decision of IDC to restrict funds for road safety measures to fund procurement of GPS enabled digital

fare meters using Road Safety Fund and release of funds at the fag end of the years had resulted in acute shortage of funds for road safety measures during 2013-18. As seen from **Table 2.20**, IDC sanctioned only 27.67 *per cent* of the funds requisitioned by the line departments for road safety measures during 2013-18.

(b) Funds kept unutilised

Audit also noticed that even the funds approved by IDC from the Road Safety Fund were not utilised promptly. Based on the proposal of Commissioner of Trauma Care, the Road Safety Commissioner released (August 2017) ₹ 15.50 crore for procurement of five mobile trauma care vehicles and essential equipment for trauma care centre in four hospitals. The amount released in August 2017 was lying idle (September 2018) with Tamil Nadu Medical Services Corporation, which was to procure the trauma care vehicles, as the specifications for the trauma care vehicles were not furnished by Commissioner of Trauma Care.

(c) Diversion of funds

(i) During the years 2016-17 and 2017-18, the IDC sanctioned ₹ 5.63 crore for software development and integration of existing software and hardware infrastructure of the modern integrated Check Post at Pethikuppam in Tiruvallur District. This Check Post was primarily connected with Commercial Taxes Department and hence Audit observed that utilising Road Safety Fund therefor was irregular.

(ii) Under Tamil Nadu Road Safety Fund Rules, 2000, procurement of patrol vehicles and other vehicles specially designed for Road Safety Work was allowed. Based on a proposal by the CoP, Chennai, the IDC sanctioned (September 2014) procurement of 135 Maruti Gypsy patrol vehicles and 466 patrol two wheelers for Police Department at a total cost of ₹ 11.10 crore. The fund was released by the Road Safety Commissioner in September 2014. The CoP, Chennai procured (April-July 2015) 135 Maruti Gypsy vehicles and 466 two wheelers at a total cost of ₹ 10.75 crore. Audit observed that Police Department deployed all these 135 Maruti Gypsy Vehicles and 466 two wheelers exclusively for Law and Order purpose, which was not directly related with road safety. Thus, ₹ 11.10 crore from Road Safety Fund was diverted for works not directly related to road safety.

2.1.11.3 Capital Expenditure by Highways Department

Till 2012-13, Road Safety Commissioner was releasing funds from Road Safety Fund to Highways Department for road engineering related measures. In 2014, the Chief Engineer, Highways Department, prepared a comprehensive proposal to correct the black spots in roads at an estimated cost of ₹ 1,130 crore. GoTN, while moving the budget for Highways Department for the year 2014-15, proposed to execute the works in a phased manner with an outlay of ₹ 900 crore during 2014-16.

Details of funds proposed, provided and utilised under road safety budget of Highways Department and CRIDP were as given in **Table 2.21**.

Table 2.21: Capital expenditure on Road Safety

(₹ in crore)

Year	Funds proposed		Funds provided in Budget		Funds utilised	
	Road Safety	CRIDP	Road Safety	CRIDP	Road Safety	CRIDP
2014-15	150.00	250.00	100.00	0.00	20.51	0.00
2015-16	150.00	350.00	100.00	0.00	99.58	0.00
2016-17	0.00	0.00	100.00	159.75	130.90	52.36
2017-18	0.00	0.00	139.96	156.51	102.86	51.35
Total	900.00		756.22		457.56	

(Source: Policy Note, Budget and Finance Accounts)

Against ₹ 900 crore proposed to be utilised during 2014-16 and ₹ 756.22 crore actually provided in the budget during 2014-18, only ₹ 457.56 crore was utilised. Non-provision of sufficient funds and deficiencies discussed in **Paragraphs 2.1.11.1** and **2.1.11.2** in carrying out works towards road safety by Highways Department contributed to non-completion of the work of black spot improvement as contemplated by GoTN.

GoTN replied (December 2018) that the provision and utilisation of funds under Road Safety Fund and CRIDP were higher than the figures given in **Table 2.21**. Audit rechecked the figures with the Finance Accounts of the State and the data furnished by Departmental officers and found that the figures given in the Government's reply did not represent the actual expenditure.

2.1.11.4 System to defray road safety expenditure

In 2009, GoTN amended Tamil Nadu Motor Vehicles Taxation Act, 1974, and introduced Section 3-B to collect an additional tax called "Road Safety Tax" in respect of new registration of motor vehicles "for the purpose of implementation of various road safety measures".

During 2013-18, GoTN mobilised ₹ 423.22 crore through this new tax. Audit, however, observed that despite introducing a new tax for implementation of various road safety measures, GoTN did not consider the revenue raised through this tax while providing funds in the budget for road safety.

Thus, the intention of the Legislature to augment the expenditure on road safety measures by mobilising additional funds through introduction of a new tax was not achieved.

2.1.12 Monitoring

2.1.12.1 State Road Safety Council

State Road Safety Council (SRSC), the apex advisory body on road safety headed by the Minister of Transport was to meet once in three months.

Against the required 43 meetings to be held since its inception in July 2007 to March 2018, the Council met only on 10 occasions. The fallout of the infrequent convening of the SRSC meetings was that many of its recommendations were not followed up.

Instances of non-implementation of SRSC recommendations are discussed in **Table 2.22**.

Table 2.22: Action taken on SRSC recommendation

Sl. No.	Recommendations of Road Safety Council	Action taken
1	Issue of licences: Devise a procedure for sample check of driving licences by a Committee which shall include a police officer as a member (February 2008).	No record of action taken. Reasons called for and reply is awaited (September 2018).
2	Cost of replacement: Explore the possibility of recovering the cost of replacement of public property from vehicle drivers who cause damage to them (February 2008).	No record of action taken. Reasons called for and reply is awaited (September 2018).
3	Awareness in advertisement: Car manufactures and other sponsors shall incorporate slogans on road safety in their advertisements (January 2015).	No record of action taken. Reasons called for and reply is awaited (September 2018).
4	Training centres: Designate all Police Stations and RTOs as Training Centres for creating awareness among two wheeler riders caught without helmet (June 2017).	Though Road Safety Commissioner designated (June 2017) all RTOs/UOs in the State as Traffic Training Centres, no such action was taken by the Police Department. Reasons called for and reply is awaited (September 2018).
5	Technology: Experiment new technological solutions for road safety. Measures taken by M/s KELTRON in Kerala may be tried on pilot basis (June 2017).	No record of action taken. Reasons called for and reply is awaited (September 2018).

(Source: Extracted details from Minutes of DRSC meetings)

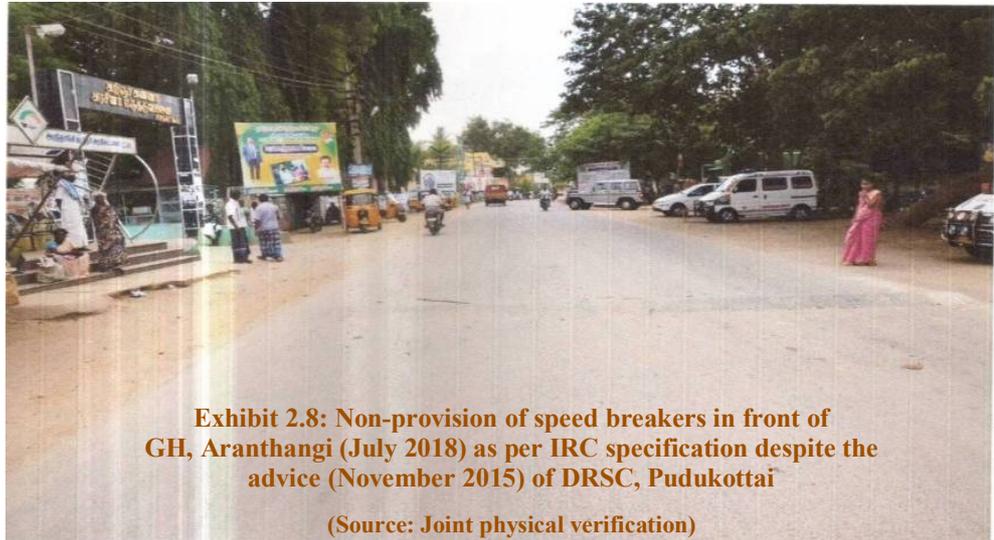
Audit observed that in the absence of an action plan for implementing the decisions taken by the SRSC, Road Safety Commissioner neither monitored nor followed up on the implementation of the recommendations by departments concerned. Thus, the very objective of formation of the SRSC viz., to bring in effective coordination among the departments involved in road safety and to monitor the activities undertaken was not achieved.

2.1.12.2 District Road Safety Committee

The District Road Safety Committee³⁴ (DRSC) should meet once in a month and review and analyse traffic accident statistics, consider various measures needed to promote road safety and review the action taken by the departments. During January 2014 to March 2018, against 51 meetings to be held, only two meetings were held in Chennai, 16 in Coimbatore, 28 in Cuddalore and 37 in Pudukottai. Non-convening of envisaged number of meetings resulted in laxity in monitoring.

³⁴ Headed by the respective District Collectors (except in Chennai where it is headed by the Commissioner of Police).

Though District Collectors had time and again reviewed the status of implementation of DRSC recommendations, the line departments were not prompt in initiating action. Non-convening of regular meetings and lack of seriousness attached by field officers were the reasons for failures in taking remedial action. Illustrative cases of inaction (**Exhibit 2.8**) on the part of field officers are discussed in **Appendix 2.6**.



2.1.13 Conclusion

Road safety issues in Tamil Nadu need to be addressed by a comprehensive plan, supported by detailed micro plans of the connected departments with strategies and milestones to bring down the incidence of road accidents and fatalities. Rash and negligent driving contributing to 77 per cent of road accidents, indicated drivers were not tested adequately, which in turn contributed to widespread ignorance and non-observance of traffic rules. Lack of adequate infrastructure and manpower compromised testing of candidates' driving skills for issue of driving licence. Road Engineering must focus on rectification of black spots and instituting the required road furniture in line with IRC norms. The enforcement action would be more effective with implementation of stringent penal action like suspension of licences and steeper fines to deter violations of traffic laws. Awareness of measures to promote road safety must be widespread in rural and urban areas and be targeted at the vulnerable section of road users i.e., the youth. Emergency Trauma Care Centres need to be strengthened with personnel and equipment to cater to the affected victims of road accidents. Reduction of road accidents and fatalities is required to meet the United Nations Sustainable Development Goals. Audit noticed that there was a need for increasing the availability of funds for road safety related works and effective monitoring of these activities.

2.1.14 Recommendations

- Computerised tracks for carrying out driving tests should be made the norm in all RTOs and Unit offices. Transport Department must ensure that applicants for driving licences are tested as per norms prescribed.
- Government should follow Bureau of Police Research and Development norms on staffing to ensure rigorous enforcement of traffic rules in the State.
- Transport Commissioner should expedite the implementation of Smart Card based driving licences and Registration Certificate.
- Rates of Spot fines must be reviewed to deter violations by vehicle drivers.
- Road Accident Data Management System should include all Road Traffic Accident cases which are recorded in Community Service Registers.
- There should be immediate suspension of driving licences in all cases of offences warranting such action.
- Highway patrolling should be made more effective by posting of personnel and purchase of vehicles, equipment and fuel.
- Commissioner of Police, Chennai should take early action to revive the project 'Integrated Traffic Management System' to automate traffic signals in Chennai City.
- Highways Department should put in place an institutional framework for Road Safety Audit and monitor rectification works of the black spots.

HEALTH AND FAMILY WELFARE DEPARTMENT

2.2 Performance Audit on Provision of Health Care Services and Medical Education through Indian Systems of Medicine

Executive Summary

The policy of the Government is to provide holistic health care by bringing Indian Systems of Medicine (ISM) into the mainstream. Government seeks to achieve its objectives by expanding the existing network of ISM institutions, improving the quality of medical education, etc. The present Performance Audit revealed near absence of a system for management of project funds provided by the Central and the State Governments, chronic shortage of physical and human infrastructure in medical institutions and lack of efforts to further research and development in ISM.

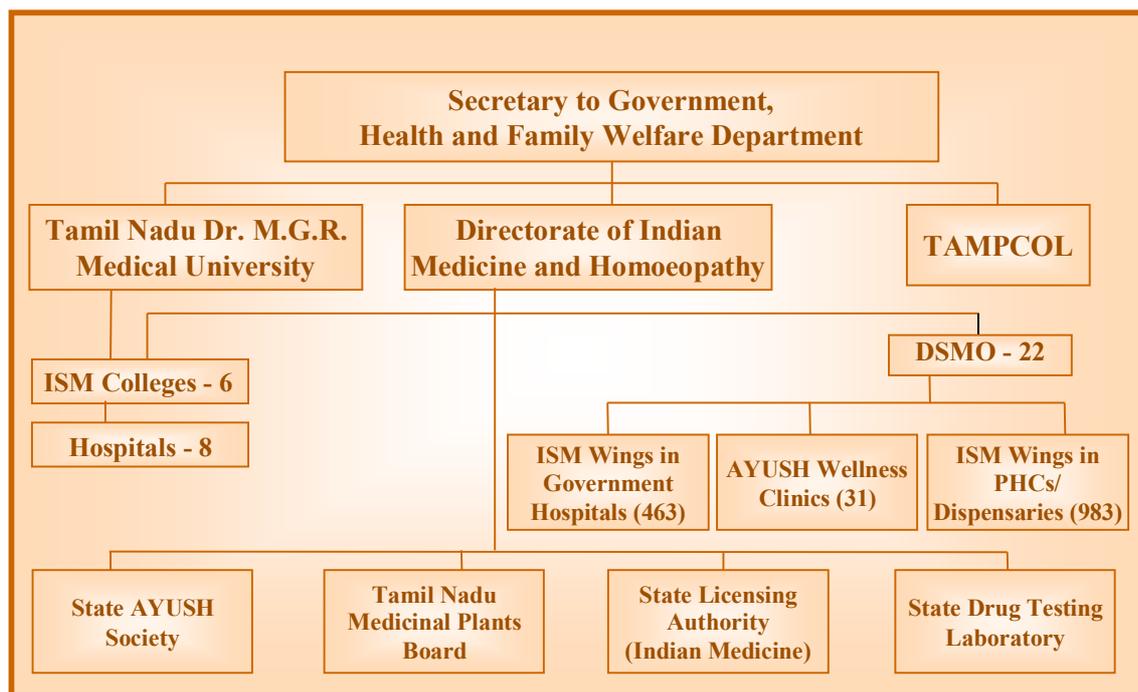
- *Delays in procurement of equipment resulted in huge sums lying in the bank accounts of Tamil Nadu Medicinal Plant Farms and Herbal Medicine Corporation Ltd., (TAMPCOL) and State AYUSH Society. The Department parked unutilised funds with TAMPCOL.*
- *The shortage of manpower across various posts ranged from 10 to 38 per cent in regular ISM wings, 48 per cent in ISM wings created under National Rural Health Mission and up to 100 per cent in ISM wings created under AYUSH.*
- *Out of 297 ISM wings in the sampled districts, 31 stopped functioning and 25 functioned for four days or less per week due to shortage of medical personnel.*
- *TAMPCOL, the PSU which manufactures and supplies medicines to ISM wings supplied only 47 and 50 per cent of the total quantity of medicines indented by the hospitals/wings during 2016-17 and 2017-18 respectively due to inadequate provision of funds and short production. No medicines were supplied to Unani wings during 2016-17.*
- *During 2013-18, 82 drugs found to be 'Not of Standard Quality' could not be frozen or recalled immediately from distribution due to delay in drug testing on account of shortage of staff in drug testing laboratory.*
- *Ayurveda, Unani and Homoeopathy colleges of the Government did not offer Post Graduate courses, hampering expansion of the reach of ISM.*
- *The Research and Development wing sanctioned by the Government in 2013 at a cost of ₹ 12 crore did not start functioning even as of August 2018 and the assets created were lying idle due to lack of coordinated action in procuring equipment and recruiting staff.*

2.2.1 Introduction

Indian Systems of Medicine (ISM) are an integral part of the health care delivery system in India. It includes Siddha, Ayurveda, Yoga & Naturopathy and Unani. Homoeopathy is also promoted along with ISM. Siddha, being the system native to Tamil Nadu, claims higher patronage among the five systems. They serve as alternatives to the allopathic medical system. In order to look after all matters connected with ISM and to develop them fully, the Government of Tamil Nadu (GoTN) established (May 1970) the Directorate of Indian Medicine and Homoeopathy (DIMH), under the administrative control of the Health and Family Welfare Department. Both the Central and State Governments encourage ISM. The State has six ISM colleges, eight ISM hospitals and 1,477 ISM wings co-located in Allopathic hospitals, dispensaries and Primary Health Centres (PHCs). Government of India (GoI) provides funds under National Rural Health Mission (NRHM) for 475 ISM wings designated as AYUSH clinics and another 31 ISM wings, designated as AYUSH Wellness Centres under National AYUSH Mission (NAM).

2.2.2 Organisational structure

The ISM institutions of the State are organised as under:



TAMPCOL - Tamil Nadu Medicinal Plant Farms & Herbal Medicine Corporation Limited

DSMO - District Siddha Medical Officer

2.2.3 Audit objectives

The objectives of the audit were to assess whether:

- the adequacy and utilisation of funds to meet the normative requirements of physical and human infrastructure;

- the availability of physical and human infrastructure for provision of health care services and education;
- whether ISM hospitals and dispensaries have put in place an efficient system for delivery of medical services; and
- whether ISM medical colleges imparted quality education and leveraged the research and development activities for revival advancement in ISM health care.

2.2.4 Audit criteria

The audit findings were benchmarked against the following sources:

- The Indian Medicine Central Council Act, 1970;
- The Homoeopathy Central Council Act, 1973;
- Affiliation Rules of Tamil Nadu Dr. M.G.R. Medical University, Chennai;
- National and State Policies on Indian Systems of Medicine and Homoeopathy;
- National AYUSH Mission Guidelines;
- Guidelines issued by the National Mission for Manuscripts;
- The Drugs and Cosmetics Act, 1940 and Rules, 1945;
- Operational Guidelines of Central Sector Scheme for Conservation, Development and sustainable management of Medicinal Plants;
- Tamil Nadu Medical Code and orders issued by GoTN;
- The Bio Medical Waste Management Rules, 2016;
- Codes and manuals and orders/guidelines of GoTN; and
- Operational Guidelines for Financial Management, NRHM.

2.2.5 Scope and Methodology

The Performance Audit covered the activities during 2013-18. Audit sampled one college from each system of medicines along with their attached hospitals. Six³⁵ out of twenty two ISM districts and 100 out of 1,485 ISM units co-located in Government Hospitals (GH) (47) and PHCs (53) were randomly selected using a sampling software. The list of sampled units is given in **Appendix 2.7**. Besides, the Audit covered the Health and Family Welfare Department at the Secretariat, DIMH, State AYUSH Society³⁶, State Medicinal Plants Board, State Councils for Indian Systems of Medicines and Homoeopathy and TAMPCOL in respect of its role as nodal agency of DIMH for procurement of medicines, equipment, etc.

³⁵ Dindigul, Erode, Thanjavur, The Nilgiris, Sivagangai and Vellore.

³⁶ Established for implementation of centrally sponsored AYUSH Scheme.

The Audit was conducted from March to July 2018. The audit objectives and criteria adopted for assessment of performance were discussed with the Principal Secretary to Government, Health and Family Welfare Department, at the Entry Conference held on 14 May 2018. An Exit conference to discuss the audit findings was held on 10 December 2018. The audit methodology included scrutiny of records, eliciting information/views through written audit enquiries, discussions with heads of institutions, joint physical inspections and a postal survey among medical graduates to assess graduation outcome.

2.2.6 Policy and Outcome

Acknowledging the importance of ISM, GoTN *inter alia*, strives to:

- (a) bring ISM into the mainstream;
- (b) improve the quality of education in ISM and open new ISM medical colleges; and
- (c) encourage manufacture of ISM&H drugs and promote Research and Development (R&D) activities.

Although the State has made significant strides in achieving its objectives on ISM, the following major shortfalls in the outcome are discussed in subsequent paragraphs:

- (i) The number of patients treated is a measurable indicator of the outcome of inputs through various programmes/schemes on ISM. The absence of any substantial change in the number of patients treated indicated stagnancy in mainstreaming of ISM (**Paragraph 2.2.10.1**).
- (ii) The outcome of the measures taken to improve the quality of ISM education was not impressive when viewed from the graduation outcome in terms of employment potential (**Paragraph 2.2.11.3**) and the shortage of physical and human infrastructure (**Paragraphs 2.2.8 and 2.2.9**), which have a direct bearing on the quality of education.
- (iii) Similarly, more thrust would be required to improve the outcome in respect of manufacturing ISM drugs and promoting research as pointed out in **Paragraphs 2.2.10.3, 2.2.10.4 and 2.2.11.5**.

Audit Findings

2.2.7 Financial Management

GoTN provides funds through budget for regular activities of the Department and for developmental activities. In addition, GoI also provides funds under NRHM and NAM. The funds for ISM under NRHM are released by GoI to the State Health Society, which in turn release the funds to DIMH. The funds for ISM under NAM are released by GoI to GoTN, which in turn release the same together with its share (40 *per cent*) to the State AYUSH Society, headed by DIMH.

Details of release and utilisation of funds for ISM activities during 2013-18 are given in **Table 2.23**.

Table 2.23: Release and utilisation of funds

(₹ in crore)

Year	GoTN funds		NAM funds		NRHM grant	
	Budget provision	Expenditure	Amount released	Expenditure	Amount released	Expenditure
Opening Balance					25.13	
2013-14	177.01	171.51	Nil	Nil	3.75	20.89
2014-15	218.17	204.74	Nil	Nil	9.12	9.38
2015-16	220.16	215.10	11.45	25.88	19.92	15.17
2016-17	262.55	261.82	34.43		12.79	16.91
2017-18	292.74	273.27	17.87		17.26	18.76
Interest earned on bank balance and miscellaneous receipts during 2013-18					2.84	
Total	1,170.63	1,126.44	63.75	25.88	90.81	81.11

(Source: Details furnished by DIMH and Finance Accounts)

The expenditure reported in **Table 2.23**, includes the funds provided to the nodal agency for various procurements, but not yet utilised in full. There were huge balances lying unspent under NRHM and AYUSH which are discussed in the succeeding paragraphs.

2.2.7.1 Blocking of NRHM funds in bank account

DIMH maintained a bank account for transacting funds received under the erstwhile Centrally Sponsored Scheme for AYUSH. After the launch of NRHM, DIMH started getting funds from the State Health Society, for which a separate bank account was opened in 2009.

The funds kept in the bank account meant for the erstwhile Centrally Sponsored Scheme for AYUSH were gradually utilised till 2014-15. This account with a balance of ₹ 1.55 crore became inoperative from April 2015. As of March 2018, this account had a balance of ₹ 1.74 crore which included the unspent balance in this account as of March 2015 and the interest earned during 2015-18. DIMH did not maintain any books of accounts for this funds and there was no system of reconciliation of the bank balances with component-wise and year-wise expenditure. As a result, the components of the scheme for which these funds were received were also not known and the sum of ₹ 1.74 crore remained idle in bank account.

The State Health Society started releasing NRHM funds to DIMH from 2009. The State Health Society released (2010) ₹ 54.90 crore under NRHM to DIMH for establishment and operation of the 300 ISM wings in PHCs and hospitals. These funds were meant for various components, viz., buildings, medicines, equipment, etc. As of March 2018, DIMH held a balance of ₹ 9.12 crore in the bank account, out of the sum of ₹ 54.90 crore received eight years back in 2010. The balance held included unspent balance of ₹ 2.06 crore relating to proposed construction of buildings for 17 ISM wings in PHCs, as commented in **Paragraph 2.2.8.2 (b)**, interest accruals, etc. No accounts were maintained by DIMH for these funds and reconciliations were

not carried out monthly as envisaged in NRHM's 'Operational Guidelines for Financial Management'.

Audit observed that due to lack of systematic accounting, DIMH exposed the system to the risk of fraudulent transactions. Further, blocking of Government funds in bank accounts defeated the purpose for which these funds were sanctioned.

In its reply, GoTN claimed (November 2018) that the Chartered Accountants entrusted with preparation of accounts took care of these and stated that the savings bank accounts will be reconciled and the accounts will be maintained properly in future.

2.2.7.2 Blocking of funds with TAMPCOL

In December 2013, GoTN nominated TAMPCOL as the nodal agency for procurement of drugs, equipment, etc. Funds provided in the budget by GoTN, NRHM funds received from State Health Society and AYUSH funds received from the State AYUSH Society were placed at the disposal of TAMPCOL. The details of funds transferred to TAMPCOL towards procurement of medicines, equipment, etc., actually utilised and closing balance are as given in **Table 2.24**.

Table 2.24: Funds lying idle with TAMPCOL

Year	Funds with TAMPCOL (₹ in crore)			
	Opening balance with TAMPCOL	Released by DIMH to TAMPCOL	Utilised by TAMPCOL	Closing balance with TAMPCOL
2013-14	0.90	12.14	00.93*	12.11
2014-15	12.11	32.56	23.87	20.80
2015-16	20.80	28.81	29.06	20.55
2016-17	20.55	30.13	28.30	22.38
2017-18	22.38	23.71	23.41	22.68
Total		127.35	105.57	

* Includes ₹ 0.55 crore remitted back to Government account.

(Source: Details furnished by TAMPCOL)

The major reasons for idling of funds with TAMPCOL were:

- Delay in procurement/non-procurement of equipment and non-utilisation of funds for hiring of manpower through outsourcing for a total sanctioned value of ₹ 12.56 crore, inclusive of the items commented in **paragraph 2.2.8.2 (c)**.
- Delay in procurement/non-procurement of medicines for a sanctioned value of ₹ 4.82 crore under NAM and ₹ 5.30 crore under regular budget, inclusive of items commented in **Paragraph 2.2.10.3**.

Audit observed that DIMH used the nodal agency system to park funds with TAMPCOL in order to avoid surrender at the year end. As at the end of

March 2014, 2015 and 2018, DIMH transferred various scheme funds of ₹ 3.37 crore, ₹ 2.50 crore and ₹ 11.07 crore respectively to TAMPCOL, evidently to avoid surrender of funds at the end of financial year.

2.2.7.3 Deficiencies in utilisation of National AYUSH Mission funds

Under the centrally sponsored AYUSH Mission, every year GoI earmarks funds to States and seeks proposals in the form of Project Implementation Plan (PIP). The PIP components approved by GoI are funded by GoI and GoTN in the ratio of 60:40³⁷. GoI releases the funds to GoTN, which in turn provides funds through budget for implementation of the approved components. The State AYUSH Society, constituted with DIMH as the Member Secretary, coordinates implementation of the programmes under AYUSH Mission. Receipt and utilisation of AYUSH Mission funds was as detailed in Table 2.25.

Table 2.25: Funds lying idle with State AYUSH Society

(₹ in crore)

Year	Funds earmarked by GoI	Project approved based on PIP	GoI share sanctioned	State share sanctioned	GoI share released to GoTN	Funds with AYUSH Society)			
						Opening balance	Released by GoTN to Society	Utilised by Society	Closing balance
2013-14	NA	18.82	14.12	4.70	0	0	0	0	0
2014-15	13.84	0	0	0	0	0	0	0	0
2015-16	12.63	11.45	6.87	4.58	6.87	0	1.46	1.20	38.13
2016-17	22.10	34.43	20.66	13.77	20.66		29.97	20.00	
2017-18	25.07	35.07	21.04	14.03	21.04		32.32	4.42	

NA: Not available

(Source: Details furnished by State AYUSH Society)

Deficiencies in receipt and utilisation of AYUSH Mission funds are discussed below:

- During 2014-15, GoI earmarked ₹ 8.30 crore³⁸ as central assistance for AYUSH programme in the State. However, due to delay in establishment of State AYUSH Society, the State could not furnish the PIP to avail the earmarked central assistance of ₹ 8.30 crore. This had adversely impacted the expansion of AYUSH services in the State during 2014-15.
- GoI released its share of ₹ 20.66 crore and ₹ 21.04 crore towards the approved PIP of 2016-17 and 2017-18 respectively to GoTN during the respective years. GoTN, however, did not release the funds to the State AYUSH Society in time. An amount of ₹ 14.44 crore

³⁷ The sharing pattern was 75:25 till 2013-14.

³⁸ 60 per cent of the earmarked annual project cost of ₹ 13.84 crore.

pertaining to 2016-17 was released only in February 2018 and ₹ 17.19 crore relating to 2017-18 was not released till July 2018. Non-release/delayed release of funds to the State AYUSH Society had resulted in non-commencement of several projects, such as (a) upgradation of ISM wings in two district hospitals, (b) imparting training to ASHA/ANM/VHN, etc., which were approved in the State Annual Action Plan (SAAP) of Tamil Nadu under NAM for 2016-17 and 2017-18 respectively. Consequently, this impacted delivery of ISM services to the patients.

The State AYUSH Society also failed to fully utilise the GoI and GoTN funds received by it due to reasons discussed below:

- NAM provides funding for State Project Managing Unit (SPMU). During the period from 2015-18, NAM released a sum of ₹ 1.07 crore towards hiring of personnel for SPMU. As the important posts sanctioned for SPMU, such as Programme Manager, Finance Manager, Accounts Manager, MIS Manager, and one post of Consultant were not filled up, only a sum of ₹ 0.14 crore was incurred on salaries till April 2018, leading to non-utilisation of NAM funds to the tune of ₹ 0.93 crore. Audit observed that the failure to strengthen the SPMU despite availability of funds contributed to the deficiencies in the AYUSH Mission activities as commented in the succeeding sub-paragraphs.
- During 2015-16, NAM approved ₹ 0.61 crore towards carrying out Information, Education and Communication (IEC) activities for Siddha, Ayurveda, Homoeopathy, Yoga & Naturopathy and Unani. DIMH utilised only ₹ 0.06 crore towards IEC activities, leading to idling of ₹ 0.55 crore. Thus, the failure of DIMH to utilise the funds had resulted in the neglect of IEC activities.
- During the year 2016-17, NAM approved ₹ 1.55 crore for public health outreach activities such as conducting health education classes through videos, PowerPoint presentation, etc. Other than releasing ₹ 0.58 crore to Electronics Corporation of Tamil Nadu Limited (ELCOT), the nodal agency for procurement of electronic items, no action was taken by the Department. As such, no outreach activities were carried out till September 2018. The balance of ₹ 0.97 crore, out of the approved budget of ₹ 1.55 crore, was kept unutilised after making advance payment to ELCOT.

In its reply, GoTN accepted (November 2018) that even though GoI released its share of NAM funds in the year 2016-17 and 2017-18, the funds could not be released to State AYUSH Society. No reason was furnished for non-release of funds to the State AYUSH Society.

2.2.8 Physical infrastructure

The Central Council of Indian Medicine (CCIM), New Delhi, created under the Indian Medicine Central Council Act, 1970, is the regulatory body to guide and develop education and medical practice in Ayurveda, Siddha and Unani. Central Council of Homeopathy (CCH), New Delhi, an autonomous body created under The Homoeopathy Central Council Act, 1973 is mandated to guide and develop education and medical practice in Homoeopathy. These bodies have framed standards stipulating minimum requirement of physical and human infrastructure for colleges and attached hospitals. Tamil Nadu Dr. M.G.R. Medical University, Chennai has issued regulations/statutes for the mandatory requirement of various physical and human infrastructures in Yoga & Naturopathy colleges. No such guidelines/norms were prescribed for ISM medical institutions co-located in Government hospitals and PHCs.

2.2.8.1 Deficiencies in physical infrastructure in ISM Colleges

CCIM and CCH undertake annual inspection of the colleges for renewal of recognition of colleges. Wherever, deficiencies were pointed out by the Inspection Team, the Principals of the colleges gave written undertakings to CCIM and CCH for providing all required infrastructure. The deficiencies, however, continued till date (June 2018) despite such undertakings, as discussed in the succeeding sub-paragraphs:

(a) Government Siddha Medical College, Chennai

(i) Among other items, CCIM stipulates a Pathology laboratory and Museum for Siddha Medical Colleges. In May 2013, GoTN accorded administrative approval for construction of an auditorium at Government Siddha Medical College (GSMC), Chennai at a cost of ₹ 75 lakh. The Public Works Department expressed (October 2016) that it would not be technically feasible to construct the proposed auditorium in the first floor of an existing building. DIMH revised (November 2016) the proposal and requested Government sanction to construct a Pathology Laboratory, Museum and class rooms, in place of the auditorium, at a cost of ₹ 1.43 crore. The matter remained under correspondence between DIMH and GoTN, but no decision was arrived at even as of June 2018. The college continued to function without CCIM mandated Pathology Laboratory and Museum, mainly due to non-furnishing of a comprehensive proposal in time by DIMH for mandatory infrastructure and abnormal administrative delays at Government level. It is pertinent to mention that the College has a Post Graduate (PG) course in Pathology and the Undergraduate (UG) course in Siddha has two papers in Pathology and a mandatory two months clinical practice in Pathology for the students. Therefore, Audit observed that the education was incomplete without the Pathology Laboratory as the mandatory practical sessions in a full fledged Pathology Laboratory was not possible.

(ii) CCIM norms stipulate provision of an Animal House in Siddha colleges for keeping laboratory animals used in teaching. In December 2013,

GoTN sanctioned ₹ 1.60 crore for construction of an Animal House at GSMC and the civil works were completed in August 2016. The facility, however, remained idle for two years (June 2018), due to the absence of required staff to commission the animal house. Audit noticed that 19 months after completion of the buildings, the Principal, GSMC sent (March 2018) a proposal for engaging a Veterinarian and three other staff on contract basis. The failure by the Principal to propose staff requirements at the initial stage of construction had resulted in absence of staff to manage the animal house. Consequently, the mandatory facility constructed at a cost of ₹ 1.60 crore remaining idle for two years and the required infrastructure was not made operational. In the absence of Animal House, the students were taken to various colleges for practicals.

(b) Government Homoeopathy Medical College, Thirumangalam

(i) Homoeopathic Repertory is a listing of symptoms and those substances that have been found to cause and cure each symptom. As per CCH norms, the Department of Repertory shall be equipped with five computers with related software packages consisting of different Repertories. In December 2013, GoTN sanctioned ₹ 50 lakh for procurement of various equipment for Government Homoeopathy Medical College (GHMC), Thirumangalam. DIMH transferred the sanctioned amount to TAMPCOL (June 2014) for procurement of equipment. The procurement was not completed as the proposal sent by the Principal, GHMC to DIMH seeking approval for procurement from the two sources identified by him was not approved. Absence of an authorised Repertory and reliance on online resources for teaching carried a risk of being unreliable.

(ii) Colorimeter, Electric Potentiser, Electric Triturator and Spectroscope were mandatory equipment under CCH norms for starting post graduate courses in Homoeopathy. Based on a plan to start three PG courses in Homoeopathy at GHMC, Madurai, TAMPCOL, the nodal agency for procurement of medicines and equipment, procured and supplied these four equipment to the College at a cost of ₹ 12.05 lakh in January 2016 by using the sum of ₹ 50 lakh sanctioned in December 2013. The equipment procured were not put into use as the procurement was not synchronised with the commencement of the proposed PG courses. Delay in commencement of the post graduate course resulted in the equipment lying unutilised.

GoTN replied (November 2018) that starting of PG courses in GHMC will be examined afresh in the present context.

2.2.8.2 Deficiencies in physical infrastructure in ISM hospitals and wings

(a) Lack of adequate buildings for ISM wings of allopathic hospitals

According to Government Order (December 1995), each district headquarters (DHQ) hospital with an ISM wing should have a 10 bedded inpatient ward and other hospitals with ISM wings should have a 5 bedded inpatient ward. Out of 19 sampled taluk and non-taluk hospitals, only eight hospitals had

inpatient (IP) services and in the remaining 11 hospitals, only outpatient services were provided, the details are given in **Appendix 2.8**. Non-availability of IP services contributed to the declining trend in treatment of inpatients in ISM units/hospitals as commented in **Paragraph 2.2.10.1**.

DIMH did not have a comprehensive plan to create inpatient facilities in these hospitals. As a result, despite Government order, ISM services with inpatient facilities were not extended to all hospitals, which defeated the objective of expanding this facility. It was further observed that even the existing IP facilities could not be continued with full strength in district headquarters hospitals in two out of the six sampled districts as discussed in the succeeding sub-paragraphs:

(i) A 16-bedded Siddha wing had been functioning in DHQ Hospital, Sivagangai since May 1998. In 2015, the allopathic wing of the hospital was shifted to the newly constructed Medical College Hospital (MCH) at Sivagangai and GH at Karaikudi was made as DHQ hospital. As the ISM wings could not be accommodated either in the newly constructed MCH or DHQ Hospital, Karaikudi for want of space, the Siddha and Homeo wings continued to operate in the erstwhile DHQ building. The inpatient wing stopped functioning after 2015 due to the dilapidated condition of the building and non-availability of diet facilities. Prior to 2015 a total of 1,149 inpatients were treated during 2012-15. The Directorate of Medical Education did not provide space at the planning stage of the new building for location of the Siddha and Homeo wings of the hospital. Though the DSMO addressed (October 2017) DIMH on this issue, DIMH did not take up this issue with the Director of Medical Education to ensure availability of required space for Siddha IP ward and the IP services continued to be adversely affected.

(ii) An ISM wing with 25-bedded IP ward was functioning from 1984 at DHQ, Dindigul. The dilapidated condition of the building necessitated shifting of the inpatient ward thrice to allopathic buildings, resulting in gradual reduction of bed strength to six as of June 2018. Due to reduction of the bed strength, the number of inpatients treated went down from 5,548 in 2005-06 to 1,636 in 2017-18. Although the issue of space constraint was experienced right from 2010-11, DSMO submitted a proposal for a new building for ISM IP ward using National AYUSH Mission funds only during 2017-18. The proposal was still under consideration of DIMH (August 2018).

GoTN replied (November 2018) that the issue of providing sufficient space for ISM wings in the type design for new DHQ and other hospital buildings was under consideration.

(b) Lack of adequate space for ISM wings of PHCs

(i) As per the type design adopted by PWD for ISM wings in PHCs, each wing was to have a space of 76 sq.m. Audit, however, observed that in 32 out of 43 sampled PHCs, the space availability was less than the prescribed norm.

As of March 2018, there were 1,806 PHCs in the State. 927 of them were having ISM wings. Audit scrutiny disclosed that under NRHM, in September 2009, GoTN accorded sanction to establish ISM wings in 300 PHCs during 2009-10 at a cost of ₹ 54.90 crore. The amount sanctioned included ₹ 33.75 crore during 2009-10 for construction of buildings for ISM wings and the balance was for equipment, staff cost and medicine. As of June 2018, construction works were not taken up in 17 PHCs due to various reasons such as non-availability of site, unfavourable soil conditions, non-receipt of tenders for hilly areas, etc. As a result, against ₹ 33.75 crore released for building works, only ₹ 31.69 crore was utilised and ₹ 2.06 crore remained with DIMH.

GoTN replied (November 2018) that buildings could not be constructed at 17 places due to various reasons and taking up construction in new places was explored, but on account of cost escalation they could not be set up. Further, GoTN stated that the central share for these places i.e., ₹ 1.63 crore, would be returned to GoI.

(ii) Similarly, two³⁹ out of the nine Yoga & Naturopathy Lifestyle Clinics (YNLC) sampled by Audit had less than the stipulated space of 1,500 sq. ft. As a result, at Government Thanjavur Medical College Hospital (GTMCH), Thanjavur, despite posting full complement of staff, therapeutic yoga sessions were not held for multiple patients simultaneously. Further, all equipment for physical workouts were installed in a cramped manner and hydrotherapy equipment like steam bath, etc., were not installed for more than a year for want of space. In District Headquarters Hospital, Karaikudi, the YNLC functioned from a cramped space of 252 sq. ft., wherein all the supplied equipment were stored. Two major equipment viz., hip bath with spinal spray and steam bath cabin with revolving stool, purchased in September 2015 and June 2017, were not being utilised from the date of procurement and other equipment like treadmill, exercise cycle etc., were kept within the consultation room itself without effective use for want of space.

(c) Deficiencies in provision and maintenance of essential equipment

Audit of 69 out of the 250 co-located Siddha, Ayurveda and Unani units in the sampled districts disclosed shortage/non-functioning of several essential equipment like treadmill, decoction vending machine, steam bath, exercise cycle, etc., as given in **Table 2.26**, the details are given in **Appendix 2.9**.

Table 2.26: Shortage/non-functioning of equipment in ISM wings in sampled units

Name of the equipment	Sampled units	No. of units without the equipment	Percentage of units without the equipment
Treadmill	69	41	59
Steam bath	69	31	45
Decoction vending machine	69	43	62
Exercise cycle	69	48	70

(Source: Data collected from ISM wings)

³⁹ District Headquarters Hospital, Karaikudi and YNLCs at GTMCH, Thanjavur.

Scrutiny of action taken on procurement of medical equipment and office furniture disclosed non-assessment of requirement, failure to propose the requirement of equipment by medical officers, undue delay in processing of proposals from field units and avoidable delays in procurement as discussed in succeeding paragraphs.

(i) In December 2010, GoTN accorded financial sanction for ₹ 11.25 crore for procurement of furniture and various equipment for establishment of ISM wings in 300 PHCs across the State. DIMH drew the amount, kept in bank account, and utilised only ₹ 2.06 crore towards procurement of furniture and equipment till January 2014. Consequent on nomination (December 2013) of TAMPCOL as nodal agency for procurements, DIMH transferred (January 2014) ₹ 7.50 crore of the remaining ₹ 9.19 crore to TAMPCOL along with the list of furniture. DIMH held the balance of ₹ 1.69 crore in bank account, which formed part of the balance of ₹ 9.12 crore (**Paragraph 2.2.7.1**). Over the next four years, TAMPCOL utilised ₹ 5.57 crore for procurement of part of the furniture and equipment indented by DIMH and held a balance of ₹ 1.93 crore (March 2018). TAMPCOL stated (June 2018) that additional indents for utilising the balance of ₹ 1.93 crore were received from DIMH in September 2017 and action was being taken. Delays by DIMH and TAMPCOL in procurement resulted in ISM units lacking the required equipment. Even as of June 2018, TAMPCOL had not called for tender to procure the required equipment.

(ii) In the test-checked co-located ISM units in Government hospitals and PHCs, several equipment supplied during 2009-15 were lying under disuse/ repair as given in **Table 2.27**.

Table 2.27: Non-commissioning and non-functioning of equipment

Name of the Equipment	Total number supplied	Equipment not functioning	Percentage of unserviceable/ non-functioning equipment
Treadmill	28	18	64
Steam bath	38	19	50
Decoction vending machine	26	14	54
Exercise cycle	21	4	19
Total	113	55	49

(Source: Data collected from ISM wings)

As seen from **Table 2.27**, nearly 50 per cent of the equipment supplied were found to be non-commissioned/non-functional as the medical officers concerned did not take effective action to commission several equipment for want of space and support staff and the equipment that went out of order were not rectified in time due to the absence of annual maintenance contract. The details of district-wise number of non-functioning equipment are given in **Appendix 2.9**.

(iii) Based on the indents furnished by DIMH, TAMPCOL supplied (2014 to 2017) 13 types of equipment, such as Thokkanam table, examination table, steam bath, treadmill, etc., to 12 ISM wings in PHCs of The Nilgiris District. Audit noticed that nine of these ISM wings had ceased functioning

between March 2011 and September 2013 due to non-posting of doctors. DSMO, The Nilgiris District, did not take any action to transfer the equipment to PHCs with functional ISM wings. The equipment continued to remain idle in PHCs without a functional ISM wing. The value of the equipment lying idle was ₹ 15.48 lakh as given in **Appendix 2.10**.

(d) Non-functioning of computerised system for hospital management

As per CCIM and CCH norms, the ISM Medical College Hospitals (ISM-MCHs) should maintain web-based system for maintaining the records of patients in outpatient (OP) and IP departments. However, none of the four sampled ISM-MCHs had a functional computerised system.

- Using NRHM funds, 24 computers and related networking infrastructure were procured (2015) for computerisation of Arignar Anna Government Hospital of Indian Medicine (AAGHIM), Chennai. Effective action was not taken for developing software leading to non-functioning of the computerised system for patient registration and maintenance of medical records.
- Government Unani Medical College (GUMC), Chennai engaged TAMPCOL in July 2016 for procurement of software for Hospital Work Management System. After a delay of two years, TAMPCOL procured and supplied the software in June 2018 at a cost of ₹ 0.95 lakh. The software was not put into use (August 2018) as the local area network for computers was not ready.
- In Government Ayurvedic Medical College (GAMC), Nagercoil the computers and software procured (August 2016) at a cost of ₹ 10.13 lakh was being used only for registering the patients and the database regarding medical history of the patient, medicines prescribed and issued etc., were not being maintained on the system due to lack of manpower.

Thus, despite provision of funds, the Principals of three ISM colleges did not upgrade the facilities to the standards mandated by respective Central Councils. The Principal of GHMC, Thirumangalam did not send any proposal in this regard.

GoTN, replied (November 2018) that possibilities of obtaining software for each ISM college under NAM funds will be explored and on getting grants, software available in the market will be utilised.

2.2.9 Human infrastructure

CCIM and CCH had laid the norms for provision of manpower in ISM medical colleges and attached teaching hospitals. DIMH and GoTN have set standards for provision of manpower in co-located ISM units. Audit scrutiny of action taken towards meeting the set standards disclosed several deficiencies as discussed in the succeeding paragraphs.

2.2.9.1 Shortage of manpower in ISM Medical Colleges and attached Teaching Hospitals

Shortage of teaching staff in the sampled medical colleges with reference to CCIM/CCH norms was as given in **Table 2.28**.

Table 2.28: Shortage of teaching staff

Sl. No.	Medical College	Requirement as per norms	Actual	Shortage	Shortage (Percentage)
1	GHMC, Thirumangalam	32	23	9	28
2	GSMC, Chennai	50	69	Nil	-
3	GY&NMC, ** Chennai	68	13	55	81
4	GUMC, Chennai	30	29	1	3.3
5	GAMC, Nagercoil	40*	27	13	32.5

* Including 10 Modern/Allopathy teaching staff.

** Government Yoga and Naturopathy Medical College.

(Source: Details furnished by respective colleges)

The shortage of teaching staff in medical colleges was most marked in GY&NMC, Chennai (81 per cent), GAMC, Nagercoil (33 per cent) and GHMC, Thirumangalam (28 per cent). Audit observed that:

- GY&NMC, Chennai started functioning from 2000. As of March 2018, 55 out of the 68 required post of teaching staff were vacant. Timely action was not taken for filling up the vacancies. The recruitment rules, for the entry level post of Assistant Lecturer, was approved only in January 2015. Even after approval of the Rules, it took two more years for DIMH to request Tamil Nadu Medical Recruitment Board to start the recruitment process for Assistant Lecturers. The recruitment process was not completed as of June 2018. Thus, delay in framing Recruitment Rules and lack of committed action to fill up the posts had resulted in the college functioning with huge vacancies.
- In an ideal situation, existing vacancies and vacancies arising over a period of time should be assessed and recruitment process initiated periodically. Besides, during 2013-18, recruitment processes for 401 posts were held up due to judicial interventions, non-framing of recruitment rules, etc. All these contributed to the vacancies in these medical colleges with possible repercussions on the quality of education.

GoTN replied (November 2018) that all possible efforts were being taken for filling up of the vacancies in order to fulfill the norms of regulatory/affiliating bodies.

2.2.9.2 Temporary diversion of staff to fulfill CCH and CCIM norms

CCH/CCIM norms require availability of prescribed manpower for continued recognition of ISM medical colleges. In GHMC, Thirumangalam and GAMC, Nagercoil, in order to fulfil the norms during CCH/CCIM inspection, DIMH

temporarily posted staff from other hospitals on deputation basis for a short period of one day to three weeks.

In respect of GHMC, Thirumangalam, DIMH resorted to the temporary shifting of staff from ISM hospital side for periods ranging from one day to three weeks during CCH inspection. In respect of GAMC, Nagercoil, modern medical staff of the Government Allopathic Medical College Hospital were drawn for part-time work on temporary basis. DIMH sent a proposal to GoTN in June 2017 for hiring part-time teaching staff (modern medicine) from the allopathic side on deputation basis. The proposal was under the consideration of GoTN as of June 2018.

Temporarily diverting of part-time teachers from other institutions to fulfil Central Council norms during inspection helped the colleges and institutions from being disqualified by the Central Council by hiding the vacancies.

GoTN replied (November 2018) that DIMH's proposal for the creation of 10 posts of modern medicine doctors to work on part-time basis was under consideration.

2.2.9.3 Deficiencies in human infrastructure for ISM hospitals and wings

The shortage of manpower across various posts ranged from 10 to 38 *per cent* in regular ISM wings, 48 *per cent* in ISM wings created under NRHM scheme and 100 *per cent* in ISM wings created under AYUSH (**Appendix 2.11**).

Pharmacists: Among paramedical staff, Pharmacist vacancies ranged from 22 *per cent* (Siddha Pharmacist) to 72 *per cent* (Ayurveda Pharmacist). DIMH was in correspondence with GoTN and Medical Recruitment Board for filling up these posts right from 2007. Recruitment was still pending (July 2018).

AYUSH Consultants: Under NRHM, GoTN approved (September 2009 and December 2010) hiring 475 AYUSH Consultants for PHCs on contract basis with hiring charges of ₹ 1,000 per session of six hours per day. DIMH issued (September 2016) a recruitment notice for filling up 99 posts. However, acting on a case filed by persons aggrieved by the selection process, the Hon'ble Madras High Court stayed (November 2016) the recruitment process. DIMH had not filed any counter petition before the Court to vacate the stay. The stay was vacated (February 2018) only in respect of recruitment of Homoeopathy Consultant based on a petition filed by aggrieved candidates. As of July 2018, no recruitment was done.

Dispenser, Therapeutic Assistant and MPW: GoTN permitted DIMH (September 2009 and December 2010) to hire 424 AYUSH Dispensers, 71 Therapeutic Assistants and 475 Multi-Purpose Workers (MPW) on contract basis for ISM wings under NRHM scheme. The recruitment was carried out (2009 and 2011) on Employment Exchange seniority basis. Vacancies arising due to resignation/termination of these contract staff were not filled up due to non-issue of modalities for recruitment in the subsequent years, leading to

68, 94 and 46 per cent of the posts of Dispenser, Therapeutic Assistant and MPW respectively lying vacant as of August 2018.

2.2.9.4 Non-functioning and partial functioning of ISM wings

In the six sampled districts, 31 out of the 297 ISM units stopped functioning between 2009 and 2017 due to shortage of doctors (**Appendix 2.12**). Further, the existing doctors were made in charge of more than one ISM Unit due to shortage of ISM doctors. In view of this diversion of doctors, the availability of doctors in ISM units got reduced to the range of two to four days as against six days per week as detailed in the **Table 2.29**.

Table 2.29: Partial functioning of ISM wings

District	Availability of doctors		Total number of Units functioning partially
	Units working 2 days per week	Units working 3 to 4 days per week	
Dindigul	2	1	3
Sivagangai	1	0	1
Thanjavur	2	6	8
The Nilgiris	5	5	10
Vellore	3	0	3
Total	13	12	25

(Source: Details furnished by respective ISM wings)

Non-functioning and partial functioning of ISM wings resulted in curtailment of services to needy people.

2.2.10 Medical care through ISM hospitals and wings

2.2.10.1 Performance of ISM hospitals/wings

The details of medical care extended by ISM medical institutions during 2013 to 2018 are as given in **Table 2.30**.

Table 2.30: Inpatients and outpatients treated in ISM hospitals and wings

Year	IP/OP	Siddha	Ayurveda	Unani	Homoeo	Y&N	Total
2013*	OP	2,59,81,919	16,23,834	4,08,040	22,86,531	6,02,073	3,09,02,397
	IP	2,28,781	36,420	14,050	19,761	0	2,99,012
	Total	2,62,10,700	16,60,254	4,22,090	23,06,292	6,02,073	3,12,01,409
2014*	OP	2,66,28,167	17,30,393	4,57,457	6,96,534	22,28,813	3,17,41,364
	IP	2,16,803	40,779	10,994	15,246	0	2,83,822
	Total	2,68,44,970	17,71,172	4,68,451	7,11,780	22,28,813	3,20,25,186
2015-16	OP	2,74,34,621	18,49,742	6,33,840	22,93,760	19,65,251	3,41,77,214
	IP	1,81,133	34,895	15,964	11,396	0	2,43,388
	Total	2,76,15,754	18,84,637	6,49,804	23,05,156	19,65,251	3,44,20,602

Year	IP/OP	Siddha	Ayurveda	Unani	Homoeo	Y&N	Total
2016-17	OP	2,81,42,899	20,08,905	7,68,385	25,05,386	24,14,410	3,58,39,985
	IP	1,91,589	46,938	16,885	18,179	8,156	2,81,747
	Total	2,83,34,488	20,55,843	7,85,270	25,23,565	24,22,566	3,61,21,732
2017-18	OP	2,83,06,427	20,16,471	8,06,228	25,72,081	28,72,349	3,65,73,556
	IP	2,09,447	50,191	17,023	17,570	17,575	3,11,806
	Total	2,85,15,874	20,66,662	8,23,251	25,89,651	28,89,924	3,68,85,362

* Calendar year

(Source: Details furnished by DIMH)

As could be seen from **Table 2.30**, the outpatients availing medical treatment continued to increase. However, the number of inpatients treated came down sharply from 2.99 lakh in 2013 to 2.43 lakh in 2015-16, a decrease of 19 *per cent*, but registration increased in the subsequent years. The IP strength of the more popular Siddha wing also came down from 2.28 lakh in 2013 to 2.09 lakh in 2017-18. The decrease could be attributed to non-availability of services, non-functioning of IP wards, etc., due to shortage of physical and human infrastructure as commented in **Paragraph 2.2.8**.

2.2.10.2 Deficiencies in rendering medical care

(a) X-ray services

As per the CCIM norms, ISM hospitals attached to an ISM medical college should have a radiology section with X-ray machines and allied accessories. Audit observed hindrance to medical care due to non-functioning of X-ray units.

- In GAMC, Nagercoil, Radiology section was not functioning as the post of Radiographer and Dark Room Attendant were not filled up. As a result, the X-Ray machines and allied accessories purchased between January 2016 and March 2016 at a cost of ₹ 5.90 lakh were unutilised till date (June 2018) and patients were forced to avail the facilities from Kanyakumari Government Allopathy Medical College Hospital, which is at a distance of about 5 kms and thus, the ISM patients are put into hardships. Audit noticed that the procurement of X-ray unit was not synchronised with posting of required staff. The Principal, GAMC, Nagercoil periodically requested DIMH to post X-ray technician and Radiographer sanctioned by GoTN in December 2015, but no action was taken (June 2018).
- As per Atomic Energy (Radiation Protection) Rule, 2004, the approval of Atomic Energy Regulatory Board (AERB) is mandatory for operation of X-ray units in hospitals. GHMC, Thirumangalam and the attached MCH is equipped with an X-ray machine, installed in March 1997 at a cost of ₹ 4.25 lakh. The X-ray unit was functioning without the mandatory approval of AERB right from

the date of installation. The Principal, GHMC, Thirumangalam replied that with a view to obtain AERB approval, a proposal was being submitted for a new X-ray room fulfilling AERB norms. In the absence of AERB certification, Audit could not derive assurance, that the safety of the operator and 1,596 patients who underwent diagnosis in this unit, were ensured.

- X-ray services were not functional in AAGHIM, Chennai from March 2017 to May 2018 due to non-filling up of the post of Radiologist and non-supply of X-ray film.

(b) Curtailment of services

(i) Thokkanam/Panchakarma services (medicinal oil massages) are essential part of Siddha/Ayurvedic treatment methods. Paramedical staff (Masseur) render these services to the patients. Masseurs to render these services were not available in 63 of the 64 sampled Siddha/Ayurveda wings.

It was noticed that in 61 of the above ISM Wings, posts of Masseur were not sanctioned and in two ISM Wings, the sanctioned posts were not filled up. In the absence of Masseur, the doctors themselves claimed to administer the treatment. Audit observed that the number of patients treated per doctor was very high making it impractical for the doctors to spare time for rendering Thokkanam/Panchakarma treatment, which is generally rendered by paramedics. In GAMC, Nagercoil, shortage of Masseur had resulted in stoppage of Panchakarma treatment to outpatients.

(ii) As per CCIM norms, Ayurveda Medical College Hospital should have a Physiotherapy unit with one physiotherapist. In GAMC, Nagercoil, physiotherapy services were not provided from 2009 to till date (June 2018) due to non-availability of physiotherapist.

(iii) The treatment regimen of ISM involves strict adherence to prescribed diet. According to a proposal submitted (May 2014) by the Medical Superintendent, AAGHIM, adherence to proper diet was part of the treatment process in ISM. As the standard diet being supplied as per TN medical code was devised for allopathic patients, it was not considered suitable for ISM patients. Therefore, the Medical Superintendent, AAGHIM constituted (March 2014) a Committee and based on the recommendation (June 2014) of the Committee, a proposal for modified improved diet, which included different porridges suitable for ISM, was sent to DIMH in June 2014. DIMH approved (September 2014) the modified improved diet with a condition that the expenditure on the modified diet should be incurred within the budget allotment. The Medical Superintendent, AAGHIM replied (April 2018) to Audit that due to insufficient budget allotment, the modified improved diet could not be provided to patients till date (June 2018) and only the standard diet was continued to the patients.

2.2.10.3 Deficiencies in procurement and supply of medicines

Medicine requirements of ISM hospitals are met primarily through TAMPCOL. The Pharmacy attached to AAGHIM, Chennai is also a supplier. TAMPCOL supplies its own Siddha, Ayurveda and Unani products and also procures from market through tender system and supplies to ISM institutions. Regarding Homoeopathy medicines, as TAMPCOL has no in-house production, the entire requirement is procured from the market through tender system. The Pharmacy at AAGHIM manufactures Siddha and Ayurveda medicines in limited quantity for hospital consumption. It also manufactures Unani medicines, which are supplied to other Unani units as well. Lapses noticed in procurement and supply of medicines manufactured by TAMPCOL as well as the medicines procured by TAMPCOL from market (outsourced medicines) are discussed in the succeeding paragraphs.

Medicine requirements of ISM units are consolidated by DSMOs and sent to TAMPCOL. Scrutiny of medicine indents and actual supply of medicines, which were to be manufactured and supplied by TAMPCOL disclosed failure of TAMPCOL in supplying the indented quantity during 2016-18 as given in **Table 2.31**.

Table 2.31: Details of medicine supplied by TAMPCOL (₹ in crore)

Year	Value of Indent	Supplied by TAMPCOL
2016-17	25.88	12.14 (47 per cent)
2017-18	21.90	11.05 (50 per cent)

(Source: Details furnished by TAMPCOL)

The **Table 2.31** showed that TAMPCOL was unable to supply the indented quantity as manufacturing plan was not based on the indent received from field units. The General Manager, TAMPCOL stated (September 2018) that sufficient funds were not provided to meet the indents. DIMH, however, did not take effective action to improve medicine supply by TAMPCOL.

During 2016-17, DIMH transferred ₹ 9.11 crore from regular budget (₹ 2 crore) and NRHM funds (₹ 7.11 crore) to TAMPCOL for procurement of outsourced medicines. TAMPCOL floated (November 2016) open tenders for the purchase of Siddha, Ayurveda and Homoeopathy medicines for regular wings as well as for NRHM wings. Rates for procurement of medicines were also finalised. However, it was decided (March 2017) by TAMPCOL to procure only Homoeopathic medicines and the tender in respect of Siddha and Ayurveda medicines were deferred without any specific reason. In respect of Unani medicines, departing from the usual procedure of sourcing medicine from TAMPCOL, DIMH decided to manufacture and supply the medicines through the pharmacy attached to AAGHIM.

As a consequence of non-procurement of outsourced medicines by TAMPCOL during 2016-17, Siddha and Ayurveda wings received only limited stock of TAMPCOL's own manufactured medicines. Outsourced medicines were not supplied. Unani wings of hospitals/PHCs across the State

did not receive any medicines from TAMPCOL during 2016-17. Audit noticed that the sampled Unani wings at PHC, Amoor was running without any medicines for 11 months from July 2017 to May 2018, whereas other sampled Unani wings receiving limited stock from AAGHIM during the year. The Unani Doctor provided only consultation. Medicines were not issued to about 90 patients who attended the Unani unit every day. This indicated disruptions in medicine indenting system.

The failure of TAMPCOL and DIMH in procuring required medicines severely impacted the quality of services as the Unani doctors could only provide consultations.

The Homoeopathic stream also faced shortage of medicines; shortage in GHMCH, Thirumangalam was 84 and 96 *per cent* of the indented medicines during 2014-15 and 2015-16 respectively, despite availability of budget allotment.

GoTN replied (November 2018) that the demands/indents submitted by DSMOs could not always be honoured in full, due to budgetary constraints. TAMPCOL was forced to downsize the indents to ensure fair distribution of drugs to all ISM wings. The reply did not address the concern raised on the shortage of medicines.

2.2.10.4 Functioning of Drug Testing Laboratory

GoTN notified (November 2007) DSMOs as Drug Inspectors (DI) under the Drugs and Cosmetics Act, 1940 and Rules, 1945. DSMOs lift drug samples from manufacturers and retailers and send to the Drug Testing Laboratory. A Drug Testing Laboratory (Indian Medicine), conferred with statutory status, is functioning at AAGHIM Complex to test the quality of statutory samples lifted and sent by the DSMOs.

The Laboratory was to ensure the quality of drugs in terms of identity, purity and strength as per Siddha, Ayurveda and Unani Pharmacopoeias.

Audit noticed shortfall in testing the samples with reference to the targets set by DIMH as given in **Table 2.32** and the details of which are given in **Appendix 2.13**.

Table 2.32: Shortfall in drug testing

Year	No. of drug Inspectors	Drug sample Target	Sample drawn for testing	Shortfall
2013-14	23	966	783	183
2014-15	23	1,449	1,376	73
2015-16	23	2,208	1,800	408
2016-17	23	2,208	1,806	402
2017-18	23	2,208	1,906	302

(Source: Details furnished by Drug testing laboratory)

As per Section 23 of the Act, whenever the Drug Inspector lifts any sample of a drug, he/she shall tender the fair price thereof. Drug Inspectors of two test-checked districts (Vellore and Sivagangai) stated that the shortfall in achievement of target was due to non-availability of funds for paying the cost

of the samples to be lifted by them. Despite fixing the targets, DIMH failed to monitor the achievement and no action was taken to facilitate achievement of targets by providing required facilities/funds.

Delay in issue of drug analytical report

Timely testing of drug samples is necessary to freeze spurious drugs from circulation. Audit noticed that there was a delay of six months to one year in testing and issue of drug analysis report by the Drug Testing Laboratory. During the period 2013-18, 372 out of 6,702 samples tested, were found to be 'Not of Standard Quality (NSQ)'. Audit noticed that out of which, 82 drug analysis reports were issued with a marked delay of six months to one year. Due to delay in issue of drug analysis reports, the DI could not freeze or recall the NSQ drugs from the market immediately.

In reply, it was stated that the delay in issue of drug analysis report was due to shortage of manpower in the Drug Testing Laboratory. Both the sanctioned posts of Scientific Officer of the Laboratory were vacant from June 2013 onwards and the laboratory functioned only with the four sanctioned posts of Assistant Scientific Officers. Further, the proposal (April 2017) of the Government analyst of the Laboratory to DIMH for sanction of 10 additional posts of Scientific Officers to "complete the analysis and report in time" was not agreed to by DIMH.

Provision of adequate funds for lifting samples and adequate staff for the laboratory, are critical requirements for weeding out spurious drugs.

2.2.10.5 Non-obtaining of NABH accreditation

National Accreditation Board for Hospitals and Healthcare (NABH), New Delhi, provides accreditation to hospitals. Accreditation helps to improve the quality of health care services by benchmarking with the best in the field.

In order to obtain NABH accreditation for AAGHIM, Chennai, based on the proposals of DIMH, GoTN sanctioned (October 2013) ₹ 10 crore towards one new block of building, roads, etc., (₹ 7 crore), additional manpower (₹ 1.50 crore), machinery and equipment (₹ 1 crore), consultancy and others (₹ 0.50 crore). Using ₹ 7 crore sanctioned for building and other related infrastructure, during 2014-16, a three storey building was completed and major improvements were carried out for the sewage system. Out of ₹ 1 crore sanctioned for equipment, one boiler for the hospital pharmacy and other equipment were procured (2014-16) at a cost of ₹ 82.74 lakh and the balance amount remained idle with TAMPCOL (July 2018). Audit noticed that:

- Despite completing the building in 2016, only the ground floor was put to use as of July 2018. The proposed IP wards in first and second floors were not commissioned till July 2018. Audit observed that none of the 113 posts proposed under the upgradation project were sanctioned as GoTN considered (July 2017) that the proposal was on the higher side. Further action was not taken by DIMH to revise the proposal.

- The sewage system constructed by Chennai Metropolitan Water Supply and Sewerage Board at a cost of ₹ 1.71 crore was not properly functioning as stagnation of water was noticed during joint physical verification (May 2018) near the IP wards of the hospital due to laying of improper sewerage facilities. The problem with sewage discharge was not fully addressed as the matter was not taken up with CMWSSB (May 2018).
- Among the sanctioned items, the boiler for pharmacy was procured (₹ 38.51 lakh) and installed (2017) but not put to use (July 2018). The hospital did not have personnel for boiler operation and no action was taken to recruit the staff. Equipment proposed for Quality Control Laboratory (QC Lab) at a cost of ₹ 15 lakh were not fully procured till July 2018 and hence, the QC Lab could not be commissioned (July 2018).
- Despite specific sanction of ₹ 0.50 crore for engaging a consultant for technical advice on obtaining accreditation, DIMH had not engaged a consultant and addressed (April 2014) NABH, seeking the modalities for obtaining accreditation. As no reply was received from NABH, no further action was taken to apply for accreditation.

Thus, due to non-commissioning of (i) IP wards, (ii) upgraded pharmacy and (iii) QC Lab due to (a) non-posting of additional personnel, (b) non-engagement of a consultant and (c) delay in procurement of equipment, the proposal to obtain NABH accreditation at an estimated cost of ₹ 10 crore had failed despite incurring the expenditure.

2.2.10.6 Non disposal of bio-medical waste

According to the Bio Medical Waste Management Rules, 2016, the institution generating bio-medical waste shall take all necessary steps to ensure it is handled without any adverse effect to human health and the environment. During the joint physical verification of GAMCH, Nagercoil on 25 May 2018, it was noticed that bio-medical waste such as needles, disposable pipette used in the laboratory, etc., were dumped in cardboard boxes and kept in a separate room. The bio-medical wastes were not being disposed off as the hospital had no tie-up with the agencies for disposal of biomedical wastes.

The Principal, GAMCH, Nagercoil stated (July 2018) that the action was being taken to avail the services of the bio-medical waste disposal agency. The Principal cited inadequate allotment of funds as a reason for not engaging the agency. The reply was not tenable as the Principal had never requested DIMH for funds to organise bio-medical waste disposal.

2.2.11 Education and research in ISM

ISM health services and ISM education are one organic whole and deficiency in one would adversely impact the others as well. In addition to the hospitals and ISM wings, six ISM colleges in the Government fold and 22 other private colleges function in the State.

2.2.11.1 Admissions in ISM colleges

The year wise admissions in GoTN's ISM colleges during 2013-18 were as given in **Table 2.33**.

Table 2.33: Details of intake capacity and Admissions in ISM colleges

Stream	Intake capacity		Admissions				
			2013-14	2014-15	2015-16	2016-17	2017-18
Siddha	UG	Up to 2014-15 - 150	148	133	155	160	159
		From 2015-16 - 160					
	PG	94	93	93	90	93	94
Yoga & Naturopathy	UG	Up to 2013-14 - 20	20	59	60	60	60
		From 2014-16 - 60					
	PG	15	-	15	15	15	15
		(Started from 2014-15)					
Ayurveda*	UG	Up to 2014-15 - 50	49	50	60	60	60
		From 2015-16 - 60					
Unani*	UG	Up to 2015-16 - 26	26	26	26	60	60
		From 2016-17 - 60					
Homoeopathy*	UG	50	50	50	50	50	50

* PG courses are not conducted.

(Source: Details furnished by DIMH)

As could be seen from **Table 2.33**, while PG courses were not offered in Ayurveda, Unani and Homoeopathy, the intake capacity of PG programmes in Siddha and Yoga & Naturopathy remained stagnant. Academic research in ISM, despite being one of the policy directives of GoTN, did not receive due importance as none of the colleges offered Ph.D programmes. In terms of intake capacity for UG courses, there were increases except in the Homoeopathy stream.

2.2.11.2 Pass percentage

Pass out percentage is a measure of the performance of educational institutions. The number of students graduating bachelor degree courses within the prescribed duration of study in the test-checked ISM colleges was 82 per cent, 69 per cent, 74 per cent, 67 per cent and 88 per cent in Siddha, Ayurveda, Homoeopathy, Unani and Yoga & Naturopathy streams respectively during 2013- 18.

In addition to the shortage of infrastructure and manpower in ISM medical colleges, as commented in **Paragraphs 2.2.8** and **2.2.9**, other issues which had a bearing on the quality of education are discussed in the succeeding paragraphs.

2.2.11.3 Graduation outcome

In order to assess the graduation outcome in terms of securing employment, job satisfaction of ISM graduates etc., Audit undertook a postal survey among 352 graduates who graduated between 2015 and 2017. Out of 352 graduates, 65 graduates (18 per cent) responded to the survey, which revealed that:

- 34 out of 65 ISM graduates (52 per cent) remained unemployed after more than one year of graduation.
- Out of 31 graduates employed, 19 graduates (61 per cent) earned income less than ₹ 15,000 pm.
- 35 graduates (54 per cent) stated that they were not able to start their own practice due to financial difficulties.
- 15 graduates (23 per cent) expressed their opinion that the course did not prepare them adequately for employment and 28 graduates (43 per cent) opined that the course did not fulfill their expectations.
- 22 graduates (34 per cent) who were not satisfied with the course expressed the reason as lack of employment opportunities.

The graduation outcome as discussed above indicated that the ISM graduates had limited career options despite spending five years. Audit also observed that the Government did not undertake any assessment of requirement of ISM medicos and creation of job opportunities and self-employment to the ISM graduates.

2.2.11.4 Non-commencement of PG courses

GoTN started PG courses in Siddha from 1998-99 and PG courses in Yoga & Naturopathy from 2014-15. The initiative taken (2008) to commence PG courses in Homoeopathy did not materialise.

In 2008, the Principal, GHMC, Thirumangalam, proposed for starting of Post-Graduation MD courses in three specialities in Homoeopathy with a total intake of nine seats. GoTN approved (May 2008) the proposal and sanctioned ₹ 6 lakh, the fee payable to CCH, New Delhi. GoTN also sanctioned (September 2008) creation of 23 additional posts to fulfil the requirement as per the CCH norms. GoTN replied (September 2018) to Audit that due to administrative reasons, these posts could not be filled up. The Tamil Nadu Dr. M.G.R. Medical University, Chennai, issued (November 2008) a Letter of Consent of Affiliation for starting the MD courses with an annual intake of nine seats with three seats each. CCH conducted inspection of the college in November 2009, but did not accord approval for starting the PG courses. The Inspection Team pointed out inadequate teaching staff for starting PG courses.

In reply, the Principal, GHMC, Thirumangalam stated that a detailed proposal for starting the PG courses was sent again to DIMH in June 2014. The Principal, GHMC, Thirumangalam also requested DIMH to fill up the vacant posts as per the CCH norms for starting the PG courses. Action taken by DIMH was not on record. And the proposal of 2008 to start PG courses in Homoeopathy did not materialise (July 2018).

2.2.11.5 Non-establishment of research and development wing

Government of India published (2011-16) pharmacopeia specifications for raw drugs and prepared medicines of Siddha, Ayurveda and Unani systems of medicine. In order to enforce standard manufacture of these medicines, standardisation of drugs and medicines and for further research of herbs, GoTN sanctioned (December 2013) ₹ 12 crore for establishment of a research and development wing at AAGHIM campus, Chennai (**Exhibit 2.9**). The sanction included ₹ 6 crore for buildings, ₹ 4.02 crore for equipment and ₹ 1.69 crore for staff salaries and for other items of expenditure.

Exhibit 2.9: Newly constructed building for R&D wing lying idle



Exterior view of R&D building at AAGHIM, Chennai



Furniture purchased for R&D building at AAGHIM, Chennai

(Source: Photograph by Audit team during joint physical verification on 04 July 2018)

The PWD completed the construction of the new building and handed over the completed building to DIMH in June 2017. Audit, however, noticed that the R&D activities did not commence even as of June 2018 due to the following reasons.

DIMH released (July 2014) the entire sanctioned amount of ₹ 4.02 crore to TAMPCOL for procurement of medical equipment. The details of specifications of equipment to be procured, however, were given by DIMH to TAMPCOL only in May 2017, i.e. about three years after sanctioning. TAMPCOL floated the tenders for purchase of the equipment on 01 August 2017 and found that the total cost of procurement would exceed the sanctioned amount by ₹ 0.56 crore. The request (February 2018) of TAMPCOL for additional sanction was not processed by DIMH (June 2018). As a result, the equipment were not procured. Further, in respect of human resources, out of 49 posts sanctioned, only two posts were filled-up. DIMH did not take steps to recruit staff. Thus, due to non-synchronising the equipment procurement with civil works for the buildings and recruiting the required staff, the R&D building constructed at a cost of ₹ 6 crore was kept vacant for more than one year and the objective of furthering R&D was not achieved.

2.2.11.6 Non-realisation of the benefits of ancient knowledge in Siddha system

Over a period of time, DIMH collected 1,068 manuscripts from various sources. These manuscripts, originally written long back in palm leaves and other media were to be deciphered by transcribers with command over ancient Tamil script and language. Out of the 1,068 manuscripts collected by the Department, only 450 manuscripts (42 *per cent*) were deciphered so far and 20 books were published based on the manuscripts deciphered. Audit noticed that the posts of Tamil Pandits⁴⁰ and four out of five posts of Transcribers in the Manuscript Department of DIMH, Chennai were lying vacant for three to ten years. Remaining one Transcriber was also transferred to central library and thus all the five posts of Transcribers are lying vacant (July 2018). As a result, no action was underway to decipher and transcribe from palm leaf manuscripts to harvest the ancient knowledge on Siddha system.

The National Mission for Manuscripts had stipulated minimum requirements for conservation of manuscripts, which included climate control and other facilities to prevent degradation of manuscripts. Audit, however, noticed during inspection on 05 June 2018 that the original palm leaf manuscripts were dumped in a dusty and unventilated room along with other office documents and records (**Exhibit 2.10**). The air-conditioner installed at the room was not in working condition and there was no quarantine room available separately for the manuscripts, as stipulated in the National Policy.

Exhibit 2.10: Storage of manuscripts



(Source: Photograph by Audit team during joint physical verification on 05 June 2018)

The Department not only failed to harness the ancient knowledge on Siddha medicine by transcribing from palm leaf, it had put the palm leaves to danger by dumping them in rooms without environmental control which could result in their degradation.

GoTN replied (November 2018) that the International Institute of Tamil Studies, Chennai has acceded to the request of DIMH to store the manuscripts at their centre after the process of its digitalisation is over. The ownership of manuscripts will continue to be retained by DIMH.

⁴⁰ One with expert knowledge.

2.2.11.7 Insufficient System to detect quacks

GoTN enacted Tamil Nadu Private Clinical Establishments (Regulation) Act, 1997 to regulate clinical establishments in the State. The Act envisages maintenance of database of clinical establishment (ISM) by DIMH. However, DIMH neither developed the database of clinical establishments (ISM) nor issued any guidelines for identifying quacks practising as doctors in the field of ISM as the rules under the Act was framed only in March 2018.

It was replied that as and when complaints were received, action was taken by Quack Eradication Committee. DIMH lacked a comprehensive procedure to curb the menace of quacks cheating the general public by spurious drugs and treatment.

2.2.12 System to detect and prevent errors/omissions

The errors/omissions pointed out are on the basis of a test audit. The Department/Government may, therefore, undertake a thorough review of all units to check whether similar errors/omissions have taken place elsewhere, and if so, to rectify them; and to put a system in place that would prevent such errors/omissions.

2.2.13 Conclusion

The major objective set forth by GoTN to bring ISM into the mainstream was not fully achieved. Large scale shortages of physical and human infrastructure disrupted services delivery of ISM institutions. Delivery of services in ISM wings of PHC and ISM wings of the District hospitals were impacted due to constraints of space and shortage of working equipment. Lack of coordinated action between DSMOs, DIMH and the Medical Recruitment Board resulted in non-filling up of vacancies. Non-synchronising construction of buildings, procurement of equipment and posting of staff had rendered investments on several projects idle. There was chronic shortage of medicines in ISM institutions due to TAMPCOL's failure to link medicine production and procurement with the medicine indents. DIMH failed to address the issue of substandard ISM drugs due to delays in drug test results. ISM colleges did not meet several of the mandatory minimum standards stipulated by standard setting bodies. Post graduate courses were not started in three of the medical colleges due to lack of planning and concerted efforts. Delays in procurements resulted in huge sums lying in the bank accounts of DIMH, TAMPCOL and State AYUSH Society. In the absence of systematic accounting of project funds routed through bank account, the financial management system was exposed to the risk of fraudulent transactions. Research and Development did not receive due importance and casual handling of centuries old palm leaf manuscripts on Siddha medicine is potentially harming the objective of mainstreaming ancient knowledge on Siddha.

2.2.14 Recommendations

- Accounting for funds routed through bank account needs to be streamlined to ensure proper utilisation.
- DIMH may prepare and regularly update a computerised database of physical and human infrastructure in order to facilitate proper planning and resource utilisation.
- A proper mechanism may be put in place to link the indent raised by ISM institutions with the budget release by DIMH and production planning by TAMPCOL.
- Government may concentrate on starting post graduate courses in Ayurveda, Homoeopathy and Unani.
- Implementation of programmes under National AYUSH Mission needs acceleration, by providing for the necessary human and physical infrastructure.

MUNICIPAL ADMINISTRATION AND WATER SUPPLY DEPARTMENT

2.3 Performance Audit on Computerisation of functions in Urban Local Bodies

Executive Summary

GoTN launched the Urban Tree Information System as an e-Governance tool to improve service delivery by Urban Local Bodies. The system envisaged timely, cost-effective and transparent service delivery with ease of access and seamless flow of information across all levels. The Performance Audit on Computerisation of functions in Urban Local Bodies covering the period 2013-18 revealed improvements in the system in terms of availability of a centralised database for ease of transactions and facilitation of online tracking of service requests, etc. Deficiencies were noticed in planning, implementation of modules and monitoring.

- *Urban Tree Information System adopted Closed Source Software in place of Open Source Software resulting in avoidable recurring liability of ₹ 1.73 crore per annum.*
- *Licences procured for Disaster Recovery software at a cost of ₹ 2.62 crore expired without utilisation.*
- *The Citizen Web Portal provided limited services defeating the objective of 'Anywhere Anytime' services to the public.*
- *The Grievance Redressal system module did not provide for toll free complaints.*
- *The project scheduled for completion in two phases by August 2015 was under progress (December 2018).*
- *Implementation of the project under various modules had deficiencies such as inaccuracies in data migration, non-correlation of mandatory fields in tables across various modules, incorrect capture of data, incorrect cancellation of assessments, missing demands and leakage of revenue.*

2.3.1 Introduction

The Urban Local Bodies (ULBs) in Tamil Nadu are categorised into City Municipal Corporations, Municipalities and Town Panchayats. ULBs computerised their services since 2002 and had developed application modules for birth and death, property tax, water charges, profession tax, building plan, pay roll, etc. With a view to expand information and communication technology based urban services to the citizens, the GoTN sanctioned (December 2009) ₹ 14.21 crore for e-Governance enhancement in ULBs in the State through common service delivery outlets. A System Integrator was contracted (February 2014) to design, develop, implement and maintain Centralised e-Governance Applications viz., Urban Tree Information

System (UTIS) for ULBs⁴¹ in the State at a cost of ₹ 18.32 crore, anticipating GoI funds. The period of completion was 18 months including maintenance. The contract also provided for end-user training, data migration and creating infrastructure for Data Centre/Disaster Recovery.

GoTN accorded (August 2014) administrative sanction for UTIS under Jawaharlal Nehru National Urban Renewal Mission with the objective to move towards betterment of service delivery to stakeholders in time, cost and accessibility, increasing the transparency of processes, increasing employee productivity, ensuring seamless flow of information across all level of offices of the ULBs. As funds were not received from GoI, GoTN approached (September 2014) World Bank (WB) which approved (May 2015) UTIS under the WB assisted Tamil Nadu Sustainable Urban Development Project (TNSUDP).

UTIS was developed as web-based workflow application software using MS Windows 2012 Enterprise Edition as Operating System, Microsoft SQL Server 2014 Enterprise Edition as Database and Microsoft Visual Studio 2013 as Development tool. It consisted of 29 modules and was implemented in two phases viz., Phase I containing 12 modules⁴² and Phase II containing 17 modules⁴³. Phase I modules were completed and became operational in a phased manner from September 2015 to August 2017 in all the 134 ULBs, except Coimbatore City Municipal Corporation. Phase II modules were in progress (December 2018).

2.3.2 Organisational set up

The Principal Secretary, Municipal Administration and Water Supply (MAWS) Department is the head of the Department at the Government level. The Commissioner of Municipal Administration (CMA) exercises administrative control over all Municipal Corporations (except Greater Chennai Corporation) and the Municipalities. CMA is assisted by seven⁴⁴ Regional Directors of Municipal Administration (RDMA) with their jurisdiction over the municipalities in one or more districts. Each municipality is headed by a Commissioner. The Information Technology Wing of the CMA office is headed by one System Analyst and two Assistant Programmers and that of municipalities are managed by Assistant Programmers and Data Entry Operators.

⁴¹ Eleven City Municipal Corporations (except Greater Chennai Corporation) and 124 Municipalities.

⁴² Birth and Death Registration, Citizen Facilitation Centre, Citizen Portal, Financial Accounting, Grievance Redressal, Non-Tax Items, Profession Tax, Property Tax, System Administrator, Trade Licence, Underground Drainage and Water Supply.

⁴³ Agenda, Assembly Questions and Answers, Asset Booking, Asset Management, Audit, Building Permission, Employee self-service, e-Office, Hospital Management, Integrated Personnel Management System, Legal, Procurement, School Management, Solid Waste Management, Stores and Inventory, Vehicle Management and Ward Works.

⁴⁴ Chengalpattu, Madurai, Salem, Thanjavur, Tirunelveli, Tiruppur and Vellore.

2.3.3 Audit objectives

The audit objectives were to assess whether:

- objectives of the integrated e-Solution for ULBs viz., to make all ULB's services accessible to the citizen from anywhere, anytime through service delivery outlets ensuring efficiency, transparency and reliability of such services were achieved;
- data migration, customisation and business rule mapping were carried out appropriately; and
- procurement of hardware and software were need-based and uninterrupted services to citizen exist.

2.3.4 Audit criteria

The audit findings were bench-marked against the following:

- The Tamil Nadu District Municipalities Act, 1920;
- The Municipal Manual of Government of Tamil Nadu, Volumes I & II;
- The Municipal Accounting Manual;
- The Town Panchayats, Municipalities and Municipal Corporations (Collection of Tax on Professions, Trades, Callings and Employments) Rules, 1999;
- The Municipal Solid Wastes (Management and Handling) Rules, 2000;
- The E-Security Policy of Government of Tamil Nadu, 2010;
- The National Policy on Information Technology, 2012;
- Guidelines/circulars/instructions issued by CMA/RDMAs;
- Gazette Notifications/Council Resolutions of the respective municipalities; and
- System Requirement Specification (SRS) and Operating Manuals.

2.3.5 Scope and methodology of audit

The Performance Audit was conducted between March and July 2018 covering the period 2013-18. The methodology included examination of records at CMA and the selected municipalities to study the modules of Phase I and analysis of UTIS database (upto March 2018) furnished by the Department using SQL queries and data analysis software (IDEA)⁴⁵. Samples were selected from all the 124 municipalities in order to collect audit evidence for the audit observations emanating from data analysis. Twenty five *per cent*,

⁴⁵ Interactive Data Extraction and Analysis, an auditing application.

being eight⁴⁶ out of the thirty one districts (excluding Chennai), covering two districts from each of the four zones were selected by random sampling method using IDEA software. Scrutiny of manual records was limited to 16 municipalities⁴⁷, being 33 *per cent* of the total of 42 municipalities in the selected districts. Analysis of the UTIS database was carried out for all the 124 municipalities. An Entry Conference was held on 17 May 2018, with the Principal Secretary to Government, MAWS Department, wherein the audit objectives, scope and methodology were discussed. An Exit Conference was held on 26 October 2018 with the Principal Secretary to discuss audit findings and recommendations. The Principal Secretary accepted all the observations and directed CMA to take remedial action on the deficiencies pointed out by Audit.

Acknowledgement

Audit acknowledge the cooperation extended by the officers and staff of CMA and ULBs in conducting the audit.

Audit findings

2.3.6 Outcome of the Project

The vision of e-Governance enhancement in ULBs through Centralised e-Governance Applications was betterment of citizen service delivery. The implementation of UTIS (i) enabled integration of separate database of municipalities into a centralised single database, (ii) eased the process of getting information and payment of tax/non-tax for the people living in these urban agglomerations and (iii) enabled tracking the status of service requests. Audit analysis revealed that despite provision of facilities in the UTIS for seamless flow of information across all level of offices of the ULBs, these facilities were not utilised resulting in delay in delivery of municipal services to the citizens. Further, only two *per cent* of profession tax and less than one *per cent* of trade licence fees were realised through online despite instructions for collection only through online mode. This indicated lack of wide publicity for implementation of ‘anywhere anytime’ payment.

Deficiencies noticed in planning, implementation of modules and monitoring the service delivery at various levels of hierarchy are discussed below.

⁴⁶ Erode, Kancheepuram, Madurai, Thanjavur, The Nilgiris, Thiruvarur, Sivagangai and Vellore.

⁴⁷ Anakaputhur, Arakkonam, Arcot, Bhavani, Coonoor, Gobichettipalayam, Karaikudi, Kumbakonam, Mannargudi, Pallavapuram, Pammal, Thirumangalam, Tirupathur, Thiruvarur, Udhamandalam and Walajapet.

2.3.7 Planning

2.3.7.1 Adoption of Closed Source Software (Proprietary Software) instead of Open Source Software

Closed Source Software (CSS) is proprietary software under a licensing agreement to authorised users. It is platform dependent and involves recurring expenditure on renewal of licence. Open Source Software (OSS) is royalty free and prevent vendor lock-in, unnecessary cost on user licences and recurring liabilities.

National Informatics Centre (NIC) which provides e-Governance support to the State Government had advised (November 2010) CMA to adopt royalty free OSS for developing Centralised Web-Based Application Software. Further the National Policy on Information Technology, 2012 (Policy) envisaged adoption of Open Standards and promote open source and open technologies.

The Request for Proposal (RFP) (October 2013) for acquiring the software required the vendor to follow all e-Governance standards for Application Software and Data as per the guidelines published by GoTN and GoI from time to time. In contravention, CMA (a) implemented UTIS using CSS⁴⁸ incurring an expenditure of ₹ 2.96 crore towards procurement (April 2014) of licence valid for two years and (b) is using the CSS without renewing the licence since April 2016. Adoption of CSS in place of OSS was contrary to the RFP and the Policy. This resulted in an avoidable expenditure of ₹ 2.96 crore. Further, maintaining the critical system without renewal of licence attracts legal issues risking business continuity. The System Integrator has requested (July 2018) for renewal of licence from April 2018 at ₹ 1.73 crore per annum, which is an avoidable recurring liability to CMA.

CMA replied (December 2018) that a detailed study would be made to migrate from CSS to OSS after both phases of the Project are complete. Selection of CSS despite clear guidelines to select OSS from NIC and in the Policy resulted in recurring liability on renewal of licences.

2.3.7.2 Disaster Recovery

As per 'e-Security Policy 2010' of GoTN, Contingency Planning (Plan) is used to prevent interruptions to critical government processes from natural or man-made disasters and to restore normal operations within a determined period of time. The Plan includes definition of critical information, threats, controls, system environment, roles and responsibilities, establishment of critical information back-up services and determination of preventive, maintenance and corrective recovery strategies. In the case of any eventuality, the business continuity policy and Disaster Recovery plan should be effective to ensure that the services are resumed without interruption.

Audit scrutiny disclosed that there was no formulated plan for Disaster Recovery other than taking periodical back-up of the data held in the State Data Centre and storing them in server systems. This was due to

⁴⁸ MS SQL 2014-Relational Database Management System.

non-identification of the Disaster Recovery site. Accordingly, the servers, database, software and infrastructure for Disaster Recovery activity procured (April 2014) at a total cost of ₹ 5.42 crore remained unutilised for more than four years. The licence procured for Disaster Recovery activity at a cost of ₹ 2.62 crore expired in April 2016 without utilisation resulting in unfruitful expenditure.

CMA replied (December 2018) that all the hardware would be installed in the proposed Disaster Recovery site at Trichy. The site was however required to be identified before procurement of hardware as the business continuity of the UTIS depends on the Disaster Recovery plan in the event of any eventuality. The non-installation of the hardware resulted in non-adherence to the e-Security Policy.

2.3.7.3 Non-linkage of Profession Tax module and Trade Licence module

Profession tax is an important source of revenue (12 *per cent*) to the ULBs. The Tamil Nadu District Municipalities Act, 1920, requires organisations to register their profession with the ULBs concerned. In the absence of registration of an organisation/individual, profession tax demand cannot be generated by the system. By integrating profession tax and trade licence modules, remittance of profession tax by all trade licence holders can be ensured.

In seven out of the 16 test-checked municipalities, traders issued with trade licences did not pay profession tax. Thus, revenue of ₹ 28.34 lakh remained unrealised at the minimum of the slab rates as worked out by Audit (**Appendix 2.14**).

CMA stated (December 2018) that the integration would be completed by March 2019.

2.3.7.4 Delay in completion of project

As per the terms of agreement (February 2014), the implementation of UTIS was scheduled to be completed by August 2015. The System Integrator sought extensions, attributing reasons like non-availability of space in the State Data Centre, Assembly Elections 2016, non-availability of training centre, Vardah cyclone, etc. Accordingly, the project period was extended (July 2018) upto July 2019 including warranty period of one year. After the scheduled date of completion of the project, the System Integrator claimed ₹ 57.94 lakh towards differential rate of Service Tax on account of upward revision of rates from 12.36 *per cent* to 14.50 *per cent* from June/November 2015 and introduction of Goods and Services Tax (GST) in July 2017. A sum of ₹ 14.95 lakh was paid as of September 2018 and the balance of ₹ 42.99 lakh was due for payment.

CMA attributed (December 2018) the delay to diversion of staff for Parliament/Local Bodies elections, delay in allotment of space for installing servers at Tamil Nadu State Data Centre and the floods in December 2015. The reply was not acceptable, as location for installing the servers should have been identified at the time of awarding the contract and events like floods in December 2015, Vardah cyclone, elections etc., occurred after the scheduled

date of completion of the project. Further, diversion of staff was a one time matter and here, the delay was over three years.

2.3.7.5 Non-provision of ‘anywhere anytime services’ in the Citizen Web Portal

UTIS aimed at providing prompt services to the citizens with least departmental interaction, developing interface with other departments, simplifying departmental procedures and providing anywhere anytime services to the public. To attain the goal, the Citizen Web Portal (CWP) was created in UTIS to entertain public requests including grievances. The CWP acted as a platform to render general services like tax payments, tax calculator, taking print-outs of birth/death certificates, etc.

Audit noticed that the CWP provided only the general services. The core services like assessment of property tax for new properties, name transfer of properties, filing application for new water connections, trade licences, etc., by uploading the mandatory documents were not envisaged in the CWP module of UTIS and hence not provided to the citizens. As the CWP provided limited services, the citizens had to visit the municipality to avail the services. Thus, the objective of ‘anywhere anytime services’ remained unachieved.

CMA stated (December 2018) that ‘Ease of Doing Business’ is incorporated in CWP and hence anywhere anytime service was established. Scrutiny (January 2019) of the CWP, however, revealed that it continued to provide only general services.

2.3.7.6 Absence of user-friendly interface in Grievance Redressal System

UTIS introduced Grievance Redressal System (GRS) to assist citizens to register their grievances through CWP and Citizen Facilitation Centres (CFC). The grievance handlers of the ULBs were required to take action on the complaint within the specified duration as defined by the CMA in the Citizens’ Charter. GRS helps the citizens to register grievances, track the status of the grievances and communicates the action taken on the grievances through electronic medium.

UTIS was implemented on a pilot basis in Pallavapuram Municipality where it went ‘go-live’ in September 2015. The Municipality had an existing Toll Free Complaints Cell (Cell), in software developed by a third party, to register public grievances received over the telephone. For the period from September 2015 to March 2018, a total number of 27,152 complaints were registered in the Cell against 97 complaints registered in the GRS of UTIS. The grievances received through the Cell and the GRS module were segregated department-wise each day and print outs handed over to the respective wings of the ULBs to take action. The action taken on the complaints was communicated to the Cell for capturing the details in the System. Long pending complaints are forwarded to the respective departments for redressal at periodical intervals. The SRS for GRS module did not include the facility of Toll Free registration of complaints, denying the citizen a user-friendly interface to register their grievances. Had UTIS included the Toll Free facility in the GRS module, the

Municipality could have avoided the recurring expenditure of ₹ 15 lakh per annum for maintenance of the Cell.

CMA replied (December 2018) that compliant redressal would be implemented through email, messaging services and Toll Free facility in addition to CWP.

2.3.7.7 Provision for levy of interest on belated payment not available

Section 124 of the Tamil Nadu District Municipalities Act, 1920, empowers municipalities to levy tax on professions, trades, calling and employment on a half yearly basis and to levy interest not exceeding one *per cent* per month on the amount of profession tax remaining unpaid after the dates specified for payment, for the entire period of default. The provision for automated computation and levy of interest for delayed payment of profession tax was not incorporated as business rule in the UTIS application software.

Audit noticed that 22 organisations in nine⁴⁹ of the sixteen test-checked municipalities were remitting profession tax with a delay ranging from two to six months. Even though this attracted interest, the same was not levied and interest foregone by the municipalities in the State calculated at one *per cent* of profession tax arrears of ₹ 8.45 crore for the year 2016-17 worked out to ₹ 8.45 lakh.

CMA stated (December 2018) that the provision for levy of interest would be incorporated in the system.

2.3.7.8 Non-capture of agreement details in UTIS

Non-Tax revenue is the revenue earned by lease/rent of properties owned by the ULBs. The Non-Tax revenue module captures details like name of the lessee, amount due, collected and balance, period of lease, etc. The module did not capture the date and penal conditions of agreement. Paragraph 4.100 of the Municipal Manual of Government of Tamil Nadu Volume II read with orders of the Government (January 1994) stipulated the ULBs to execute a bond/agreement with the lessees immediately after the lease of properties was confirmed and provided for levy of penal interest at 18 *per cent* per annum on belated payment of lease rent.

Scrutiny of 1,074 cases out of 6,857 lease files in the 16 test-checked municipalities revealed that agreement/bond was not executed in 900 cases, not authorised by both the parties in 136 cases, blank non-judicial stamp paper signed by the lessee in 17 cases and lease agreement written on non-judicial stamp paper without authorisation in one case. Inclusion of the mandatory fields to capture the agreement details and configuration of penal provision as per agreement in the UTIS would generate automated levy of penal interest for belated payments and prevent leasing of properties without execution of agreements and omissions in the agreements.

CMA replied (December 2018) that facility to capture the agreement details would be incorporated from April 2019.

⁴⁹ Coonoor, Gobichettipalayam, Kumbakonam, Pallavapuram, Pammal, Thirumangalam, Tirupathur, Udthagamandalam and Walajapet.

2.3.8 Implementation

2.3.8.1 General

Phase I modules of UTIS became operational in all the municipalities in a phased manner between September 2015 and July 2017. Discrepancies and deficiencies noticed in the implementation of the application software and data are discussed in the succeeding paragraphs.

(i) Availability of limited services in Citizen Facilitation Centres

The ULBs established CFC with multiple counters to act as an interface between the citizens and the administration of ULBs. It was envisaged as a channel to receive all types of requests from the citizens to avail municipal services. Forty nine⁵⁰ counters were established in the 16 test-checked municipalities, of which 38 were located within the municipal office campus and 11 outside the campus.

All the services were provided in 19 counters and the remaining 30 counters⁵¹ functioned only as collection centres for receiving payments relating to property tax, water charges, underground drainage charges, etc. While the same software for provision of all services was available in all the counters, 30 counters provided only limited services. This was contrary to the objective of the UTIS system.

CMA replied (December 2018) that observations of audit would be considered for implementation in due course.

(ii) Non-digitisation of documents

The SRS requires CFC module to display checklist of documents to be scanned and uploaded in the system. The scanned documents are digitised for storage in the central repository and to enable verification at any time in the future.

The mandatory documents were neither scanned nor uploaded in the system even though scanners and the requisite software were provided to ULBs. Further, a random check of 272 applications in the test-checked municipalities during the year 2017-18 revealed that mandatory information was not filled up viz., floor-wise area (134 applications), building usage (119 applications), nature of the building (131 applications), year of construction of the building (235 applications). Further, relevant documents as per checklist viz., receipt for payment of tax dues (147 applications) and sale deeds (122 applications) were not attached. Besides, the signature of applicants was missing in 21 applications. Failure to incorporate input controls allowed receipt of

⁵⁰ Anakaputhur (2), Arakkonam (2), Arcot (2), Bhavani (3), Coonoor (2), Gobichettipalayam (3), Karaikudi (4), Kumbakonam (6), Mannargudi (3), Pallavapuram (7), Pammal (2), Thirumangalam (2), Thiruvarur (3), Tirupathur (2), Udhamandalam (4) and Walajapet (2).

⁵¹ Anakaputhur (1), Arakkonam (1), Arcot (1), Bhavani (2), Coonoor (1), Gobichettipalayam (2), Karaikudi (3), Kumbakonam (4), Mannargudi (2), Pallavapuram (4), Pammal (1), Thirumangalam (1), Thiruvarur (2), Tirupathur (1), Udhamandalam (3) and Walajapet (1).

applications without uploading the scanned documents. This defeated the objectives of streamlining the procedures, verifying the correctness of data in the workflow database and digitisation of mandatory documents for future reference.

CMA replied (December 2018) that instructions have been issued to the ULBs to scan and upload the documents.

(iii) Non-utilisation of Grievance Redressal Module

In four⁵² of sixteen test-checked municipalities, records relating to complaints received from citizens on various services were not available in the database of UTIS which indicated that complaints were not registered through GRS module. In the remaining 11 test-checked municipalities (except Pallavapuram Municipality) only a meagre number of two complaints were registered per month on an average in GRS module against 360 complaints registered manually for the period from January 2018 to March 2018. Consequently, the complaints on non-functioning of streetlights, garbage clearance, drainage overflow, dog menace, etc., were continued to be recorded in the manual registers in four municipalities (Arcot, Mannargudi, Thiruvarur and Walajapet). Scrutiny of 360 manual complaints revealed lacunae such as receipt of complaints not acknowledged, details of action taken not recorded, complaints received over the telephone not recorded, etc.

The Municipalities replied (August 2018) that action would be taken to give publicity in prominent places including Citizen Facilitation Centres and the module in UTIS will be implemented.

(iv) Data migration process

The Agreement required the System Integrator to define and implement a proper data migration methodology. A mapping was to be carried out between the legacy database and the newly developed database to ensure data migration without data loss or data model mismatch after obtaining approval from ULBs. In test-checked municipalities, the accuracy of data migration performed by System Integrator was not certified by the ULBs as specified in the Agreement. The deficiencies noticed are explained below:

(a) Birth and Death Registration

In the test-checked municipalities, the information on birth and death available in the legacy database was not migrated in full. Out of 22,02,797 data on birth registrations migrated, information were missing on literacy of father (79 per cent) and mother (76 per cent) and their occupation (90 per cent and 46 per cent respectively). Though the legacy database captured the reasons for death like 'Senility', 'Old Age', 'Heart Disease and Heart Attacks', etc., in distinct codes, the workflow database captured the information under a single code without classification. Hence, 96 per cent (out of 3,98,264) of death registration did not have proper classification in the workflow database which was available in the legacy system. Further, 735 data on birth registration and

⁵² Arakkonam, Coonoor, Karaikudi and Walajapet.

3,437 data on death registration were missing in the migrated data in seven⁵³ municipalities.

CMA replied (December 2018) that migration of missing data from legacy database to UTIS would be gradually taken up and completed.

(b) Property Tax System

The Property Tax (PT) assessment master table contains details of assessments including the Annual Value⁵⁴ (AV) and PT levied on assessees. The amount of AV and PT available in the legacy data differed in the migrated data in the test-checked municipalities in 25,065 records of AV and 3,366 records of PT without audit trail for the modifications carried out.

The municipalities replied (August 2018) that the issue will be addressed to the System Integrator.

(c) Building usage

The coding for building usage was available in the legacy database as 'A', 'B', 'C' and 'D' for residential, rental, commercial and industrial respectively. In the workflow database, the building usage was codified as '1', '2' and '3', for residential, industrial and commercial respectively. The legacy data with 13,597 records under commercial and industrial codes were migrated under residential code in the workflow database by 11 out of the 16 test-checked municipalities⁵⁵. Similarly, 2,933 records of legacy data under residential code were migrated under commercial code in the workflow database by nine⁵⁶ municipalities.

The municipalities replied (August 2018) that during the previous revision (April 2008), the usage flag was not updated properly in the legacy database due to combined usage of building and that the list would be forwarded to System Integrator for updation. Further, CMA stated (December 2018) that this work would be gradually taken up and completed soon.

⁵³ Arcot (22 records of birth), Bhavani (1,742 records of death), Gobichettipalayam (7 records of death), Kumbakonam (509 records of birth), Pallavapuram (120 records of birth and 29 records of death), Udhamandalam (1,659 records of death) and Walajapet (84 records of birth).

⁵⁴ As per Section 82(2) of the Tamil Nadu District Municipalities Act, 1920, the Annual Value of the lands and buildings shall be deemed to be the gross annual rent at which they may be reasonably expected to let from month to month.

⁵⁵ Anakaputhur (21), Arcot (1,281), Bhavani (335), Coonoor (185), Gobichettipalayam (808), Karaikudi (2,409), Kumbakonam (3,530), Mannargudi (6), Pallavapuram (1,512), Thirumangalam (2,151) and Udhamandalam (1,359).

⁵⁶ Arcot (11), Bhavani (701), Coonoor (176), Gobichettipalayam (327), Karaikudi (1,612), Kumbakonam (37), Mannargudi (7), Pallavapuram (52) and Udhamandalam (10).

(v) Non-correlation of Property Tax and water charge modules

The PT assessment number is mandatory to avail services like new water connection and name transfer of Water Supply (WS) connections. The linkage between the PT Assessment Table and Water Connection Table is provided through 'Assessment ID' in the UTIS.

Though the Assessment IDs were linked, the usage of the property (residential/commercial) was not correlated in 7,276 WS connections i.e., 4,796 WS commercial connections were classified under residential category in 61 municipalities and 2,480 WS residential connections under commercial category in 44 municipalities. This indicated lack of input control in the application software resulting in mismatch of usage and variation in the anticipated revenue of the municipalities.

CMA stated (December 2018) that correlation would be completed during revision of Property Tax 2018.

2.3.8.2 Property Tax

Section 78 read with Section 81 of the Tamil Nadu District Municipalities Act, 1920 (Act) empowers municipalities to levy PT on buildings or lands occupied by or adjacent and appurtenant to buildings or both. The usage of buildings is broadly classified into residential, commercial and industrial for assessing PT. The computation of PT is based on the plinth area, usage, location, type of construction and age of the building. The PT comprises tax for general purpose, education tax and library cess. Deficiencies noticed in audit are discussed in the following sub paragraphs.

(i) Incorrect capture of data

The PT module contains the Assessment Table and the Assessment Floor Table to provide details of the property for levy of PT. The Assessment Table is the master table and captures details of the location, area of the plot, built area, type, age of the building, approved built area as per the plan, date of completion of construction of building, date of assessment, date from which PT levied, etc., for each assessment. The Assessment Floor Table provides floor-wise details of built area and usage for each assessment.

Building plan approval

The municipalities and Director of Town and Country Planning are empowered to issue planning permission for residential buildings and commercial buildings based on the number of floors and built area. The building plan approval number, date and approved building area are mandatory fields to be entered by CFC operator on receipt of applications for new assessment of property.

Out of 27,14,510 assessments available in the Assessment Table of the municipalities in the State, 26,19,288 relates to PT and 95,222 relates to Vacant Land Tax (VLT). Out of the PT assessments, the details of building plan approval and extent of approved area were absent in 26,11,704 (99.71 per cent) assessments. Of this, 13,558 assessments had records relating to residential (10,412), commercial (3,107) and industrial (39) categories with

floors from second floor to twelfth floor. As the Building Permission module included in Phase II was not implemented, deviations and unapproved constructions remain un-detected which affect the payments relating to building plan permissions.

The test-checked municipalities replied (August 2018) that necessary notices were issued to the assesseees to furnish the building plan approval details and the corresponding data would be updated in the database on receipt. Lack of input controls and non-integration of Building Permission module with PT Assessment Table had resulted in incomplete capture of vital data.

Plot area and Built area

Plot area is the extent of the land either vacant or occupied with a building. Built area is the built-up area of the building in the property. The information on plot area and built area are mandatory in the Assessment Table for computing the VLT and PT. The Assessment Floor Table captures the floor-wise details of built area.

(a) In 99,864 assessments, the plot area was not captured in the Assessment Table. Similarly, in the Assessment Floor Table, the built area was not captured in 1,37,557 records. The absence of the data despite availability of the mandatory fields in the workflow database indicated lack of data purification in the migrated data and input controls.

The test-checked municipalities replied (August 2018) that staff would be instructed to capture the mandatory fields. The lack of input controls facilitated mandatory fields to remain blank while allowing the process of PT assessments despite missing details.

(b) A comparison of Assessment Table and Assessment Floor Table revealed that 7,980 assessments having more than 10,000 sq.ft. of plot/built area did not exhibit half year tax commensurate to the area shown in the Assessment Table. Also, the Assessment Floor Table exhibited 4,707 assessments with built area more than 10,000 sq.ft. as active but were found to be deleted in Assessment Table due to non-integration of the Tables.

Further, the built area captured in the Assessment Table should tally with the sum of floor-wise built area captured in the Assessment Floor Table. Out of 26,19,288 PT assessments, in 3,39,058 assessments, built area in Assessment Table was not equal to the sum of floor-wise built area captured in the Assessment Floor Table as enhancements were not updated in the Assessment Table. This indicated deficiency in data structure, data inaccuracy, lack of data purification during migration and lack of processing controls.

The test-checked municipalities replied (August 2018) that the actual area will be updated in the system after verifying the list of cases through System Integrator.

(c) Based on Section 81 (3) (a) of the Act, CMA had instructed (July 1998) all municipalities to levy VLT for the excess vacant land appurtenant to buildings over and above three times of built area of the building. Audit observed that the 'plot area' field in Assessment Table

captures area of the plot in case of VLT assessments and built area in case of PT assessments.

The test-checked municipalities accepted (August 2018) that plot area for vacant site and floor-wise summarised built area for buildings were stored in the plot area column. Absence of separate fields for plot area and built area in the Assessment Table impeded calculation of VLT for the excess vacant land appurtenant to buildings along with PT for buildings.

(ii) Generation of demand on cancelled assessments

In the case of settlement or demolition of a property, the assessee applies for name transfer or cancellation of assessment after clearing the outstanding dues. Once approved, the system de-activates the assessment number. The details of cancelled assessments are listed in the Assessment Cancellation Register generated by the system. Out of 33,617 assessments cancelled, demands were raised and pending on 223 assessments for ₹ 0.72 lakh in 57 municipalities, after the dates of cancellation. The discrepancies arose due to lack of control in the software to integrate the Cancellation Table with the Demand, Collection and Balance (DCB) Table.

Out of the test-checked municipalities, Anakaputhur, Pallavapuram and Pammal municipalities replied (August 2018) that the discrepancy was due to validation issues which were identified and rectified. Arcot, Kumbakonam and Mannargudi municipalities stated that the issue would be taken up with System Integrator for rectification.

During the Exit Conference, the Principal Secretary, MAWS Department instructed (October 2018) CMA to block back-end operations which lack audit trail. To resolve the issue in all the municipalities, the Assessment, Demand and Cancellation Tables are to be integrated by suitably modifying the application software. This would check repeat occurrences.

(iii) Cancellation of assessments with dues

(a) Vacant Land Tax

The levy of VLT is cancelled from the date PT is assessed on the property and after settlement of outstanding dues. Demand for ₹ 46.98 crore was outstanding against 79,191 VLT assessments in all municipalities of the State. Of this, demands for ₹ 3.41 crore on 6,229 assessments were cancelled without settlement of dues as of March 2018.

(b) Property Tax

Section 89 (2) of the Tamil Nadu District Municipalities Act, 1920 stipulates settlement of PT dues before cancellation of assessment on account of demolition or destruction of the building. Out of ₹ 338.20 crore due from 7,94,243 assessments, 9,633 assessments were cancelled without settling the dues of ₹ 3.67 crore as of March 2018.

(c) Solid Waste Management User Charges

The Municipal Solid Wastes (Management and Handling) Rules, 2000 necessitate the owners/occupiers of the households, shops, hotels, restaurants,

office building and shopping complexes to pay Solid Waste Management User Charges (SUC) at rates notified by the municipalities. The SUC forms part of PT and the demand for SUC is made as an addition in the demand notice of PT. Out of ₹ 17.03 crore demanded during 2017-18 from 9,10,830 assessments, 3,668 assessments were cancelled without settling the dues of ₹ 0.53 crore.

The test-checked municipalities replied (August 2018) that the cancelled demands were restored after validating the date and that provision was made to collect the arrears. The details of restoration of cancelled demands and collection of arrears as called for by Audit were not furnished. The application software allowed cancellation of demands without settlement of dues, which indicated lack of input controls and processing controls.

(iv) Deletion of Assessments

Assessment Cancellation Module has been designed in the front-end for cancellation of the assessments in the computerised workflow system with provision to capture remarks and reasons. This enables the municipalities to cancel assessments with audit trail. System Integrator, however, deleted 33,501 assessments relating to the test-checked municipalities at the back-end without audit trail as demands were not generated for these assessments in the legacy database. Though the municipalities requested for revival of 4,035 assessments which were alive, the System Integrator is yet (August 2018) to restore the live assessments. Deletion at the back-end in the Assessment Table without correlating the Assessment Cancellation Table resulted in lack of audit trail.

The test-checked municipalities replied (August 2018) that the issue was communicated to the System Integrator for rectification. Allowing deletion without using Assessment Cancellation Module indicated lack of transparency, processing controls and effective monitoring and would result in non-generation of demands for active assessments.

(v) Payments received under different heads of account

The DCB Table captures demand for VLT and PT under ValueID-1 and ValueID-2 respectively. The Payment Table captures the amount collected against the demand, under the same ValueID to avoid misclassification. Based on the nature of receipt, the PT/VLT receipts under various categories are accounted under various heads viz., (i) PT/VLT, (ii) Arrears, (iii) Current demand and (iv) Remission and Refund. The DCB Table revealed that VLT of ₹ 3.62 crore received from 5,549 assesseees for the period October 1998 to March 2018 was credited under PT in the Payment Table and PT of ₹ 14.15 lakh received from 679 assesseees for the period April 2010 to March 2018 was credited under VLT, erroneously. The workflow database permitted the misclassification resulting in non-reconciliation of accounts. This indicated lapses in the application software.

The test-checked municipalities replied (August 2018) that ValueID was corrected in the DCB Table and the Payment Table based on the

Assessment Table. The reply was not tenable as action needs to be taken to bring controls in the software to avoid such errors in future.

(vi) Demand for Solid Waste Management User Charges

The rates of SUC were notified by the municipalities during the period from April 2017 to August 2017. The SUC form part of PT and the demand for SUC is made as an addition in the demand notice of PT. During 2017-18 (second half year), SUC of ₹ 8.30 crore was not demanded on 3,11,783 assessments by the municipalities in the State i.e., 43,835 residential assessments and 2,67,948 non-residential assessments at a minimum of ₹ 10 and ₹ 50 per month respectively.

Further, there was a short demand of ₹ 97.98 lakh on 1,32,331 residential assessments from which SUC was demanded during the year 2017-18 by the test-checked municipalities as demand for SUC, required to be levied from the effective dates of the year 2017-18 (effective date is different in each municipality), were raised belatedly or adopting lower slab rates. In the absence of provision in the system to capture different types of commercial/industrial categories of waste generators, the amount of SUC due was not automated but manually entered. This deficiency in the application software indicated lack of transparency in entering the rate for each category and resulted in variation in the expected revenues of the municipalities.

CMA stated (December 2018) that generation of SUC demand would be automated from April 2019 based on the ULB's bye-law.

(vii) Non-generation of demand

The system failed to calculate VLT/PT and generate demand for 8,017 assessments though the flags 'isdeleted' and 'isactive' in PT Assessment Table indicated that the assessments were valid records. Non-raising of demands were due to lack of processing controls in the application software.

The test-checked municipalities replied (August 2018) that these were migrated records, which were written-off and hence PT and Annual Value were captured as zero; these valid records would be made inactive in the UTIS database.

The reply was not acceptable as write-offs do not render the assessments inactive and accordingly demands should be generated periodically. The reply indicated that changes were made in the database through back-end, which could lead to inconsistency in data and lack of audit trail.

(viii) Assessments written off

Long pending dues on assessments are written off based on Council resolutions for a specific period and on completion of that period, demands are raised periodically. The State database exhibited 7,204 assessments as "written off" with remarks like council resolution number, write off, new assessment raised, cancellation, demand deletion, etc.

Pammal Municipality had written off 139 assessments with remarks such as 'demolition' and 'double entry cancelled'. The Municipality

replied (June 2018 and August 2018) that the provision for assessment cancellation was disabled from February 2018 and hence these cases were written off instead of cancellation in the system. Similarly, Gobichettipalayam Municipality had written off five assessments with remarks such as 'cancelled in monthly list', 'wrong demand generated'. It was replied (August 2018) that these demands were required to be cancelled in place of write off.

Cancellation and write off are different procedures and including cancelled assessments in the write off table reflects incorrect status in the database.

During the Exit Conference, Principal Secretary, MAWS Department, instructed (October 2018) CMA to take necessary action on non-generation of demands for PT and write-off of PT assessments.

2.3.8.3 Profession Tax

Chapter VI A of the Tamil Nadu District Municipalities Act, 1920 empowers the ULBs to levy tax on profession, trade, calling and employment of a citizen/organisation on half-yearly basis. Article 276 (2) of the Constitution of India specifies the maximum amount of profession tax payable by a person at ₹ 1,250 per half-year.

(i) Missing Demands

Paragraphs 4.13, 4.15, 4.30 and 4.31 of the Municipal Manual of Government of Tamil Nadu, Volume II require each municipality to enumerate and maintain a demand register each year incorporating list of citizens/organisations liable to pay profession tax. The names in the register shall be tallied with the list furnished by citizens/organisations to generate unique assessment number (one assessment number to an organisation including its members) to enable them to pay the profession tax as applicable, through the service delivery outlets like the CFC or CWP. Additions and alterations are incorporated through monthly reviews to update the register and to avoid missing demands. The SRS also provided for automatic generation of half yearly demand with a pre-requisite that citizen's details and profession tax information are available in the system.

Profession Tax demands for ₹ 31.77 crore on 76,131 assessments were missing in the workflow system of the municipalities in the State during the period 2015-18. Audit detected the omissions by comparing the list of demands generated in a year with that of the subsequent years after taking into account the cancelled demands. This indicated failure of the municipalities to update the details of citizens/organisations periodically in the system resulting in missing demands.

CMA replied (December 2018) that necessary instructions would be given to ULBs to generate the demands regularly and proper validation would be applied in UTIS to alert for missing demand.

(ii) Non-remittance

The employees of Postal Department and the Tamil Nadu State Marketing Corporation, a company owned by GoTN, were not assessed for profession tax in six⁵⁷ and five⁵⁸ of the test-checked municipalities respectively.

The test-checked municipalities replied (August 2018) that the matter would be taken up with the Chief Post Master and District Chief Manager of the Tamil Nadu State Marketing Corporation.

(iii) Short remittance

Rule 8 of the Town Panchayats, Municipalities and Municipal Corporations (Collection of Tax on Professions, Trades, Callings and Employments) Rules, 1999 (Rule) requires the Commissioners to verify 10 *per cent* of the total number of returns at random with relevant documents, under each slab rate fixed in the Act to ensure correctness of the amount remitted against profession tax. There was short remittance of ₹ 0.98 lakh in two of the test-checked municipalities for the period 2016-18 i.e. ₹ 0.92 lakh in Pammal Municipality in ten selected organisations and ₹ 0.06 lakh in Coonoor Municipality in six selected organisations. Even though the organisations remitted the amount of profession tax with details of employees, the municipalities did not conduct verification of the documents.

CMA replied (December 2018) that the defects pointed out are noted for future guidance and necessary instructions will be given to ULBs.

(iv) Excess remittance

The maximum amount of profession tax payable by a person was fixed at ₹ 1,250 per half year. In three test-checked municipalities⁵⁹, the test-checked organisations remitted profession tax of employees in excess of the ceiling prescribed in Article 276 (2) of the Constitution. This indicated that verification of the documents was not carried out by the municipalities.

CMA replied (December 2018) that the maximum half year tax had since been restricted to ₹ 1,250 in UTIS from second half year of 2018-19.

(v) Acceptance of returns without supporting documents

Organisations remitting profession tax of its employees shall specify the gross salary of the previous half-year against the name of each employee in the returns submitted to the ULBs.

In four out of the test-checked municipalities (eight cases in Coonoor, 12 cases in Pallavapuram, five cases in Udthagamandalam and two cases in Pammal), the organisations submitted profession tax returns without details of gross income and supporting documents like income tax returns to enable the

⁵⁷ Gobichettipalayam, Karaikudi, Mannargudi, Thirumangalam, Thiruvarur and Udthagamandalam.

⁵⁸ Gobichettipalayam, Karaikudi, Mannargudi, Thirumangalam and Thiruvarur.

⁵⁹ Gobichettipalayam - ₹ 31,468 (476 employees in 8 organisations), Kumbakonam - ₹ 26,880 (384 employees in 10 organisations) and Pammal - ₹ 8,403 (74 employees in 5 organisations).

municipalities to verify the correctness of the payment. The acceptance of remittance without supporting documents indicated that the municipalities did not adhere to the provisions of the Rule.

CMA replied (December 2018) that necessary instructions were issued to all ULBs to verify the list of employees and their gross income for the previous six months received from the employer at the time of remittance.

(vi) Discrepancies in Profession Tax Module

The basic requirement of a computerised system is the completeness and reliability of database. In Karaikudi Municipality, the profession tax master data with the list of profession tax assessees contained 290 records without capturing name in the business name field and the first name field was captured as 'owner' without specifying the name of the assessee. In Thirumangalam Municipality, the profession tax Demand Table had 20 records without the Assessment Number.

The absence of relevant information resulted in non-identification of the assessees on whom the demand was generated leading to non-settlement of demands. This indicated failure of the data entry operators to ensure the capture of complete information submitted in the applications for registration and lack of monitoring.

CMA replied (December 2018) that respective ULBs were instructed to identify the genuineness of the records and instructed all ULBs to self check such kind of issues.

2.3.8.4 Water Supply and Under Ground Drainage Charges

The ULBs invite applications from consumers for providing new WS/Under Ground Drainage (UGD) connections after fixing the amount of initial deposit and user charges in the Bye-laws notified in the District Gazette. The Bye-laws empower the municipalities to disconnect the WS connections in the event of failure on the part of the consumers to make payment of user charges within the time prescribed therein.

The database contained 11.25 lakh WS connections and 1.80 lakh UGD connections provided by the municipalities in the State as of March 2018. Of this, 0.51 lakh WS connections and 0.32 lakh UGD connections were processed after implementation of UTIS. Deficiencies noticed in the module are discussed in the succeeding sub-paragraphs.

(i) Absence of data for generating demand for user charges

The Operating Manual and SRS require capturing information on the date of installation of the WS/UGD connections for generating demand notice for user charges as a mandatory field. The demand for user charges on 2,166 WS connections and 5,993 UGD connections provided in the municipalities of the State through UTIS for the period from October 2015 to March 2018 were generated without capturing the date of installation in the mandatory field provided in the database. Of this, 709 WS connections were

in 10 test-checked municipalities⁶⁰ and 1,268 UGD connections were in four⁶¹ test-checked municipalities. Despite the installation date field being mandatory, the System Integrator designed the field to accept 'null' values resulting in lack of input controls in the application software.

During the Exit Conference, CMA stated (October 2018) that action was being taken in consultation with System Integrator.

(ii) Demands not generated

The demand for user charges is generated on quarterly basis. In the database, the Table 'WUConnection' contains details of consumer-wise WS/UGD connections provided and the Table 'WSUDemand' generates the demand for user charges. The system generates the demand notice using field 'Slab ID' of the connection. The system did not generate demand for user charges on 339 WS connections in 35 municipalities for ₹ 1.13 lakh from the month of installation i.e., from August 2015 to March 2018. The flag 'IsActive' ensured that the connections were alive. The 'Slab ID' for the connections was not captured resulting in non-generation of demand notices. This indicated lack of input validation control in the application software.

CMA replied (December 2018) that defects have since been rectified in UTIS application and existing data have been corrected. Documentary evidence, however, in support of the reply was not furnished.

(iii) Non-collection of revised rates of initial deposit for WS connection

Pallavapuram Municipality revised the rates of WS connections effective from October 2017 i.e., initial deposit rates from ₹ 5,000 to ₹ 7,500 on residential and from ₹ 10,000 to ₹ 15,000 on commercial/industrial connections and monthly user charges from ₹ 50.50 to ₹ 285 on residential and from ₹ 151.50 to ₹ 855 on commercial/industrial connections. The Bye-law provided for collection of differential amount of initial deposit from the existing consumers in two instalments within a period of six months. The Municipality provided 21,273 WS connections including 21,081 residential and 192 commercial/industrial connections as of March 2018.

The Municipality did not collect the differential amount of initial deposit from the existing consumers, continued to collect the initial deposit from the new consumers and levy the user charges at the old rates. The differential amount of initial deposit pending collection was ₹ 5.37 crore. The differential amount of monthly user charges not levied was ₹ 2.89 crore for the period from October 2017 to March 2018. Failure to incorporate the revised rates in the application software as stipulated in the bye-laws resulted in non-collection of ₹ 5.37 crore and ₹ 2.89 crore towards differential amount of initial deposit and monthly user charges respectively.

⁶⁰ Anaputhur, Arcot, Karaikudi, Kumbakonam, Mannargudi, Pallavapuram, Pammal, Thirumangalam, Thiruvarur and Tirupathur.

⁶¹ Kumbakonam, Pallavapuram, Thiruvarur and Udhagamandalam.

During the Exit Conference, Principal Secretary, MAWS Department instructed (October 2018) CMA to incorporate the revised rates in the UTIS.

(iv) Non-integration of UGD and Property Tax modules

The SRS stipulated integration of UGD application module with CFC, PT and Accounts modules. The citizens submit the application for UGD connections in the CFCs along with the mandatory documents. The system has to integrate the PT assessment number with the UGD connection request for automated calculation of the initial amount of UGD deposit payable by the citizens based on the details of area and usage of the property available in the PT Assessment Table. The non-integration of the UGD and PT modules resulted in discrepancies leading to manipulation through manual interventions as discussed in the following sub-paragraphs.

(a) Pallavapuram and Kumbakonam municipalities

The amount of initial deposit for providing UGD connections to residential and commercial categories were fixed at ₹ 0.10 lakh and ₹ 0.20 lakh respectively by Pallavapuram Municipality and at ₹ 0.05 lakh and ₹ 0.10 lakh respectively by Kumbakonam Municipality. The municipalities (i) collected ₹ 11.75 lakh in excess towards initial deposit for residential connections at commercial rates i.e., 103 connections in Pallavapuram and 29 in Kumbakonam and (ii) made a short collection of ₹ 1.45 lakh towards initial deposit for commercial connections at residential rates i.e., 10 connections in Pallavapuram and nine in Kumbakonam.

Pallavapuram Municipality replied (August 2018) that the consumers were intimated to remit the arrears and the Kumbakonam Municipality stated (August 2018) that the cases would be verified.

(b) Thiruvarur Municipality

Thiruvarur Municipality fixed the amount of initial deposit for UGD connection based on the area and usage of the property of the consumer.

Out of 4,431 UGD connections i.e., 4,235 residential and 196 commercial connections provided as of March 2018, PT 'AssessmentId' were not available for 3,168 connections which indicated non-integration of UGD and PT modules for automated computation of initial deposit and user charges. Further, there was an excess collection of ₹ 7.70 lakh and short collection of ₹ 4.31 lakh towards initial deposit for UGD connection for 259 and 150 connections respectively. Besides, there was an excess collection of ₹ 1.03 lakh and short collection of ₹ 1.55 lakh towards user charges for UGD connection for 258 and 1,069 connections respectively during the period 2016-18. The discrepancies arose as the slab rates were entered manually in the workflow system and the application software was not designed for automated capture of deposit amount and generation of demand amount based on area and usage of the property.

During the Exit Conference, the Principal Secretary, MAWS Department, instructed (October 2018) CMA to take into account the audit observation for integrating the modules.

2.3.8.5 Trade Licence

Non-utilisation of automated penalty provision

Section 249 read with Schedule V of the Tamil Nadu District Municipalities Act, 1920 covers the list of trades that could be carried out within municipal limits. The ULBs grant trade licence after collecting the licence fees as notified in the District Gazette. The licence is valid for one financial year and requires renewal after its expiry.

The municipalities process the trade licence applications after creation of master records in the 'list of trades' and 'trade licence fees'. UTIS in its trade licence module has the CFC at the front-end screen with three modes for the process viz., Application mode, Miscellaneous Receipts (MR) mode and Complaints mode. The Application mode allows generation of automated demand for penalty at 25 per cent of the applicable fees towards non-renewal of licences within the scheduled date. The MR mode seeks manual intervention to process applications.

The penalty for non-renewal of trade licence within the stipulated period is notified by each ULB in the District Gazette. Accordingly, the rate of penalty varies in each municipality. UTIS facilitated levy of penalty at 25 per cent in its workflow database by default, without provision for modification by individual municipalities.

Coonoor and Udthagamandalam Municipalities fixed the rate of penalty at 100 per cent and Gobichettipalayam Municipality at 50 per cent of the applicable fees. As the workflow database did not capture the rate as fixed by the municipalities, they depended on the MR mode through manual intervention, to collect the amount of penalty levied.

During the Exit Conference, Principal Secretary, MAWS Department agreed to stop data entry through MR mode and customise penalty collection.

2.3.8.6 Financial Accounting

(i) Non-adherence to due dates for submission of Annual Accounts in the workflow database

The Financial Accounting (FA) module for ULBs in UTIS was designed in accordance with the updated Municipal Accounting Manual and the application software proposed to integrate all the modules of Phases I and II as part of centralised e-Governance application. The objectives of FA module *inter alia* included improvement of financial management, accountability, transparency of management and governance, publishing of audited financial statements in time and better management of resources and risks.

Even though Phase I modules became operational in all the municipalities of the State in phases from September 2015 to July 2017, the preparation of Annual Accounts for the year 2017-18 was at different stages of progress (August 2018). The due date for submission of accounts to the Directorate of Local Fund Audit (DLFA) was three months from the close of the financial year. Out of the test-checked municipalities, five municipalities prepared the annual accounts in the UTIS application software and submitted to DLFA for

approval. In the remaining 11 municipalities⁶², the preparation of accounts was under progress indicating that the major objectives of implementing FA module were yet to be achieved.

CMA replied (December 2018) that instructions were issued to ULBs to complete the accounts and submit the report to DLFA in time.

(ii) Delayed remittance of cheque/demand draft receipts

The Municipal Manual of Government of Tamil Nadu, Volume II necessitates remittance of all money received into the municipal fund account as soon as they are received unless specified otherwise. During the year 2017-18, nine⁶³ out of the sixteen test-checked municipalities remitted 4,550 out of 12,363 cheque/Demand Draft receipts amounting to ₹ 6.33 crore into bank after a delay ranging from 8 to 90 days i.e., 8 to 15 days in 2,219 cases for ₹ 2.81 crore, 16 to 30 days in 1,235 cases for ₹ 1.76 crore and 30 to 90 days in 1,096 cases for ₹ 1.76 crore.

CMA replied (December 2018) that instructions would be issued to the collection staff to submit the cheque/DD on the same day, to avoid delay in remittance.

(iii) Acceptance of unequal entries by the Financial Accounting module

The municipalities adopt the accrual basis of accounting for which the FA module of UTIS provides a single or multiple debit entries against a credit entry and *vice versa* and ensures that the total amount of debit entries tallies with that of the corresponding credit entries. In 50 municipalities, 4,002 vouchers depicted a difference between the debit entries and the corresponding credit entries during the year 2017-18. The capture of unequal entries in the application software indicated lack of input controls.

CMA replied (December 2018) that the reason for this error would be identified and rectified.

2.3.8.7 Role Management and privileges

The Administrator module provides Role Based Access Controls (Controls) to offer User and Role management functionalities to officials in the workflow system, ensure right distribution of access grants and proper mapping of configuration settings. The Administrator assigns login credentials to the users with privileges depending upon their designation to carry out the functions in the workflow system. The Controls safeguard data, provide audit trail and avoid misuse of the system. In 11 municipalities⁶⁴, service requests of citizens for payment of taxes and charges were captured by operators other

⁶² Arcot, Bhavani, Coonoor, Gobichettipalayam, Kumbakonam, Mannargudi, Tirumangalam, Thiruvarur, Tirupathur, Udhagamandalam and Walajapet.

⁶³ Arakkonam, Arcot, Bhavani, Coonoor, Gobichettipalayam, Thirumangalam, Tirupathur, Udhagamandalam and Walajapet.

⁶⁴ Anakaputhur (511 cases), Arcot (384 cases), Bhavani (599 cases), Coonoor (153 cases), Gobichettipalayam (25 cases), Mannargudi (363 cases), Pallavapuram (1,082 cases), Thirumangalam (61 cases), Thiruvarur (142 cases), Udhagamandalam (939 cases) and Walajapet (397 cases).

than the regular CFC operators, by sharing passwords to the operators on duty in their absence. This indicates that the security provisions in the Controls were not utilised by the municipalities.

CMA replied (December 2018) that instructions have been issued to ULBs not to permit sharing of user-id/password and to assign the role of CFC operator in advance when the regular staff is on leave.

2.3.8.8 Password policy

Password is an user identity to access an information system or service. 'e-Security Policy 2010' of GoTN stipulates implementation of password standards to ensure adherence to password management practices by authorised individuals accessing Government Department resources. Out of 5,110 active users of the municipalities in the State as of March 2018, 2,740 users did not change passwords after 180 days. The Administrators in the municipalities failed to invoke the provisions available in the application software whereby the users are mandatorily forced to change the password after the lapse of specific number of days set in the system.

At the instance of Audit, CMA replied (December 2018) that the software has been modified to change the password once in 60 days.

2.3.9 Monitoring

2.3.9.1 Pendency and delay in delivery of municipal services

All municipal services relating to birth and death registration, property tax, profession tax, water supply and underground drainage, non-tax revenue, trade licences, grievance redressal, etc., covered under Phase I of UTIS are provided to the citizens through the web-based workflow system. A service request ID, generated for a service, remains alive in the workflow until the service request is settled and removed from the CFC dashboard. The workflow ID is generated for each stage of process of the service request. The dashboard discloses the pending cases and tracks the status of the pending cases at each stage in the inbox of the individual CFC/service users. This enables officers at all levels of the municipality to view the number and duration of the pending cases to assess the performance of the officials under control. The Citizens Charter of the municipalities has fixed time frame of one to 45 days for providing municipal services i.e., 45 days for issue of trade licence, 30 days for PT assessment, 15 days for water supply connection, one to seven days for issue of birth and death certificates, etc., from the date of receipt of application.

(i) Service Requests received from citizens pending in the workflow for a long duration

As of January 2018, 91,63,399 service requests on birth certificates, assessment of PT, name change, etc., were received in the municipalities of the State out of which 2,87,742 were shown pending in the database to the end of March 2018. Of the pending requests, 41,557 service requests were received in the test-checked municipalities (**Appendix 2.15**).

(ii) Undue delay in delivery of municipal services through Citizen Facilitation Centres

ULBs established CFCs to provide efficient, transparent and reliable municipal services to the citizens such as to obtain and submit application forms, track status of services, issue of birth and death certificates, make payments of property tax, profession tax, water and drainage user charges, trade licences, register complaints on deficiencies in the municipal services, etc. Out of 17,109 applications for PT assessment of new properties received in the test-checked municipalities during the period 2015-18, 9,284 cases were assessed after a delay ranging from one to 785 days. Similarly, out of 4,789 applications received for providing residential WS connections, 2,854 applicants were provided connections after a delay ranging from one to 713 days (**Appendix 2.16**).

This indicated lack of monitoring through Management Information System (MIS) reports available in the dashboards at various levels of the hierarchy.

CMA replied (December 2018) that instructions were issued to ULBs to clear the pending service requests within the time limit fixed. CMA further stated that the existing dashboard was improved to monitor the progress of service delivery by senior officials.

2.3.9.2 Absence of follow up for collection of Tax and Non-Tax arrears

UTIS provides for a dashboard whereby the pendency in the collection of arrears of Tax and Non-Tax could be viewed by the officials in the ULBs and the Department.

(i) Profession Tax

Paragraphs 4.36 and 4.38 of the Municipal Manual of Government of Tamil Nadu, Volume II necessitate the municipalities to maintain Arrear Demand Register and take steps for their recovery before writing off irrecoverable demands. A sum of ₹ 6.84 crore was due from 26,228 assessments in the test-checked municipalities for the period 2013-18 as detailed in **Appendix 2.17**.

(ii) Water Supply User charges

The Operating Manual specifies disconnection of WS connections with user charges pending for more than 15 days from the date of demand as stipulated in WS Bye-laws of the municipalities and updating the status in the database. A sum of ₹ 96.33 crore was due from 3,59,346 consumers provided with WS connections by the municipalities in the State for the period from 1996-2018. Of this, ₹ 11.84 crore was due from 55,227 consumers of the test-checked municipalities.

(iii) Under Ground Drainage User charges

A sum of ₹ 38.28 crore of user charges was due for 1,11,772 UGD connections provided by the municipalities of the State for the period 1999-2018. Of this, ₹ 13.77 crore was due for 35,254 UGD connections in four test-checked municipalities viz., Kumbakonam, Pallavapuram, Thiruvavur and Udhamandalam.

(iv) Non-Tax revenue

A sum of ₹ 27.93 crore was pending collection towards lease rent in 15 out of the test-checked municipalities, during the period 2013-18 as detailed in **Appendix 2.18**.

None of the test-checked municipalities except Thirumangalam utilised the provision in the application software for automated computation of penal interest by configuring through the ULB Admin Login which led to the non-generation of demand for penal interest by the UTIS.

The municipalities replied (August 2018) that action will be taken to recover the dues. Despite provision for monitoring the progress of collection of revenues through the MIS reports available in the dashboard at all levels of hierarchy, an amount of ₹ 60.38 crore remained uncollected by the test-checked municipalities towards profession tax, WS user charges, UGD user charges etc., from 1996-97 to 2017-18.

CMA replied (December 2018) that provisions in the dashboard at all levels of hierarchy would be used for monitoring the progress of collection of Tax and Non-Tax arrears.

2.3.9.3 Non-receipt of Profession Tax and Trade Licence fees through online

CMA instructed (August 2017) that all services relating to profession tax and trade licence *viz.*, registration, receipt of payments, filing of returns, issue and renewal of licences, should be provided online to ensure swift delivery of the services.

For the period from October 2017 to March 2018 in the State, 62,454 (98 *per cent*) out of 63,978 profession tax remittances and 18,425 out of 18,437 trade licence fees collections were received in Cash/Demand Draft/Cheques. This indicated lack of wide publicity for seamless implementation of ‘anywhere anytime’ payment despite specific instructions.

CMA replied (December 2018) that instructions were issued to ULBs to comply with the orders issued after arranging for publicity.

2.3.10 Conclusion

The Performance Audit revealed (a) improvements in the system *viz.*, enabling the citizens to track the status of service requests, integration of separate database of municipalities into a centralised database and (b) deficiencies in planning, implementation of modules and monitoring. Urban Tree Information System adopted Closed Source Software in place of Open Source Software. The Citizen Web Portal provided limited services defeating the objective of ‘Anywhere Anytime’ services to the public. The Grievances Redressal System Module did not provide for toll free complaints. Citizen Facilitation Centre counters did not digitise the mandatory documents. The project scheduled for completion in two phases by August 2015 was in progress. Other significant deficiencies in the system were inaccuracies in data migration, non-correlation of mandatory fields in tables across various

modules and incorrect capture of data, assessment of Vacant Land Tax and Property Tax for same property, incorrect cancellation of assessments, missing demands, leakage of revenue and lack of monitoring.

2.3.11 Recommendations

Government of Tamil Nadu may consider the following:

- All services may be made available in Citizen Web Portal and Citizen Facilitation Centres.
- Provision may be made to capture toll free complaints in Grievances Redressal System.
- Digitised documents may be made available for use in the workflow system.
- Integration of tables within and across modules may be ensured and automate all calculations in the modules.
- Reporting features available in the application software may be utilised for efficient monitoring and escalation matrix with alerts may be incorporated in the system.
- Modifications/deletions in the database may not be carried out through back-end operations.
- Specific observations made in respect of 16 test-checked municipalities may be looked into in the remaining 108 municipalities.

The matter was referred to Government in October 2018; reply has not been received (January 2020).

MUNICIPAL ADMINISTRATION & WATER SUPPLY AND HOUSING & URBAN DEVELOPMENT DEPARTMENTS

2.4 Observance of Development Regulations for planning permission and building licence in Chennai Metropolitan Area

Executive Summary

The Chennai Metropolitan Area measuring 1,189 square kilometres, cuts across three districts in the State of Tamil Nadu viz., Chennai, Kancheepuram and Tiruvallur. The local bodies under Chennai Metropolitan Area include the Greater Chennai Corporation, eight Municipalities, 11 Town Panchayats and 179 Village Panchayats in 10 Panchayat Unions. All types of building developments within Chennai Metropolitan Area limits require planning permission and building licence. The grant of planning permissions within Chennai Metropolitan Area is regulated in accordance with the Development Regulations forming part of Second Master Plan for Chennai Metropolitan Area. The Performance Audit on observance of Development Regulations for planning permission and building licence in Chennai Metropolitan Area covering the period from 2013 to 2018, conducted between April and September 2018, revealed the following:

- *Planning permissions were issued for the construction of ordinary buildings with more than permissible floor area. Additional floors were constructed without planning permission. Structural stability of buildings was not ensured by local bodies.*
- *Local bodies and Chennai Metropolitan Development Authority did not explore the options for creation of green cover within Chennai Metropolitan Area despite availability of funds.*
- *Incorrect adoption of various parameters for calculation of floor space index resulted in non-assessment of premium floor space index charges of ₹ 66.94 crore.*
- *Provision of inadequate parking facilities was in violation of specified parameters. Enforcement Cell to monitor and control the unauthorised buildings was not strengthened.*

2.4.1 Introduction

The Chennai Metropolitan Area (Ch.MA), comprising 1,189 square kilometres, cuts across three districts in the State of Tamil Nadu viz., Chennai, Kancheepuram and Tiruvallur. The local bodies under Ch.MA include the Greater Chennai Corporation (GCC), eight Municipalities, 11 Town Panchayats and 179 Village Panchayats in 10 Panchayat Unions⁶⁵.

⁶⁵ Intermediary level of three-tier system of Panchayat Raj Institutions.

The Second Master Plan (SMP) for Ch.MA was notified by GoTN in September 2008 as a broad based plan for Ch.MA upto the year 2026 with a projected population of 125.82 lakh in the year 2026. The SMP is a comprehensive plan with a vision to make Chennai metropolis a more liveable, economically vibrant and environmentally sustainable city. Policies and strategies for development of metropolitan transport, shelter, water supply and sewerage and other physical and social infrastructure including solid waste management, macro drainage and environment protection have been proposed in the plan. Thus, the master plan guides public agencies to tailor their sectoral programming to the plan while facilitating private investments in the same manner. For a balanced, planned development, a multi-pronged approach was formulated for adoption which includes regulation of developments through land use.

All types of building developments within Ch.MA limits require planning permission and building licence (**Appendix 2.19**) before starting construction. The grant of planning permissions shall be regulated in accordance with the Development Regulations⁶⁶ (DR) forming part of SMP for Ch.MA. DR 3(1) stipulates that no person should carry out any development without the written permission of the Chennai Metropolitan Development Authority⁶⁷ (CMDA) or such other Executive Authority of Local Body or Agency or Person to whom the power has been delegated by CMDA. DR further envisages general and specific parameters for grant of planning permission to various types of buildings as detailed in **Table 2.34**.

Table 2.34: Planning permission for various types of building

Sl. No.	Type of Building	Definition of building as per Development Regulations	Authority issuing planning permission
1	Special Building	Residential/commercial building with more than two floors and/or exceeding floor area of 300 square metres	CMDA
2	Multi-storeyed Building	Buildings exceeding four floors and/or 15.25 metres in height	CMDA
3	Ordinary Building	Residential or commercial building, which does not fall within the definition of special or multi-storeyed building	Powers delegated (June 2009) by CMDA to local bodies

(Source: Development Regulations)

After issue of planning permission, the local body concerned was responsible for issuing building licence for construction under the Tamil Nadu District Municipalities Building Rules, 1972, the Chennai City Building Rules, 1972 and the Tamil Nadu Panchayat Building Rules, 1997 for all types of buildings including special buildings (SBs), multi-storeyed buildings (MSBs) and Group Development⁶⁸.

⁶⁶ Approved by the Government of Tamil Nadu in September 2008.

⁶⁷ A statutory body constituted in 1974 under Tamil Nadu Town and Country Planning Act, 1971.

⁶⁸ Accommodation for residential or commercial or combination of such activities housed in two or more blocks of Special or Multi-storeyed buildings in a particular site, irrespective of whether these structures are interconnected or not.

2.4.2 Organisational structure

At the State level, the Principal Secretary to the GoTN, Housing and Urban Development (H&UD) Department exercises overall control on regulation of buildings which *inter-alia* includes issue of planning permission. The Principal Secretary is assisted by CMDA in regulation and development of buildings in Ch.MA and by the Director of Town and Country Planning in other districts. CMDA is headed by a Member Secretary who is assisted by Chief Planners, Senior Planners and Deputy Planners on technical matters and a Financial Advisor to assist matters relating to Accounts and Finance. The Principal Secretary, MAWS Department and the Principal Secretary, Rural Development and Panchayat Raj Department exercise overall administrative control over urban and rural local bodies respectively. GCC is headed by a Commissioner who is assisted by Superintending Engineer (Works) and Zonal Officers on matters relating to town planning. The municipalities are headed by Commissioners and assisted by Town Planning Officers. The Town Panchayats and the Panchayat Unions are headed by Executive Officers and Commissioners respectively who are assisted by Assistant Planner of CMDA for issuing planning permission.

2.4.3 Audit objectives

The audit objectives were to assess whether

- planning permissions, building licences and completion certificates were granted/issued as per the provisions contained in the Act, Rules and Regulations and in co-ordination with concerned stakeholders/line departments;
- inspections were conducted and penal actions taken as envisaged in the Rules and Regulations; and
- the developments were monitored as per Development Regulations.

2.4.4 Audit criteria

The main sources of audit criteria were derived from the following:

- The Tamil Nadu Town and Country Planning Act, 1971;
- The National Building Code of India;
- Development Regulations, 2008 alongwith its subsequent amendments;
- The Chennai City Building Rules, 1972;
- The Environment (Protection) Act, 1986;
- The Tamil Nadu District Municipalities Building Rules, 1972;
- The Tamil Nadu Panchayat Building Rules, 1997; and

- Government orders, rules, executive instructions and circulars issued from time to time.

2.4.5 Audit coverage and methodology

The Performance Audit was conducted during April - September 2018 covering the period 2013-18. An Entry Conference was held on 17 May 2018 with the Principal Secretaries of MAWS and H&UD Departments to discuss the audit objectives, criteria, methodology and sampling. The audit findings were discussed with related departments in an Exit Conference held on 18 December 2018.

The Performance Audit covered issues relating to planning permission, building licence, completion certificate, enforcement action by CMDA and local bodies by examining the related records in H&UD and MAWS Departments, CMDA and Head office of GCC besides survey reports of the Directorate of Fire and Rescue Services (DF&RS). Joint physical verifications were also carried out wherever required. Audit carried out test-check of records in four⁶⁹ out of fifteen Zones of GCC, two⁷⁰ out of eight municipalities, three⁷¹ out of eleven Town Panchayats and three⁷² out of ten Panchayat Unions. Details of planning permissions issued by test-checked local bodies in Ch.MA and CMDA during the period from January 2013 to December 2017 are furnished in **Table 2.35**.

Table 2.35: Planning permission issued by test-checked local bodies and CMDA

Year	GCC	Other local bodies	Total	CMDA		
				Ordinary buildings	Special buildings	Multi-storeyed buildings
2013	2,770	4,169	6,939	554	64	618
2014	1,644	3,766	5,410	319	36	355
2015	1,425	2,633	4,058	338	54	392
2016	1,616	2,664	4,280	310	53	363
2017	1,664	2,939	4,603	331	32	363
Total	9,119	16,171	25,290	1,852	239	2,091

(Source: Data furnished by local bodies and CMDA)

In respect of test-checked local bodies, 10 *per cent* of planning permissions were selected by random sampling. At CMDA, sampling was carried out on

⁶⁹ Zone V - Royapuram, Zone X - Kodambakkam, Zone XI - Valasaravakkam and Zone XV - Sholinganallur.

⁷⁰ Pallavapuram Municipality in Kancheepuram District and Poonamallee Municipality in Tiruvallur District.

⁷¹ Madambakkam and Perungalathur Town Panachayats in Kancheepuram District and Thirunindravur Town Panchayat in Tiruvallur District.

⁷² St. Thomas Mount Panchayat Union in Kancheepuram District, Puzhal and Tiruvallur Panchayat Unions in Tiruvallur District.

the basis of development charges⁷³ collected for the planning permissions accorded during the calendar years 2013 to 2017. Out of 2,091 planning permissions, all 141 planning permissions, for which development charges were ₹ 5 lakh and above, were checked. From the remaining 1,950 planning permissions, 25 *per cent* i.e. 488 planning permissions were selected by random sampling. The total number of 629 sampled planning permissions worked out to 30 *per cent* of total planning permissions issued.

Acknowledgement

Audit acknowledges the cooperation extended by the officers and staff of H&UD and MAWS Departments, DF&RS, CMDA, GCC and other local bodies in conducting the audit.

Audit findings

2.4.6 Planning permissions

2.4.6.1 Development without planning permission

DRs 26 and 28 classify residential/commercial buildings with more than two floors as SBs and MSBs respectively, the planning permission for which are issued by CMDA. Audit compared the planning permission data⁷⁴ of CMDA with the property tax data of GCC and municipalities within Ch.MA for the period 2013-17 adopting the common field as criteria *viz.*, 'name of the streets'. The comparison was made to verify whether the buildings were constructed with planning permission issued by CMDA.

Audit found that there were 1,15,633 new assessments in GCC and 51,232 in the municipalities within Ch.MA. Of these, 5,893 and 246 assessments respectively were 'independent buildings'⁷⁵ with 3 to 5 floors, out of which 2,437 assessments were in the test-checked zones of GCC and 198 assessments in the two test-checked municipalities. The data disclosed that planning permissions for 1,893 'independent buildings' in 1,110 streets as detailed in **Appendix 2.20** were not accorded by CMDA. Audit further observed that no planning permissions were issued by CMDA during 2007-17 in these streets. Besides, 380 buildings in 252 streets in test-checked four zones of GCC did not qualify for construction with more than two floors due to shortfall in road width as per DR provision.

It is evident from the above that local bodies while assessing property tax failed to detect unauthorised constructions above two floors despite the fact

⁷³ Charges are levied for development of building at a rate prescribed per square metre of floor area.

⁷⁴ Data for the period from 2007 to 2017, though validity of planning permission is for three years, planning permissions given from the year 2007 were considered for comparison since maximum time allowed for completion from initial approval is six years including the three year period allowed from the date of renewal after initial validity of three years.

⁷⁵ A type of building with single ownership, classified by GCC for the purpose of property tax assessment.

that building licences were issued by the respective local bodies based on the planning permissions. This indicates that there was absence of co-ordination between the Revenue Wing and the Town Planning Wing of the local bodies and between the local bodies and CMDA.

Audit examined 2,635 property tax assessments of 'independent buildings' only and observed unauthorised constructions as above. The remaining property tax assessments of all types of buildings may be examined and appropriate action initiated.

During the Exit Conference, the Principal Secretary, H&UD Department, stated that the audit observations could form an useful basis to examine violations of delegation, if any, and directed the officials to issue notices to the individuals concerned for unauthorised constructions. Further, it was stated that a Special Task Force has been constituted to monitor the unauthorised constructions and action would be taken accordingly.

2.4.6.2 Violations in planning permissions issued to ordinary buildings

DR 2 (29) read with DR 25 specifies the planning parameters in respect of ordinary buildings as residential and commercial buildings with ground *plus* first floors or stilt *plus* two floors, up to nine metres height and with floor area⁷⁶ less than 300 square metres (sq.m). Local bodies issued (2013-17) planning permission for the construction of 25,290 buildings in Ch.MA, of which, records for 2,535 buildings were test-checked by Audit and violations noticed are detailed in **Appendix 2.21**.

(i) In 204 approved plans, the extent of floor area for development exceeded 300 sq.m. exceeding the limits of sanction of the local bodies and violating the planning parameters as stipulated under DR 25.

During the Exit Conference, the Principal Secretary, H&UD Department replied that the area restriction of 300 sq.m did not apply to residential buildings. The reply was not tenable as DR specifies that the area restriction applies to both residential and commercial buildings. There is no differentiation specified in the DR as to the type of buildings. The reply of GoTN was an interpretation applied outside the stipulations of the DR.

(ii) According to DR 2 (41), stilt floor is a part or whole of the floor at ground level where the building is on stilt and provides that stilt floor would not be counted as a floor for the purpose of defining SB or MSB, if it is to the standards exemptable⁷⁷ for Floor Space Index⁷⁸ (FSI). Accordingly, any construction in stilt floor within the ambit of FSI calculation would limit the constructable area in the second floor to the extent of non-FSI area available in the stilt floor. In 231 approved plans, the local bodies accorded planning permission for construction of stilt *plus* 2 floors with dwelling unit(s) on the

⁷⁶ As per National Building Code of India, the area of the floor within the inside perimeter of the outside walls of the floor of the building under consideration with no deductions for corridors and passage-way, stairs, closets, thickness of interior walls, columns, lifts and building shafts or other features.

⁷⁷ Annexure XVIII of DR.

⁷⁸ The quotient obtained by dividing the total plinth area on all floors by the plot area.

stilt floor but the floor area approved for the second floor exceeded the non-FSI area on the stilt floor not in consonance with DR.

During the Exit Conference, GoTN instructed the local bodies to examine the issue.

2.4.6.3 Planning permission for construction of ordinary buildings in plots earmarked for Economically Weaker Sections

DR 29 (9) specified that in cases where the extent of the residential layout exceeds 10,000 sq.m, 10 *per cent* of the layout area shall be developed as Economically Weaker Section (EWS) plots and the owner or developer or promoter shall sell those plots only for this purpose.

Nine planning permissions were accorded by GCC on plots earmarked as EWS plots for construction of ordinary buildings having a single dwelling unit with floor area ranging from 83.82 sq.m. to 144.59 sq.m. As per DR 28(17), the maximum limit of floor area of a dwelling unit for Lower Income Group was fixed as not exceeding 45 sq.m. Audit observed that (i) the minimum floor area of the above approved plans exceeded even the maximum limit of floor area fixed for LIG dwelling units and (ii) the applications for construction were submitted by the promoters themselves and not by any EWS individual.

GCC replied (November 2018) that it could not insist on the promoters to sell the EWS plots as plots only or prevent them from applying for building permission in these plots. It was further stated (December 2018) that the planning permissions were accorded to the promoters on behalf of buyers of EWS plots. While accepting the reply of the GCC, Audit is of the view that the GCC needs to bring in a monitoring mechanism, whereby the objective of SMP to set aside plots for EWS in order to encourage social housing provision by private developers of large group developments/MSBs could be effectively achieved.

2.4.6.4 Structural stability of the buildings not ensured

CMDA, while issuing payment advice for applicable charges, insists for a report by the Structural Engineer/Licensed Surveyor/Architect on the various stages of construction as per approved plan. Such reports, which should mention about the technical specification at each stage of construction, were not available in records produced to Audit. CMDA accorded 2,091 planning permissions during 2013-17, of which 629 were test-checked. The planning permissions were forwarded by CMDA to local bodies for issue of building licence, specifying that the planning permission does not cover the aspect of structural stability including the safety during the construction of building.

As per Building Rules, local bodies should satisfy that provisions were made for the safety and structural soundness before issue of building licence. The local bodies, however, in reply to Audit query stated (June 2018 - December 2018) that (a) there was no sufficient staff with technical/managerial expertise to monitor the structural stability of all SBs/MSBs for which building licences were issued, (b) the responsibility for the structural stability was entrusted to

the respective land owners/builders/promoters/licensed surveyors/architects associated with the buildings and (c) ensuring structural stability and safety of the buildings was the responsibility of CMDA. The reply was untenable as the Building Rule envisaged that the local body should monitor and ensure the structural stability of the buildings.

CMDA stated (December 2018) that structural design of buildings of height exceeding 60 metres was obtained from Indian Institute of Technology (IIT), Madras which was then vetted by Public Works Department (PWD). It was further stated that PWD furnishes structural clearance for the design drawings placing the responsibility with the Structural Engineer for its implementation at site.

This indicated that for buildings less than 60 metres in height, no monitoring mechanism was in place either with CMDA or with local bodies to ensure the structural stability of such buildings.

2.4.7 Development charges and Open Space Reservation charges

2.4.7.1 Development charges

CMDA collects Development Charges (DC) as per Section 59 of the Tamil Nadu Town and Country Planning Act, 1971, for development of building. The rates of DC are fixed by the Government based on the extent of land and the floor area of the proposed building.

During 2013-18, CMDA collected ₹ 64.59 crore towards DC on buildings proposed for construction within the limits of Ch.MA. GoTN instructed (June 2010) CMDA to release 75 *per cent* of the DC to the respective local bodies. CMDA, however, released only ₹ 34.62 crore (54 *per cent*) to the local bodies against the dues of ₹ 48.44 crore as indicated in **Appendix 2.22**.

Despite collection of ₹ 4.08 crore for the period 2013-16 in rural limits, CMDA did not release the amount of ₹ 3.05 crore that was due to the panchayat unions. In urban limits, a sum of ₹ 10.77 crore was pending (September 2018) release to the ULBs.

2.4.7.2 Open Space Reservation Charges

Second Master Plan stated that Chennai City had only about two *per cent* of the area as declared parks and in Ch.MA, the declared forest cover was about 24 square kilometres which accounted for about two *per cent* of the Ch.MA area. It was also observed in the SMP that there was ample scope for further development of green cover within Ch.MA, particularly along roads, drains, riverbanks, etc.

As per Annexure XX to DR, reservation of land for community recreational purposes was to be made, before according planning permission for SBs, Group Developments and MSBs. Where the total extent of the proposed site was between 3,000 sq.m. and 10,000 sq.m., the developer should reserve 10 *per cent* of the area (excluding roads) for public parks/play grounds and hand over that land to the local authority or the designated local bodies

through a registered gift deed⁷⁹ or pay the market value of the equivalent land (10 per cent excluding the first 3,000 sq.m.) if it was not possible to provide open space due to physical constraints. Where the total extent exceeded 10,000 sq.m., it was obligatory for the developer to reserve 10 per cent of the area excluding roads.

During 2013-18, CMDA collected ₹ 484.92 crore against Open Space Reservation (OSR) charges i.e., market value of the equivalent land in lieu of the reserve area of 10 per cent. GoTN instructed (June 2010) CMDA to release 75 per cent of the OSR charges to the respective local bodies. CMDA, however, released only ₹ 270.56 crore (56 per cent) to the local bodies against the dues of ₹ 363.68 crore as indicated in **Appendix 2.22**.

Despite collection of ₹ 58.87 crore in rural limits during the period 2013-16, CMDA did not release (September 2018) the dues of ₹ 44.15 crore to the panchayat unions. In urban limits, a sum of ₹ 48.97 crore (15 per cent) was pending release to the ULBs.

CMDA stated (December 2018) that speedy action was being taken to transfer the 75 per cent of DC and OSR charges to rural local bodies.

(i) Collection of charges in lieu of provision of Open Space Reservation

As per DR 26(11) and 28(8) read with Annexure XX, value of 10 per cent of the total extent of site is payable in lieu of OSR land by the proponent, only where it was not possible to provide open space due to physical constraints. No such area reserved should measure lesser than 100 sq.m. with a minimum dimension of 10 metres.

Audit, however, observed that in 80 out of 629 selected planning permission records pertaining to the period 2013-17, OSR charges were collected in lieu of reservation of 10 per cent of OSR land without recording the reasons for physical constraint. In 13 cases, an amount of ₹ 31.45 crore was collected (**Appendix 2.23**) as OSR charges in lieu of provision of land even though there were no recorded physical constraints for not reserving OSR lands, wherein the frontage in 13 sites ranged from 42.91 metres to 102.95 metres which indicated that there was no physical constraint to provide open space. Audit is of the opinion that if maximum of 20 metres was allowed for the purpose of gates, the net availability would be between 22.91 metres and 82.95 metres, which could have easily been reserved and handed over as OSR land.

(ii) Non-creation of open space reservation

CMDA instructed (October 2010) that OSR charges should be utilised only for provision of parks and playfields or improvement of existing ones and in the absence of such open space, the amount to be utilised for implementation of Detailed Development Plan/Master Plan.

⁷⁹ Registered instrument/document required to effect voluntary transfer of property without consideration.

Out of ₹ 234.50 crore received from CMDA towards OSR charges during 2013-17, GCC had spent ₹ 188.06 crore on existing parks, gardens and play grounds. GCC stated (September 2018) that funds were remitted to General Fund Account and that no land was acquired for creation of parks/playfields during the period.

It was envisaged in SMP that there was ample scope for further development of green cover within Ch.MA particularly along roads, drains and riverbanks, which was not explored. Collection of OSR charges in lieu of open spaces without recording physical constraints as discussed in **Paragraph 2.4.7.2 (i)** defeated the purpose of the provision.

(iii) Non-transfer of Open Space Reserve lands in favour of the local bodies

During 2013-18, CMDA received 164 gift deeds from developers relating to reservation of land for community recreational purposes. Of this, 88 gift deeds were transferred to local bodies and the remaining 76 gift deeds were pending (September 2018) to be transferred to the local bodies concerned. In the test-checked 629 planning permissions, 48 gift deeds were received by CMDA of which 14 gift deeds (three of which were more than four years old) were not transferred to the local bodies concerned (**Appendix 2.24**).

CMDA stated (December 2018) that local bodies have been addressed in this regard. Specific reasons for not transferring the gift deeds to local bodies were not furnished.

2.4.8 Premium Floor Space Index

Floor Space Index was envisaged as one of the principal tools to regulate density of development with reference to infrastructure availability and provision. Density needs to be linked not only to carrying capacity of land and infrastructure, but also to several sociological parameters particularly for low income communities. The parameters for appropriate FSI and Premium FSI incorporated in the DR are detailed in **Appendix 2.25**.

The additional benefit of Premium FSI was allowed by collection of charges at guideline value of the Registration Department, equivalent to the cost of proportionate land of the additional built area. During the period 2013-18, CMDA collected ₹ 1,467 crore towards Premium FSI charges and remitted into the Government account. Deficiencies noticed in calculation of Premium FSI are discussed in the following sub-paragraphs.

Incorrect adoption of parameters for the calculation of FSI

(i) Inclusion of plot area gifted for road widening

DR 28 stipulates special rules for MSBs which include availability of abutting road with minimum width of 18 metres for a stretch of 500 metres and the maximum permissible normal FSI of 2.50. Further, Annexure XXI to DR specifies that FSI benefits can be extended only for the transfer of land required for any road widening/new road formation proposed in the Master Plan/Detailed Development Plan.

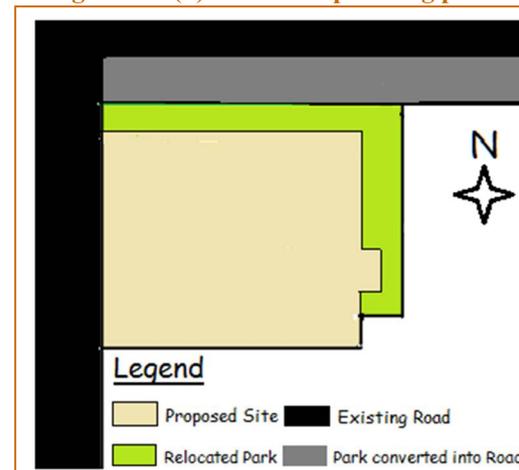
(a) CMDA received an application seeking planning permission for group development of MSBs at a site within GCC jurisdiction. The site inspection report (March 2015) of CMDA disclosed that the gross plot area was 56,429.71 sq.m. and the site abutted a road on the western side with width of 13 to 16.85 metres. Also, another road existed on the northern side with a width of 10.40 to 14.60 metres. Meanwhile, GoTN directed (February 2015) GCC to remove a road side park measuring 2,704.01 sq.m. existing on the northern side road of the MSB site **(Diagram 2.1(a))** for widening the road as per SMP and permitted to relocate the park in the same area. The MSB applicant offered an equivalent extent of land from the proposed site and gifted (December 2015) 2,704.01 sq.m. of land to GCC for relocating the roadside park in order to widen the road on the northern side of the site and gain an additional width of nine metre, which would qualify the site for construction of MSB. Based on this, CMDA accorded planning permission⁸⁰ for construction of the MSBs with 1,188 dwelling units on a total FSI area of 1,39,872.79 sq.m., with FSI of 2.48 **(Diagram 2.1(b))**. FSI benefit was not applicable for the land gifted for road widening to make the road as qualifying for the proposed development. Accordingly, taking into account planning permission accorded, the plot area of 53,725.70 sq.m.⁸¹ should have been taken after reducing the extent of land donated for relocation of park, for the calculation of FSI.

Diagram 2.1(a): Site prior to planning permission



(Source: Planning permission records of CMDA)

Diagram 2.1(b): Site after planning permission



(Source: Planning permission records of CMDA)

⁸⁰ Planning permit number - 9094 dated 30 August 2016.

⁸¹ 56,429.71 sq.m. less 2,704.01 sq.m.

The variation in the plot area escalated the FSI from 2.48 to 2.60 which resulted in a Premium FSI of 0.10 (i.e., FSI above the normal FSI of 2.50). Thus, the failure of CMDA to exclude the area for relocation of park resulted in excess allowance of FSI area. The value of the proportionate land required for excess FSI area at guideline value of ₹ 6,500 per square foot (sq.ft) was ₹ 15.04 crore (**Appendix 2.26 - Sl.No.5**) which would have been the Premium FSI charges payable.

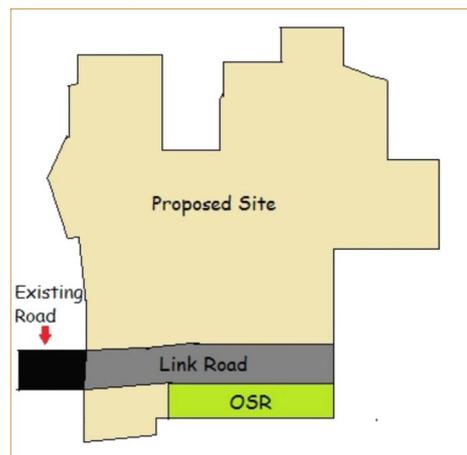
(b) CMDA accorded planning permission⁸² for construction of MSB group development in a site having an extent of 62,628 sq.m. with FSI area of 1,56,458.44 sq.m. and FSI of 2.50. The applicant had gifted 3,600 sq.m. of plot area for link road which serves as access to OSR (**Diagram 2.2**) as well as to qualify the parameter of frontage as per DR 28(2). Accordingly, FSI worked out by Audit based on the reduced plot area of 59,028 sq.m.⁸³ was 2.65. Failure of CMDA to exclude

the area gifted for link road resulted in excess allowance of FSI area by 0.15 above the normal permissible FSI and the value of proportionate land at guideline value of ₹ 2,000 per sq.ft amounting to ₹ 7.62 crore (**Appendix 2.26 - Sl.No.3**) was chargeable as Premium FSI.

(ii) Inclusion of area gifted for provision of link road to OSR

DR 28(8) read with Annexure XX stipulates that the land reserved for OSR should be at ground level in a shape and location abutting a public road. Further, DR 28 (2) (19) empowers CMDA to insist on the promoter to provide link road as connectivity to adjoining land areas through the sites applied for development. Annexure XXI to DR, however, extends FSI benefits only for the transfer of land required for any new road formation proposed in the Master Plan/Detailed Development Plan.

Diagram 2.2: Provision of link road



(Source: Planning permission records of CMDA)

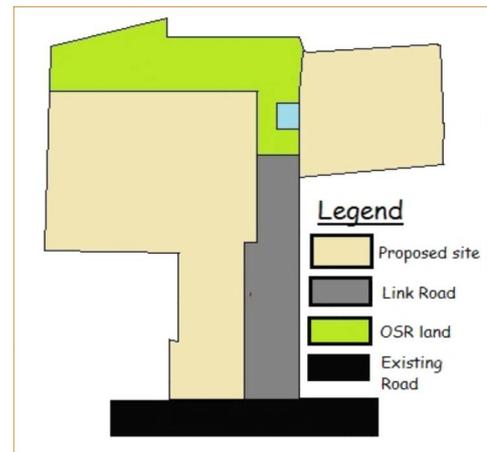
⁸² Planning permit number - 9020 dated 10 July 2015.

⁸³ 62,628 sq.m. minus 3,600 sq.m.

(a) CMDA accorded planning permission⁸⁴ for construction of a MSB group development with 913 dwelling units having an abutting road width of 61 metres. The plot area was 35,893.13 sq.m. and FSI area was 89,545.43 sq.m. The applicant gifted 3,810.47 sq.m. of land as link road to the OSR land provided on the rear side of the site (**Diagram 2.3**).

In contravention of the DR provisions, CMDA included the total area of the link roads measuring 3,810.47 sq.m. and FSI allowed was 2.50. Failure to exclude the plot area gifted for link roads resulted in allowance of FSI of 2.79, i.e., 0.29 above permissible FSI. The value of the proportionate land required for excess FSI area at guideline value of ₹ 4,000 per sq.ft was ₹ 16.02 crore (**Appendix 2.26 - Sl.No.6**) was chargeable as premium FSI.

Diagram 2.3: Provision of link road to OSR



(Source: Planning permission records of CMDA)

(b) CMDA accorded planning permission⁸⁵ for construction of a MSB group development in a site having an extent of 39,860.80 sq.m. with FSI area of 99,542.64 sq.m. at FSI 2.50 and abutting road width of 18 metres. The applicant gifted land measuring 7,705 sq.m. to provide access to the OSR lands not connecting any public road beyond the site (**Diagram 2.4**). Audit, however, observed that the area gifted as link road to OSR was also included for calculation of FSI of 2.50. By excluding the area of the link road, the FSI worked out by Audit was 3.10. Incorrect inclusion of plot area gifted for link roads resulted in allowance of excess FSI of 0.60 and the value equivalent to the cost of proportionate land at guideline value of ₹ 2,750 per sq.ft amounting to ₹ 22.84 crore (**Appendix 2.26 - Sl.No.1**) was chargeable as Premium FSI.

Diagram 2.4: Link road to OSR



(Source: Planning permission records of CMDA)

⁸⁴ Planning permit number - 9097 dated 09 September 2016.

⁸⁵ Planning permit number - 7200 dated 28 June 2013.

(c) Planning permission⁸⁶ for construction of a SB group development in a site having an extent of 22,014.72 sq.m. with FSI area of 32,919.74 sq.m. at FSI 1.50 abutting a 16.20 metre wide road was issued. The applicant gifted land measuring 1,487.36 sq.m., as link road to OSR not connecting any public road beyond the site (**Diagram 2.5**). Audit, however, observed that the area gifted as link road was included for calculation of FSI of 1.50. By excluding the area of the link road, the FSI worked out by Audit was 1.60.



(Source: Planning permission records of CMDA)

Thus, incorrect inclusion of link road portion which serves as an access to OSR land, resulted in FSI going beyond the normal FSI of 1.5 by 0.10 and the value equivalent to the cost of the proportionate land at guideline value of ₹ 2,200 per sq.ft amounting to ₹ 3.24 crore (**Appendix 2.26 - Sl.No.4**) was chargeable as premium FSI.

(d) Planning Permission⁸⁷ was issued for construction of a MSB with stilt *plus* seven floors in a plot area of 35,126 sq.m. which abutted a 12 metres road which ended at the entry point of the site. The total FSI area proposed was 52,643.69 sq.m. at FSI of 1.50. The applicant had gifted a link road measuring 1,430 sq.m. to OSR (**Diagram 2.6**). Audit observed that the above FSI of 1.50 was arrived by CMDA for the total plot area, without exclusion of area gifted for link road. Audit worked out the FSI as 1.56 by excluding the extent of land gifted for link roads against the allowed FSI of 1.50. The value of the proportionate land required for excess FSI area at guideline value of ₹ 1,500 per sq.ft amounting to ₹ 2.18 crore (**Appendix 2.26 - Sl.No.2**) was chargeable as Premium FSI charges.



(Source: Planning permission records of CMDA)

As the amounts collected towards the award of Premium FSI are utilised for infrastructure development of the area, the incorrect adoption of FSI parameters resulting in non-assessment of Premium FSI of

⁸⁶ Planning permit number - 9413 dated 20 November 2015.

⁸⁷ Planning permit number - 8121 dated 26 September 2013.

₹ 66.94 crore (**Appendix 2.26**) brought out in the preceding paragraphs would affect the infrastructure development activities.

CMDA stated (December 2018) that the FSI benefits were extended as per the clarification issued (May 2015) by them. The reply was not tenable as the DR provides for extending the FSI benefits only for the transfer of land required for any road widening/new road formation proposed in the Master Plan/Detailed Development Plan and the clarification issued by CMDA contradicts the DR provision.

(iii) Sanction of inadmissible additional FSI

DR 26 stipulated that in the case of residential/predominantly residential developments, where the dwelling units for Lower Income Group did not exceed 50 sq.m. in floor area each, 30 *per cent* of normally permissible FSI was additionally allowable over and above the normal FSI of 1.5 i.e. upto 1.95. CMDA accorded planning permission⁸⁸ for construction of an LIG residential building with 36 dwelling units in stilt *plus* four floors after providing FSI at 1.85, including additional FSI of 30 *per cent*. The plot area measured 1,040.40 sq.m. and the FSI area was 1,919.16 sq.m. Audit, however, observed from the plan documents that the floor area of each dwelling unit worked out to 69.54 sq.m.⁸⁹ against the allowable limit of 50 sq.m. each. Accordingly, the applicant was ineligible for the benefit of additional FSI of 0.35 and the value equivalent to the cost of the proportionate land at guideline value of ₹ 11,000 per sq.ft worked out to ₹ 2.87 crore. Failure of CMDA to ensure provision of floor area not exceeding 50 sq.m. per dwelling unit resulted in allowance of inadmissible additional FSI area to the applicant.

CMDA stated (December 2018) that the area of each dwelling unit in the above planning permits was less than 50 sq.m. without inclusion of common areas *viz.*, corridor, lobby, staircase and lift. The reply was not tenable as the DR specified the limitation of less than 50 sq.m. in floor area for each dwelling unit which includes common areas.

2.4.9 Issue of planning permission in violation of various parameters of Development Regulations

2.4.9.1 Inadequate provision of parking space

DR specified standards⁹⁰ for parking spaces and parking facilities within the SB/Group Development/MSB site for the use of occupants and persons visiting the premises for any activity.

Audit observed that planning permission was accorded in 18 out of test-checked 629 cases with inadequate car and two wheeler parking spaces as shown in **Table 2.36**.

⁸⁸ Planning permit number - 8297 dated 10 September 2013.

⁸⁹ Floor area of a dwelling unit = Total floor area (FSI (1,919.16 sq.m) + Balcony area (83.72 sq.m.) + Stilt Parking area (500.72 sq.m.))/Number of dwelling units (36).

⁹⁰ DR 26 (7) (a), 27 (6) (a) and 28 (4) (a) read with Annexure XVI.

Table 2.36: Shortfall in provision for parking spaces

Type of vehicle	Number of parking slots required	Number of parking slots provided	Shortfall
Cars	13,905	11,141	2,764 (19.88 per cent)
Two-wheelers	21,251	17,005	4,246 (19.98 per cent)

(Source: Planning permission records of CMDA)

Shortfall in car parking spaces ranged from 11 to 710; Similarly, for two wheelers, it ranged from 29 to 1,686 as detailed in **Appendix 2.27**. Violation of parameters specified in the DR for providing parking spaces would affect easy and free movement of vehicles.

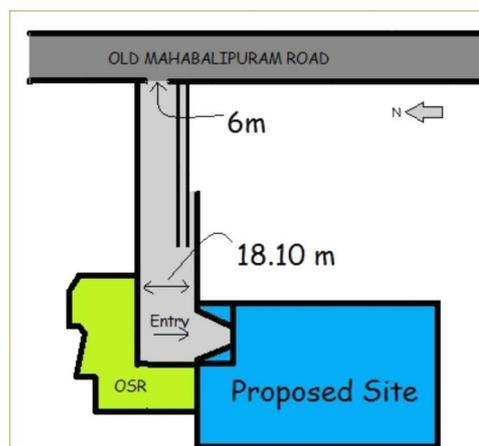
CMDA stated (December 2018) that parking provisions have been calculated as per DR. The requirement for parking spaces was, however, calculated by CMDA based on FSI area and not on floor area as stipulated in DR.

2.4.9.2 Shortfall in road width

(i) DR 28 specified special rules for MSBs and stipulated that the minimum width of the abutting road to the site should be 18 metres or a part of the site should gain access from public road with a minimum width of 18 metres, for a continuous stretch of 500 metres. Further, Part III of the National Building Code of India stipulated that the minimum width of the main street abutting the site should be 12 metres and that one end of this street should join another street with a minimum width of 12 metres. The stipulation was made considering the movement of fire tenders as part of fire safety measures.

CMDA forwarded (October 2013) to Government a proposal for construction of MSB in a site having a plot extent of 45,716.01 sq.m. Even though the width of the abutting road in front of the site was 18.10 metres, it was less than 18 metres throughout the stretch and narrowed down to six metres at the entry point of the road (**Diagram 2.7**). The proposal, however, did not highlight the shortage in road width at the entry point. Government approved (November 2013) the proposal based on which CMDA issued (March 2014) planning permission⁹¹. This was in violation to the stipulation of the National Building Code of India.

Diagram 2.7: Road width at entry point



(Source: Planning permission records of CMDA)

CMDA stated (December 2018) that planning permission was accorded based on the width of abutting road. Audit observation, however, relates to shortage in road width at the entry point which was not considered by CMDA for

⁹¹ Planning permit number - 8153 dated 13 March 2014.

according planning permission. Further, joint physical verification conducted (December 2018) along with officials of CMDA revealed that the abutting road width comprised of a carriageway (7.9 metres), footpath on sides of the road (2.2 metres and 2.9 metres), cement concrete lane (3.1 metres) and cement concrete median (2.3 metres). Accordingly, the actual road width was restricted to 7.9 metres which was less than the required width of 18 metres.

(ii) As per DR 27, a Group Development is an accommodation housed in two or more blocks of buildings in the site with a minimum abutting road width of 10 metres for a stretch of 250 metres.

CMDA accorded planning permission⁹² for construction of a SB group development in two blocks with 75 dwelling units in stilt *plus* four floors on a site which gains access from a road with a width of nine metres. The plot area was 3,592 sq.m. with a total FSI area of 6,338.40 sq.m. As the road width was less than 10 metres, group development at the site was not permissible. The decision of CMDA to grant planning permission for group development was in violation of DR.

CMDA stated (December 2018) that the planning permission was in order for the reasons that though the site abuts nine metre road, the applicant had provided a link road of 7.2m wide to ensure access to the western side of the site. The reply was not acceptable as DR stipulates a minimum abutting road width of 10 metres.

(iii) As per explanation under DR 28 (1) (b), the qualifying road width for permitting MSB should be available at least for a stretch of 500 metres along the length of the road abutting the site and the stretch from a junction can be straight or a curve or *zig-zag* or combination of the above. Further, Part III (4.6 (a)) of National Building Code of India stipulated that for high rise buildings and SBs, the width of the main street on which the building abuts should not be less than 12 metres and one end of this street shall join another street with width not less than 12 metres. Planning permission⁹³ was, however, issued to an applicant for construction of MSB group development in a plot area of 14,430 sq.m. with a total FSI area of 21,631.94 sq.m. abutting a road not having a consistent width⁹⁴ of 12 metres for a stretch of 500 metres, in violation of the provisions of DR as well as National Building Code of India.

CMDA stated (December 2018) that the planning permission was accorded considering the abutting road width as 12 metres. Inspection reports of CMDA, however, recorded that 12 metres abutting road width was not available for a continuous stretch of 500 metres and accordingly, MSB development was not permissible in the site. The reply contradicted the inspection reports.

⁹² Planning permit number - 8864 dated 25 November 2014.

⁹³ Planning permit number - 11163 dated 23 August 2017.

⁹⁴ The width of the road varied from 8.20 metres at the junction to 9.30, 10.70, 12.85 and 13.90 metres in the entire stretch of the road.

(iv) DR 26 provided that in case of residential/predominantly residential SBs with stilt *plus* four floors, the minimum width of the public road on which the site abuts should be 10 metres. The DR further provided that if the extent of the site was more than 1,100 sq.m., SBs for residential use may be permitted on a site abutting or gaining access from a nine metre wide road. Also, if the general road width was less than 10 metres and the site owner agrees to leave enough space to have 10 metres only in front of his site, such provision was not acceptable. DR 36 prescribed the allowable Premium FSI for plots with abutting road width between 9 and below 12 metres at 20 *per cent*, 12 and below 18 metres at 30 *per cent* and 18 metres and above at 40 *per cent*, of the normally allowable FSI of 1.5.

CMDA issued planning permission⁹⁵ for construction of a stilt *plus* four floors residential SB apartments, in nine blocks in a pattern of single block with abutting road width of 9.45 metres, which as per DR provision was adequate for 20 *per cent* Premium FSI in terms of road width. The applicant gifted an extent of 6.10 metres of land for widening the road in front of the site to facilitate construction of the SB with Premium FSI of 30 *per cent* above the normal FSI. Accordingly, for a plot area of 7,805.37 sq.m., total FSI area of 15,215.74 sq.m. with 30 *per cent* Premium FSI was allowed, which worked out to FSI of 1.95 instead of 1.80 (20 *per cent* above 1.50). This was in violation of DR provisions as the road width was widened only in front of the proposed site and not uniformly across the entire stretch of the road.

CMDA stated (December 2018) that the planning permission was in order, without providing reason. Hence, the observation is reiterated.

2.4.10 Delay in processing planning permissions and building licences

CMDA or the respective local bodies shall, within 30 days of receipt of applications, call for further information as deemed necessary and shall grant or refuse the permission taking into account factors like purpose of construction, suitability of the place, future developments and maintenance of the planning area. Permissions granted for development under Section 49 of the Tamil Nadu Town and Country Planning Act, 1971, remain in force for a period of three years⁹⁶ from the date of sanction, unless the appropriate planning authority extends the period which should not exceed the prescribed time limit.

Delays in issue of planning permission and building licence and obtaining completion certificate are discussed in the succeeding paragraphs.

2.4.10.1 Delay in issue of planning permission

The Citizen Charter of CMDA envisaged that applications for planning permission should be disposed off within 45 working days from the date of

⁹⁵ Planning permit number - 9193 dated 20 July 2015.

⁹⁶ Three years extended to five years for planning permissions issued on or after 31 March 2017.

receipt of applications in complete shape, in respect of special, industrial and institutional buildings. Further, in the case of incomplete applications, the same were to be returned within 21 days of submission of application for rectification of the defects. An analysis of planning permission database on 'pp application' and 'approved application' for the period from January 2013 to December 2017 revealed that 937 (51 *per cent*) out of 1,852 applications for special, industrial and institutional buildings were disposed off with a delay of more than one month (after allowing the stipulated 45 days) as detailed in **Table 2.37**. It was also noticed from the above database that, no application was returned to the applicant.

Table 2.37: Delay in issue of planning permission

Delay (working days)	Number of applications
31 to 60	151
61 to 365	715
More than 365	71
Total	937

(Source: CMDA database)

During the Exit Conference, CMDA stated that the planning permissions would be issued without delay on implementation of single window portal.

2.4.10.2 Delay in issue of building licence by GCC

The GCC was responsible for issuing building licence under Chennai City Building Rules, 1972 for all types of buildings including special buildings, multi-storeyed buildings and group development for which planning permissions are issued by CMDA. The application for planning permission and building licence is to be made using online mode only through licensed surveyors. The building licence should be issued after conducting site visit within seven days of receipt of application. The data on issue of building licence maintained by GCC revealed that in four test-checked zones, the required field visit was conducted with a delay of one to 339 days in respect of 2,235 (37 *per cent*) cases out of 6,101 applications received in complete shape. Consequently, there was delay of 16 to 620 days in the issue of building licence as detailed in **Appendix 2.28**.

During the Exit Conference, GCC stated that online submission of planning permission application for ordinary buildings was implemented by them. Reasons for the delay in conducting field visit and subsequent issue of building licence were, however, not specified.

2.4.10.3 Issue of planning permissions before obtaining environment clearance

Under the Environment (Protection) Act, 1986, GoI stipulated (September 2006) that all buildings/construction projects with built area of 20,000 sq.m. or more and Townships/Area Development Projects covering an area above 50 hectares and (or) with built area above 1,50,000 sq.m. require environment clearance from State Environment Impact Assessment Authority (SEIAA)

before issue of planning permission. During 2013-18, 108 planning permissions were issued with environment clearance, out of which CMDA had issued planning permissions for 31 group developments before obtaining environment clearance as detailed in **Appendix 2.29**.

CMDA stated (December 2018) that planning permissions were issued now after ensuring environmental clearance.

2.4.10.4 Non-implementation of Web-enabled Single Window System for planning permission approval

GoTN directed (May 2015) CMDA to develop a common web-based integrated software⁹⁷, which would facilitate seamless process of planning approval, monitoring of development during the construction phase and issue of completion certificate in centrally architected fashion. CMDA awarded (February 2016) work order to IIT, Madras for study on the software. The scope of the project was to enable online submission of application for planning permission, work flow process at CMDA, creating link with other departments for issuance of No Objection Certificates and other local bodies to direct the files after approval. The study involved two phases at a total cost of ₹ 65.28 lakh. The timeline for Phase I and Phase II was 96 weeks i.e., from March 2016 to February 2018.

IIT, Madras prepared (June 2016) the SRS, based on which CMDA requested (March 2017) Tamil Nadu e-Governance Agency (TNeGA) for the development of the web-based applications. Further, TNeGA was requested (May 2017) to take necessary action to develop the software within nine months. Audit, however, observed that the software for Web-enabled Single Window System was not developed (September 2018), resulting in non-establishment of co-ordination among stakeholders.

CMDA replied (December 2018) that the software for the project would be completed shortly.

2.4.11 Monitoring

2.4.11.1 Ineffective monitoring of approved plans

(i) DR 4(5) envisages that applicant/owner/builder/promoter/power of attorney holder and any other person who is acquiring interest shall not put the building to use without obtaining completion certificate from CMDA.

CMDA maintains two databases⁹⁸ for monitoring their day-to-day activities in the process of issue of planning permission and completion certificate. The issue of completion certificate was entrusted to the Enforcement Cell of CMDA for the purpose of follow up action on the developments approved. Of the 629 planning permission records selected for audit, 324 records related to the period between January 2013 and June 2015, the construction work of which could have been completed as the validity of planning permission was

⁹⁷ Relating to DTCP, CMDA and GCC.

⁹⁸ One for capturing details of applicant applying for planning permission and the other for issue of completion certificate.

three years from the date of issue, if not renewed for further period. On comparison of those 324 planning permission records with completion certificate database, it was observed that completion certificate was issued to 125 buildings (39 *per cent*) only. The absence of any information on the completion of the remaining buildings pointed to the failure of CMDA to verify whether the constructions were carried out as per the approved plans.

CMDA stated (December 2018) that the issues pointed out by Audit would be covered in the process of on-line submission of completion certificate to be implemented shortly.

(ii) As per DR 24(4(a)), areas around Mass Rapid Transit System (MRTS) from Thirumayilai to Velachery have been declared as MRTS influence area to encourage transit sensitive activities and allow densification. FSI allowable in this area is maximum two for non-multi-storeyed residential developments with dwelling units each not exceeding 75 sq.m. in floor area.

CMDA accorded planning permission⁹⁹ for construction of a SB having stilt *plus* four floors with 71 dwelling units¹⁰⁰ in the MRTS influence area. The plot extent was 2,757.99 sq.m. with FSI area 5,468.26 sq.m. and FSI factor 1.98. Audit analysis of the property tax data of GCC revealed that the floor area of 57 out of the 71 dwelling units exceeded the limit of 75 sq.m. by 15 to 22 *per cent*. CMDA issued completion certificate for the achieved FSI area of 5,545.34 sq.m. which was 77.08 sq.m. more than the approved area of 5,468.26 sq.m. The excess FSI was within the permissible limit of 0.03 *per cent* as recommended by the Monitoring Committee. CMDA, however, did not take into account the restriction on the floor area of each dwelling unit, but considered the overall excess. This indicated failure on the part of CMDA to ensure compliance with the parameters specified for MRTS influence area while conducting site visit of the completed building, resulting in violation of DR provisions.

CMDA stated (December 2018) that the planning permission issued by them was in order. Audit is of the view that construction of the building in deviation from the planning permission was indicative of lack of monitoring of the compliance with specifications of planning permission while issuing completion certificate. CMDA needs to strengthen the monitoring and enforcement mechanisms with adequate checks and balances to ensure that such violations do not occur.

2.4.11.2 Non-strengthening of Enforcement Cell to monitor and control unauthorised buildings

Enforcement Cell (EC) of CMDA was formed in the year 1985 to monitor compliance to the approvals issued by CMDA. Among other functions, the EC inspects constructions, issues completion certificate and performs follow up action on developments. CMDA submitted (February 2015) a proposal to GoTN to strengthen the EC in CMDA by increasing the staff strength to

⁹⁹ Planning permit number - 8586 dated 31 December 2013.

¹⁰⁰ 60 dwelling units upto a maximum of 75 sq.m. each and 11 dwelling units upto a maximum of 50 sq.m. each.

monitor the vast area of Ch.MA and to take enforcement actions against building violations. GoTN directed (April 2015) CMDA to submit a revised staff requirement proposal by considering outsourcing and use of available technology. Accordingly, CMDA submitted (September 2015) revised proposal for 37 additional officers/staff and 45 outsourced persons. GoTN directed (October 2015) CMDA to furnish the financial implication towards the revised staff requirement which was furnished (January 2018) by CMDA only in respect of additional officers/staff. Further clarifications called for (April 2018) by GoTN were not furnished by CMDA so far (September 2018). Thus, delay in submission of financial implication to GoTN by CMDA for more than two years had resulted in non-strengthening of EC's functions as there was vacancy of 32 staff against the sanctioned strength of 66 staff as of November 2018.

CMDA did not provide reasons for the non-strengthening of EC (December 2018).

2.4.11.3 Shortfall in inspection by CMDA on issuance of planning permission by local bodies

GoTN appointed (December 1983) CMDA as the inspecting authority for annual inspection of Town Planning Sections of 29 local bodies within Ch.MA to review the issuance of planning permissions. During 2013 to 2017, as against 145 inspections to be conducted, only 49 inspections were carried out by CMDA and no inspection was conducted during 2016. It was noticed that only minor violations like, documents without signature, revocation of planning permit not entered in planning permit register and variation in layout number and settlement deed were pointed out during the inspections conducted and the issues discussed in the preceding paragraphs were not addressed by CMDA.

CMDA stated (December 2018) that due to paucity of staff, there was shortfall in the conduct of inspection of local bodies which would be completed by forming special teams.

2.4.11.4 Monitoring of unauthorised developments and unsafe buildings

National Building Code of India defines unsafe buildings as those which are structurally and constructionally unsafe or insanitary or not provided with adequate means of egress or which constitute a fire hazard or are otherwise dangerous to human life or which in relation to existing use constitute a hazard to safety or health or public welfare by reason of inadequate maintenance, dilapidation or abandonment.

As directed (August 2006) by the Honourable High Court of Madras, a Monitoring Committee (MC) was constituted (November 2006) to oversee the action to be taken on unauthorised constructions. Based on the directions issued (November 2011) by the MC, DF&RS conducted (November 2011) a survey on the fire safety of the individual buildings in Thiyagaraya Nagar within GCC limits and their fitness to function as commercial establishments, from the point of view of fire safety. Audit observed that no enforcement action was initiated on the unauthorised/unsafe constructions based on the

report due to stay orders issued by the Hon'ble High Court of Madras. Subsequently, the Hon'ble High Court of Madras directed (October 2014) the DF&RS to conduct a survey specifically for 11 commercial buildings located in that area. Accordingly, the DF&RS submitted (March 2015) the survey report to the High Court, which indicated deficiencies in respect of fire safety in the stated buildings. Meanwhile, in May 2017, two out of the above eleven buildings were demolished due to fire accident. Further, another survey of DF&RS carried out (July 2017) on 45 buildings¹⁰¹ in the same area indicated violations as given in **Table 2.38**.

Table 2.38: Details of violations noticed during survey

Parameter evaluated	Buildings which satisfied the requirement	Buildings which did not satisfy the requirement
FSI	16	29
Setback	0	45
Staircase	14	31
Underground water tank	11	34
Fire extinguishers	9	36
Fire pump	8	37

(Source: Survey report of DF&RS)

As observed from **Table 2.38**, all the 45 buildings did not comply with the setback¹⁰² norms specified in DR as below:

- 21 Buildings did not have setback on all the four sides,
- five buildings had no setback on three sides, one building had no setback on two sides and five buildings had no setback on one side,
- nine buildings had set back on all the four sides lesser than the required width of which clear space was not available due to obstructions viz., presence of concrete structures, transformers, generator sets in seven buildings and
- setback was less than the minimum required width in all the four SBs.

Absence/shortfall in setback space would hamper easy movement and operation of aerial ladder platform vehicle of fire and rescue services during emergency.

Further, 29 out of the 45 buildings were constructed with FSI ranging from 3.6 to 10 against the maximum permissible FSI of 3.5. Construction of buildings over and above the permissible FSI leads to strain on the infrastructure of local bodies.

¹⁰¹ Multi-storeyed buildings (41) and Special buildings (4).

¹⁰² Open space around the building in a plot.

DF&RS submitted (August 2017) the survey report to Home Department, H&UD Department and CMDA to take necessary action against the buildings for non-compliance with fire safety norms. H&UD Department, however stated (June 2018) that communication from Home Department was awaited to initiate follow up action. Thus, lack of co-ordination between the departments of GoTN resulted in unauthorised developments causing threat to public safety in the event of emergencies, such as fire and stampede.

CMDA stated (December 2018) that a decision was taken to constitute a Task Force to develop a mechanism for detection of unauthorised construction and action to be taken on them. Even after the occurrence of a major fire accident during the year 2017, the decision to constitute a Special Task Force was taken after a delay of 20 months indicating that the Government had not given adequate importance to adherence to fire safety norms.

2.4.11.5 Issue of planning permission after completion/commencement of construction

As per Section 47 of the Tamil Nadu Town and Country Planning Act, 1971, (Act), 'After the coming into operation of any development plan in any area, no person other than any State Government or the Central Government or any local authority shall use or cause to be used any land or carry out any development in that area otherwise than in conformity with such development plan'. As per Section 56 of the above Act, if any development of land or building was carried out without permission, the appropriate authority after giving due notice, was required to take action to restore the land to its condition before the said development.

Further, as per DR 3(1), no person shall carry out any development including sub-division/layout or reconstitution or amalgamation of land without written permission of the Authority or such other Executive Authority of Local Body or Agency or Person to whom this power has been delegated by the Authority. Audit, however, noticed from the inspection reports of CMDA that the applicants (**Appendix 2.30**) had completed or partially completed the construction as on the date of issue of planning permission.

As per Building Rules of local bodies concerned, local bodies should ensure the structural stability of the building. Audit observed that, of the above, five buildings were large constructions having dwelling units in thousands. The buildings were completed or commenced prior to obtaining of planning permission and building licence. This indicates that the local bodies failed to monitor the above developments as envisaged in the Act.

During the Exit Conference, CMDA stated that planning permission can be issued for the constructions commenced or completed if the building plan does not violate the norms of DR and also that penalty shall be levied over and above the normally payable penalty. The reply is not tenable as the Act and DR did not permit issue of planning permission for constructions completed or partially completed and also levy of penalty has not been stipulated for such violations.

2.4.11.6 Unauthorised/deviated constructions in Coastal Regulation Zone

Developments in coastal areas are regulated with reference to Coastal Regulation Zone (CRZ) area classifications such as CRZ-I, CRZ-II, CRZ-III and CRZ-IV based on the developments in the area along the shore as notified by GoI from time to time under Section 3 of the Environment (Protection) Act, 1986. CRZ-III zone is a relatively undisturbed area, and which is not substantially built up, where area upto 200 metres from High Tide Line is to be earmarked as no development zone. CRZ-II zone are areas that have already been developed upto or close to the shoreline.

As directed (September 2017) by the Honourable High Court of Madras on a writ petition filed on the violations/unauthorised construction of buildings in CRZ, a survey on unauthorised/deviated constructions (especially bungalows, resorts, guest houses, palatial houses and farm houses) was carried out and completed (June 2018) in four¹⁰³ villages along the coastal areas by the officials of CMDA and GCC. Notices were issued (January to April 2018) by GCC for 798 buildings. Only 48 owners responded with documents as called for in the notice. Scrutiny of the documents by GCC revealed that 31 buildings were constructed without approval from the appropriate authority and 17 buildings were constructed by deviating from the approved plan. Thus, all 48 buildings were in violation of statutory requirement. The remaining 750 owners did not respond to the notice.

Meanwhile, a draft CRZ Notification, 2018 was published (April 2018) by Ministry of Environment, Forest and Climate Change, GoI for stakeholders' remarks and CMDA remarked (May 2018) that a proposal was already addressed to the Director of Environment to reclassify the three villages¹⁰⁴ as CRZ-II under draft CRZ Notification, 2011 and there were presently no villages falling under CRZ-III within Ch.MA i.e., after receipt of concurrence from the Director of Environment on reclassification. The remarks of CMDA clearly indicate that reclassification of the above areas from CRZ-III to CRZ-II was at the draft stage (CRZ Notification, 2011) and not approved by Government of India. The fact remains that all the three villages continued to remain in CRZ-III with unauthorised developments mushrooming in violation of coastal regulations. This area has witnessed phenomenal development and GCC failed to initiate action against rampant violations of the law to safeguard the CRZ norms. Further, even the action initiated to reclassify the areas was to regularise violations.

¹⁰³ Injambakkam, Sholinganallur and Uthandi falling under CRZ-III and Neelangerai falling under CRZ-II.

¹⁰⁴ Injambakkam, Sholinganallur and Uthandi.

2.4.11.7 Complaints and grievances redressal mechanism

One of the objectives of CMDA was to respond to all grievance and complaint petitions and addressing them with a timeline of 30 working days in respect of SBs and MSBs. Complaints received in respect of ordinary buildings and other deviated/unauthorised constructions were forwarded to the local body concerned for taking action. The details like petitioner's name, address and complaint location are captured in "Enforcement Cell Action" workflow software.

Audit observed that out of 2,264 complaints during 2013-18, details of which were captured in the database, 2,247 complaints related to local bodies and CMDA had to forward the same to local bodies for taking action within 30 days. Delay was, however, noticed in capturing stage itself in 2,257 cases and the delay ranged from 2 to 1,669 days. Further, while 227 complaints were forwarded in time, 1,504 complaints were forwarded to the local bodies concerned with a delay ranging from 31 to 1,512 days and 516 complaints were not forwarded to the local bodies as of September 2018.

Further, the software used by CMDA did not provide fields for capturing vital information *viz.*, detailed description of complaint and follow-up action taken on the complaints.

The implementation of monitoring mechanism in redressal of complaint and grievance petitions was not effective in CMDA due to poor planning in development of software, incomplete data capturing and delay in forwarding complaint to local bodies for follow-up action.

During the Exit Conference, CMDA stated that system developed for Enforcement Cell complaint/grievance redressal mechanism would be implemented shortly.

2.4.11.8 Discharge of devolved function relating to planning permission

The function of 'Urban planning including town planning' though devolved to the urban local bodies, is restricted to according planning permissions for ordinary buildings. As regards buildings other than ordinary buildings, CMDA, which is under the jurisdiction of the State Government, accords planning permission within Ch.MA by collecting the Development Charges and OSR Charges as fixed by the Government. Seventy five *per cent* of these charges are to be transferred to the respective local bodies. During the audit period of 2013-18, it was, however, observed that, CMDA had transferred only 54 *per cent* and 56 *per cent* of the above respective charges to the local bodies. To carry out the devolved function, the local bodies are empowered to recruit staff, the appointments of which are controlled by the orders of Government.

Though the local bodies have their own revenue, major part of the resource base is in the form of State/Central Finance Commission grants, other grants from GoTN/GoI and assigned revenue. The devolved function stated above does not confer powers to the local bodies to carry out the activities independently.

2.4.12 System to detect and prevent errors/omissions

The errors/omissions pointed out are on the basis of a test audit. The Department/Government may, therefore, undertake a thorough review of all units to check whether similar errors/omissions have taken place elsewhere, and if so, to rectify them; and to put a system in place that would prevent such errors/omissions.

2.4.13 Conclusion

The Performance Audit revealed deficiencies in issue of planning permissions and monitoring. There was absence of co-ordination in identifying and controlling unauthorised constructions between the Revenue and the Town Planning wings of the local bodies and between the local bodies and the Chennai Metropolitan Development Authority. Local bodies and Chennai Metropolitan Development Authority did not explore the options for creation of green cover within Chennai Metropolitan Area despite availability of funds. Inclusion of plot area gifted for road widening and provision of link road to open space reserve for calculation of Floor Space Index resulted in short assessment of Premium Floor Space Index charges. Provision of inadequate parking facilities was in violation of specified parameters. Planning permissions were issued after completion/commencement of construction. Enforcement Cell was not strengthened to mitigate/control the deviated/unauthorised buildings.

2.4.14 Recommendations

Government of Tamil Nadu may consider the following:

- System of sharing of data relating to property tax assessment and planning permission between Chennai Metropolitan Development Authority and local bodies may be institutionalised to monitor and control unauthorised development.
- Physical constraints leading to collection of charges in lieu of Open Space Reservation may be documented and open space area may be created wherever possible.
- Enforcement Cell may be established in local bodies for monitoring and controlling unauthorised developments, besides strengthening of Enforcement Cell in Chennai Metropolitan Development Authority.

The matter was referred to Government in November 2018; reply has not been received (January 2020).

CHAPTER III
COMPLIANCE AUDIT

CHAPTER III

COMPLIANCE AUDIT

Compliance Audit of Departments of the Government and their field formations as well as autonomous bodies brought out several lapses in management of resources and failures in observance of norms of regularity, propriety and economy. These have been presented in the succeeding paragraphs.

MUNICIPAL ADMINISTRATION AND WATER SUPPLY DEPARTMENT

3.1 Implementation of ‘Hogenakkal Water Supply and Fluorosis Mitigation Project’

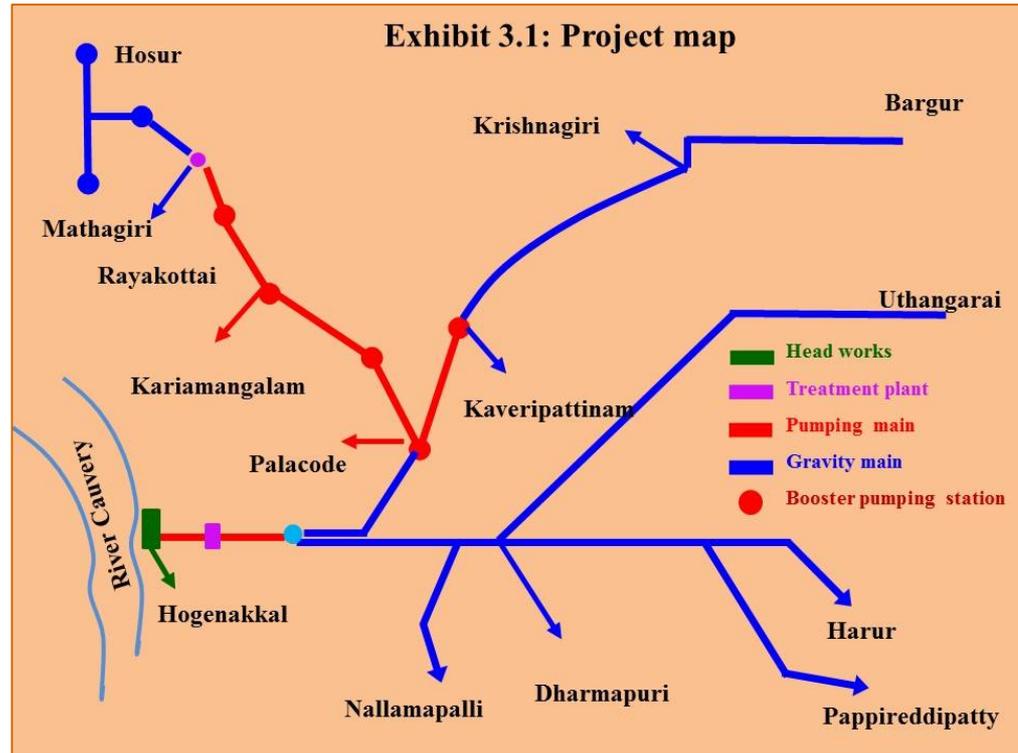
3.1.1 Introduction

The towns and villages of Dharmapuri and Krishnagiri districts, being drought prone, relied more on ground water for drinking purpose. The fluoride content of the ground water ranged from 1.5 to 12.4 milligram/litre (mg/l) against the permissible limit of 1.5 mg/l¹. As a result, 11.94 lakh out of a total population of 33.87 lakh (2011 census) in the two districts, were affected by dental, skeletal and non-skeletal² Fluorosis. With a view to mitigate Fluorosis and to provide sustainable and protected drinking water to both the districts, GoTN sanctioned (February 2008) ‘Hogenakkal Water Supply and Fluorosis Mitigation Project’ (Project) at an estimated cost of ₹ 1,334 crore, which was revised (January 2010) to ₹ 1,928.80 crore.

The project involved tapping of surface water from Cauvery river near Hogenakkal in Dharmapuri District and included construction of head works, treatment plants, Master Balance Reservoirs (561), laying of gravity and pumping mains, distribution mains, etc., (10,169 kms), overhead tanks (OHT), sumps, etc., (1,067). It carried treated water to three municipalities, 17 Town Panchayats and 7,639 Rural Habitations (**Exhibit 3.1**).

¹ World Health Organisation’s (WHO) Guideline values for drinking water quality. The desirable limit of fluoride as per Bureau of Indian Standards is 1 mg/l.

² Non-skeletal Fluorosis has gastro-intestinal, muscular and neurological manifestations, which develop long before the onset of Dental and Skeletal Fluorosis.



(Source: TWAD Board)

The Project Chief Engineer (PCE) of the Tamil Nadu Water Supply and Drainage Board (TWAD Board) headed implementation of the project. He was assisted by Superintending Engineer, Project Management Cell (SE, PMC). TWAD Board completed the project at a total cost of ₹ 1,846.86 crore between July 2013 and January 2014. The project was funded by loan assistance from Japan International Co-operation Agency (JICA), the financial support of GoTN and the local bodies' contribution³.

The audit was conducted from April to July 2018, covering the period from December 2010 to July 2018 to ascertain whether the objectives of the project were achieved. An Entry Conference was held with the Principal Secretary to Government, Municipal Administration and Water Supply Department on 28 June 2018 wherein the audit scope and methodology were discussed. Audit methodology included scrutiny of the project records at the Secretariat and the TWAD Board. Audit test-checked records at the project implementing offices, one municipality, five town panchayats (TPs) and five panchayat unions (PUs) along with 17 village panchayats therein (**Appendix 3.1**), which were selected randomly using a sampling software. An Exit Conference was held with the Principal Secretary to Government, Municipal Administration and Water Supply Department on 05 October 2018 to discuss the audit findings. Reply of the Government has been considered while finalising the report.

³ Loan from JICA - ₹ 1,444.27 crore; GoTN Grant - ₹ 366.87 crore (including ₹ 94.23 crore towards interest paid to JICA during construction and commitment charges) and local body contribution - ₹ 35.72 crore.

Audit findings

3.1.2 Financial Management

The funds committed by various sources and utilised for execution of the Project by the implementing agency (TWAD Board) were as given in **Table 3.1**.

Table 3.1: Project finances

(₹ in crore)

Source of fund	Amount committed by the source for the Project	Amount drawn by TWAD Board	Excess (+)/ Short (-) drawal by TWAD Board	Amount utilised for Project implementation
Loan from JICA	1,585.60	1,444.27	(-) 141.33	1,444.27
Grant from GoTN	307.48	378.12	(+) 70.64	272.64
Contribution from Urban Local bodies	35.72	35.72	0.00	35.72
Total	1,928.80	1,858.11		1,752.63

(Source: Details furnished by TWAD Board)

The Project was completed well within the estimated cost mainly due to partial implementation of Fluorosis Mitigation and non-implementation of Capacity Building components.

TWAD Board held an unspent balance of ₹ 105.48 crore out of the funds released by GoTN for the Project, which was utilised for operation and maintenance (O&M) expenses during 2015-18 due to higher cost of O&M as discussed in **Paragraph 3.1.6**.

3.1.3 Water Supply

3.1.3.1 Project outcome

The Project envisaged water supply of 90 litres per capita per day (LPCD) for High Income Group (HIG⁴) and 40 LPCD for Low Income Group (LIG⁵) in the municipalities, 70 LPCD for HIG and 40 LPCD for LIG in town panchayats and 30 LPCD for rural habitations. Based on the per capita norms and population as per 2011 census, the total drinking water requirement of the project area was worked out as 167.21 Million litres per day (MLD). It was, however, decided to supply only 126.54 MLD (76 *per cent*) through the project and to meet the balance of 40.67 MLD (24 *per cent*) by mixing water from existing local sources, including ground water, which was sustaining an existing level of 12 to 50 LPCD of water supply in the municipalities and an average of 10 LPCD in villages.

⁴ 70 *per cent* of population was considered coming under High Income Group (HIG).

⁵ 30 *per cent* of population was considered coming under Low Income Group (LIG).

Against the target to supply 126.54 MLD, the average supply during 2015-16, 2016-17 and 2017-18 was only 116.86 MLD, 118.54 MLD and 103.32 MLD respectively, which worked out to 92, 94 and 82 *per cent* of the requirement. It was also observed that if the growth in population is considered, the average quantity of water available from the project was only 81, 80 and 68 *per cent* of the projected requirements during 2015-16, 2016-17 and 2017-18 respectively. It was also observed that in the absence of metering at consumers' end, only the quantity of water available for supply could be ascertained and compared. Further, Audit also noticed disparity in supply among different towns and villages as given in **Table 3.2**.

Table 3.2: Status of water supply

Local bodies	Number of local bodies with Excess / Short supply											
	2015-16				2016-17				2017-18			
	Excess supply	Short supply			Excess supply	Short supply			Excess supply	Short supply		
		Up to 25 per cent	25 to 50 per cent	Above 50 per cent		Up to 25 per cent	25 to 50 per cent	Above 50 per cent		Up to 25 per cent	25 to 50 per cent	Above 50 per cent
Municipalities (3)	2	0	1	0	2	0	1	0	1	0	2	0
Town Panchayats (16)	9	5	1	1	10	4	2	0	6	7	3	0
Panchayat Unions (18)	4	11	1	2	6	8	4	0	1	11	6	0
Total (37)	15	16	3	3	18	12	7	0	8	18	11	0

* Data pertains to Hogenakkal water alone. Towns and villages had nominal quantity from existing ground water and other sources

(Source: Details furnished by TWAD Board)

During 2015-16, one municipality, two town panchayats and three panchayat unions faced more than 25 *per cent* short supply of water, which rose to two municipalities, three town panchayats and six panchayat unions during 2017-18.

While the project succeeded in terms of coverage of all the planned (7,639) habitations, in terms of quantity of water available, there was an aggregate shortage of 6.32 to 18.36 *per cent* during 2015-18 with reference to 2011 census population. The shortage was the highest in Bargur Town Panchayat (78.31 *per cent*). Analysis of reasons disclosed the following:

- Audit found that during 2015-18 the local bodies⁶ served by pumping mains had an average short supply of 23.48 *per cent* and those⁷ receiving water through gravity mains had an annual average shortfall of 5.41 *per cent* (**Appendix 3.2**). The SE, PMC, Dharmapuri, *inter alia*, attributed (July 2018) the short supply to pumping constraints due to low electric voltages at the booster

⁶ Two municipalities, eight town panchayats and ten panchayat unions.

⁷ One municipality, eight town panchayats and eight panchayat unions.

pumping stations. Audit observed that the proposed separate feeder arrangements for power supply to Booster pumping stations were not provided leading to disruptions in power supply.

- Damages caused to pipelines by other line departments, viz., PWD, Highways, Electricity Board, etc., resulted in non-supply of Hogenakkal water to 412 habitations for periods ranging from 1 to 25 months. Audit observed that this was a result of failure on the part of the line departments to coordinate with TWAD Board before commencement of digging.
- The reduction in the quantity supplied during 2017-18 was mainly due to shortage of water at the source. During April, May and June 2017, pumping from the head works near Hogenakkal fell to 69.74 MLD, 85.30 MLD and 79.84 MLD respectively, against the previous year's average pumping of 118.54 MLD.

Regarding short availability of water from Hogenakkal Water Scheme (HWS), GoTN replied (November 2018) that Dharmapuri Municipality had other source and Hosur Municipality did not have adequate infrastructure to receive water leading to short supply. GoTN also stated that the receiving infrastructure of Hosur Municipality was being expanded under 'Atal Mission for Rejuvenation and Urban Transformation' (AMRUT) scheme. Further, GoTN stated that the pumping constraints due to power supply issue were being addressed and shortage of water at source was a '*force majeure*' event.

3.1.3.2 Defective planning leading to supply of contaminated water

The Project envisaged provision of water supplied of 30 LPCD for rural habitations as against the then existing GoI norms of 40 LPCD. The balance 10 LPCD was proposed to be met from ground water sources. Considering the level of contamination of ground water in these districts, the proposal to mix the high fluoride ground water with river water, was against the objective of the Project to mitigate Fluorosis. During field visits to sampled habitations, it was noticed that the rural local bodies were supplying water to the habitations by mixing higher than the planned 10 LPCD of local source water with the water supplied through the Project due to short supply of Hogenakkal water as commented in **Paragraph 3.1.3.1**.

It was noticed that in 66⁸ out of 195 habitations in the sampled panchayat unions, the fluoride content in the supplied water was above the WHO prescribed ceiling of 1.5 mg/l. In order to overcome the mixing of ground water with river water, TWAD Board provided one additional 5,000 litre overhead tank in each of the 156 out of the 3,245 habitations in Dharmapuri District between January 2015 and April 2017. It was, however, noticed that only group public fountains were provided in the vicinity of the OHT, thereby denying

⁸ Fluoride range and number of habitations - 1.51 to 2 mg/l - 37 habitations; 2.01 to 3 mg/l - 21 habitations and above 3 mg/l - 8 habitations.

benefits to people living away from the site of the OHT. In Krishnagiri District, no such attempt was made to provide separate OHTs to avoid mixing. Further, in January 2018, the SE, PMC, Dharmapuri proposed for supplying additional quantity of 2.76 MLD to the 999 habitations facing the problem of contamination due to mixing. The proposal was approved by the Joint Managing Director, TWAD Board in March 2018. But no action was taken till June 2018.

Thus, despite implementing the Project, 999 out of the 7,639 habitations continued to have the problem of higher fluoride content in the drinking water.

GoTN replied (November 2018) that subsequent tests of water samples indicated fluoride levels within permissible limits and the number of persons affected by Non-Skeletal Fluorosis in the 999 villages pointed out by Audit had been coming down.

Audit could not independently verify the reply, but the risk of fluorosis was likely to be prevalent, given the short availability of water from the project, and mixing of local water with higher fluoride content.

3.1.3.3 Non-provision of water connections to houses and schools

(i) The Project envisaged water connection to 100 *per cent* households in the urban areas and 70 *per cent* households in the rural areas. It was, however, noticed that in the three municipalities and 17 town panchayats, only 66,167 out of 1,86,360 households (35.5 *per cent*) were provided with house connections. In rural areas, out of the 18 PUs, no connections were provided to the entire 4,54,229 households in 13 PUs and in five other PUs out of the total of 1,32,099 households, only 9,285 households (7.02 *per cent*) were provided with house connections. In February 2016, TWAD Board decided to provide house connections to all houses in one TP in each district using Project funds. The proposal was, however, dropped as the Project period came to an end in July 2017 and the target of providing 100 *per cent* house connection was not achieved.

The Commissioners of sampled PUs generally attributed inadequate water availability, provision of sufficient number of public fountains and reluctance of residents to pay water charges, to non-provision of house connections. Audit, however, observed that the sampled PUs did not initiate any actions, for providing house connections.

GoTN replied (November 2018) that public fountains in rural areas were within 50 metres of residents.

Availability of treated water only at public fountains would result in usage of contaminated water in households. Thus last mile connectivity as envisaged in the project was not achieved.

(ii) A lump sum provision was provided in the Project agreement of Packages II to V for extending water supply to all the 3,409 schools in both districts of the Project area at a cost of ₹ 3.84 crore. No expenditure was incurred from the above provision till July 2018.

Audit scrutiny revealed that three years after commissioning the Project, TWAD Board initiated (December 2016) action to provide potable water to 1,096 schools. The PCE addressed (December 2016) the District Collectors of both the districts requesting to prepare the detailed estimates and accord administrative sanction for provision of Hogenakkal Water to the 1,096 schools. Two separate estimates for providing water supply to the schools in the two districts were prepared in April 2017 (₹ 1.06 crore for Dharmapuri and ₹ 8.41 crore for Krishnagiri). The works were not started even by June 2018 as the works were not technically sanctioned pending detailed survey.

GoTN replied (November 2018) that the plan to provide direct connection to schools was not carried forward as that would hamper the entire design and create maintenance issues.

The reply was not tenable as provision of 100 *per cent* house connections in urban areas, 70 *per cent* in rural areas and direct connection to schools were the objectives of the Project to ensure better living standards and health to the population.

3.1.4 Fluorosis Mitigation

The Fluorosis mitigation component was implemented through three approaches *viz.*, (i) Community-based approach, (ii) School-based approach and (iii) Hospital-based approach. The budget provided for these activities, between May 2010 and March 2015, was not utilised in full as detailed in **Table 3.3**.

Table 3.3: Fluorosis mitigation expenditure

(₹ in crore)			
Description	Estimated	Expenditure	Unspent
Community-based approach	8.47	5.33	3.14
School-based approach	1.40	0.74	0.66
Hospital-based approach	12.50	2.69	9.81
Technical Support	3.42	2.90	0.52
Contingencies and Centage	2.64	1.52	1.12
Total	28.43	13.18	15.25

(Source: Details furnished by TWAD Board)

The reasons for short-utilisation of the funds, which impacted the objectives of the project are discussed below:

(i) The Project envisaged 100 *per cent* survey of all households to assess the prevalence of Fluorosis, provide counseling and arrange for medical and surgical interventions to control and rehabilitate Fluorosis affected persons. Audit, however, noticed that the survey covered only 26.62 lakh out of the total population of 33.87 lakh in the Project area (78.6 *per cent*). Specific reasons for the shortfall were not given.

(ii) The surveys identified 11.94 lakh Fluorosis affected persons in the two districts, including 1.69 lakh school students. PCE arrived at (January 2013)

a figure of 2.05 lakh severely and moderately affected persons requiring treatment by supplying micronutrients. The Project envisaged supply of Calcium, Vitamin-C, Folic Acid etc., to the affected people for a period of 90 days. Audit found that against 2.05 lakh persons identified for supply of micronutrients, only 0.36 lakh were benefitted. The SE/PMC replied (July 2018) that the budget available was sufficient to procure micronutrients for only 0.36 lakh persons. Audit observed that in the context of the overall savings of ₹ 15.25 crore under Fluorosis mitigation component, efficient budgeting and implementation could have ensured funds for micronutrients for the entire affected population.

Thus, 1.69 lakh out of 2.05 lakh severely and moderately affected persons (82 per cent) were deprived of treatment to correct the damage caused by consuming water with higher fluoride content.

(iii) The Project envisaged medical intervention to treat identified patients. Though the Project started in 2012, the identification of school students requiring medical intervention was started only in the fourth year of the Project (2016-17). The school survey, which included both genders, identified 1,68,617 students affected with Dental Fluorosis. Out of them, 13,469 girl students studying in classes 8 to 12 standard during 2016-17 were chosen for surgical dental procedures. Audit, however, noticed that only 65 girl students, who were identified through a pilot study, were provided surgical treatment to remedy the effect of Dental Fluorosis and no further surgical treatment was carried out as the scheme came to a close. SE, PMC replied (July 2018) that efforts made to sign a Memorandum of understanding with the Health department to carry out this activity did not materialise. Thus, there were delays and omissions in provision of medical treatment to Fluorosis affected children.

Exhibit 3.2: Photographs of Fluorosis affected children



(Source: TWAD Board-Fluorosis mitigation component completion report)

(iv) 'Ion Meters' are specialised equipment for clinical diagnosis of Fluorosis using blood and urine samples. Under the Project, 10 Ion Meters and consumable costing ₹ 48,05,600 were supplied (July 2011) to 10 Government Hospitals in the Project area. Funding was also provided for regular operation of the equipment. The hospitals carried out diagnosis using the equipment during the project period. On completion of the project, the equipment were

taken back (March 2017) by TWAD Board from the hospitals. No effort was made to provide funds to the hospitals to continue with this activity beyond the project period, despite availability of funds under the component 'Hospital based approach'.

(v) Based on the proposal of Deputy Director of Health Services and Joint Director of Health Services of the two districts to provide dental care in designated health facilities, PCE procured (May 2015) 17 Dental Chairs through Tamil Nadu Medical Services Corporation at a total cost of ₹ 22.20 lakh. Two⁹ out of the three Dental Chairs supplied to the three sampled hospitals were not put to use since supply in June 2015 due to non-availability of Dentists in the hospitals. Supply of Dental Chairs to hospitals without Dentists had resulted in idling of equipment costing ₹ 2.61 lakh, and non-achievement of scheme objectives.

(vi) In February 2012, it was decided to procure a 'C-Arm Mobile Image Intensifier'¹⁰ for performing surgery on patients affected by skeletal fluorosis. The equipment was procured at a cost of ₹ 15.43 lakh after five years and supplied to Government Dharmapuri Medical College Hospital only at the fag end of the project period, in April 2017. The equipment was not utilised for performing any corrective surgery till July 2018. Thus, along with abnormal delay in procuring the equipment, no action was taken to utilise the machinery.

In their reply (November 2018), GoTN stated that 98.5 *per cent* of households were surveyed. GoTN also stated that micronutrients were supplied only to assess its impact. Regarding Ion meters, Dental Chairs, and C-arm Mobile Image intensifier being kept unutilised, GoTN stated that action was being taken to put them into proper use.

The reply on survey achievements was not tenable as the persons covered under the survey was only 78.6 *per cent* of the total affected population of 33.87 lakhs. The reply on micronutrient supply was also not tenable as only 17.5 *per cent* of identified persons benefited. The objective to provide medical and surgical interventions to control Fluorosis and rehabilitate the Fluorosis affected persons was not achieved and the funds were exhausted. The department made no efforts to augment the funds to ensure interventions for identified beneficiaries.

3.1.5 Project implementation

The Project was divided in to five packages and TWAD Board engaged five different contractors through international bidding. Audit scrutiny of contract management disclosed the following.

3.1.5.1 Excess payment of ₹ 1.39 crore due to adoption of higher rates

Primarily, the payment for various items of works was to be based on the agreement rates. As per clause 52.2 of the agreement signed with the contractor, no change in the price for any item contained in the contract shall be considered

⁹ One each in Government Hospital, Harur and Government Hospital, Pennagaram.

¹⁰ An equipment used in orthopaedic surgeries.

for variation in the quantity of work executed, unless such items accounts for more than two *per cent* of the contracted price and the actual quantity of work executed under the item exceeded or fell short of the tendered quantity by more than 25 *per cent*.

Audit noticed that in Package V (₹ 366.80 crore), higher rates, in excess of the agreement rates, were approved (July 2012) and paid for additional quantity of pipe line laying work executed by the contractor. The incorrect adoption of rates resulted in excess payment of ₹ 1.39 crore as detailed in **Appendix 3.3**.

On this being pointed out, the Executive Engineer (EE), Project Maintenance Division, Krishnagiri justified (June 2018) that the payment was based on sub clause 52.1 and 52.2 of agreement for Package V. The reply was not acceptable, as clause 52.1 of the agreement was related to execution of work not provided in the agreement and clause 52.2 was related to quantity of works executed in excess or short by 25 *per cent* of the agreed quantity.

As the quantity executed did not exceed or fell short of the limit of 25 *per cent* of the agreed quantity, payment of ₹ 1.39 crore, at a rate in excess of agreement rate, was irregular.

3.1.5.2 Avoidable expenditure of ₹ 1.13 crore due to provision of separate item for jointing Ductile Iron pipes

Ductile Iron (DI) pipes of different sizes were used in transmission mains, feeder mains, internal transmission mains and internal networks. Laying of DI pipelines included conveying, lowering, laying and jointing.

In Packages III, IV and V, while ‘conveying, lowering, laying and jointing of DI pipes’ were tendered as a single item of work in respect of transmission mains and feeder mains, these items were tendered as two separate items in internal transmission mains i.e., (a) ‘conveying, lowering and laying’ and (b) ‘jointing of DI pipes’. Audit noticed that the total of the unit rates agreed for (a) ‘conveying, lowering and laying’ and (b) jointing of DI pipes in internal transmission mains and internal networks were higher than the unit rates agreed for ‘conveying, lowering, laying and jointing of DI pipes’ of same sizes in transmission mains and feeder mains.

Audit worked out an excess expenditure of ₹ 1.13 crore (**Appendix 3.4**) due to calling for separate rates for (a) ‘conveying, lowering and laying’ and (b) ‘jointing of DI pipes’ instead of ‘conveying, lowering, laying and jointing of DI pipes’.

EE, Project Maintenance Division, Krishnagiri, in his reply (June 2018) stated that the payment was made to the contractors only at the agreed rates and no extra payment was made. The reply was not to the point raised that calling for separate rates for ‘jointing of DI pipes’ in internal transmission mains and internal networks, rather than calling for combined rates for ‘conveying, lowering, laying and jointing as in the case of transmission mains and feeder mains had resulted in quoting and accepting of higher rates and consequent avoidable payment.

3.1.5.3 Deficiencies in the working of Project Management Consultant

- (i) The consultant prepared estimates including the Central Excise Duty (CED) even though the project was exempt from CED. Inclusion of CED inflated the estimate by ₹ 37.81 crore.
- (ii) HDPE pipes of diameter not exceeding 63 mm were available in coils of length 100 metres. Estimates were, however, prepared by adopting pipes of length of six metres, involving joints at every six metre. This had resulted in inflating the estimates by ₹ 7.05 crore.
- (iii) Instances of shifting of telephone cables, local body pipelines and other utilities, trenchless boring in 50 places for Railways and NH crossing, etc., necessitated by inadequate review of the DPR of Package V contributed to avoidable payment of ₹ 2.69 crore towards staff cost etc., to the contractor during period of extension of time.
- (iv) Uniformity was not ensured in tendering for laying DI pipes, as pointed out in **Paragraph 3.1.5.2**.

The above deficiencies on the part of the Consultant impacted the project in terms of cost and scope of the work. Audit, however, found that no penalty was levied on the contractor as the agreement conditions did not provide for levy of such penalty. In the absence of penalty/compensation clause the accountability of the consultant for the Project Management could not be ensured. The monitoring of the working of the Consultant also suffered from laxity, thus affecting the Project.

GoTN replied (November 2018) that action will be taken on the audit findings on Project implementation. The Government must fix responsibility for the lapses.

3.1.6 Non-sustainable O&M expenditure

The cost of O&M of the Project during 2013-18, revenue collected by TWAD Board by bulk sale of water to local bodies and the shortfall in revenue made good by GoTN were as given in **Table 3.4**.

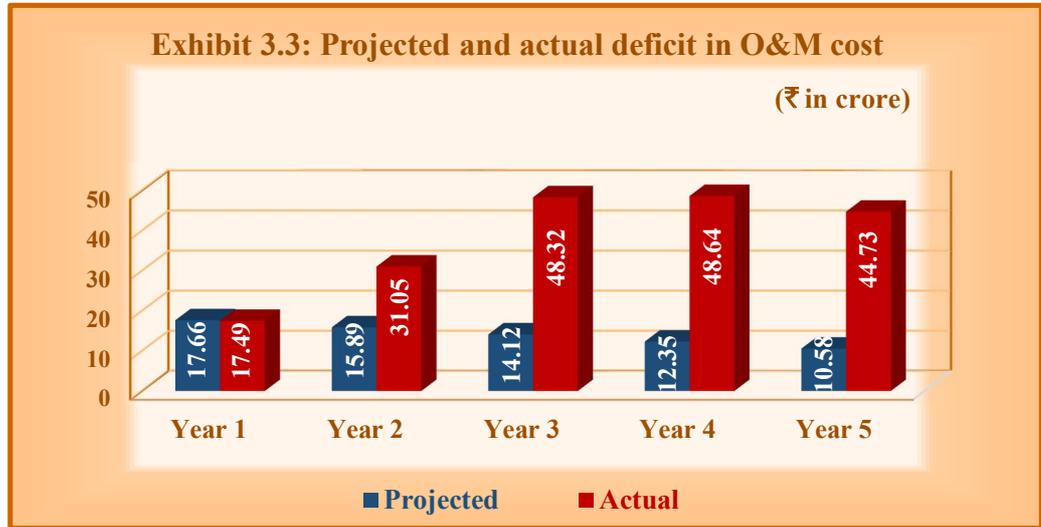
Table 3.4: O&M expenditure of the Project

O&M Expenditure	Revenue generated by TWAD Board	Deficit met by GoTN
₹ 310.86 crore	₹ 120.62 crore	₹ 190.24 crore

(Source: Details furnished by TWAD Board)

The project proposal envisaged 100 *per cent* recovery of O&M cost so as to ensure the sustainability of the Project. The policy of GoTN was also in favour of 100 *per cent* recovery of O&M cost. With this objective in mind, the Project Consultant envisaged (2008) the tariff for bulk supply to urban and rural local bodies to be increased from ₹ 4.50 and ₹ 3 per kilo litre respectively as of 2008 to ₹ 7.88 and ₹ 5.25 per kilo litre respectively in 2012 and to hike it by five *per cent* every year so as to fully meet the O&M cost by 2022. TWAD

Board, with the approval of GoTN increased the water tariff to local bodies as proposed by the Project Consultant. Despite that, the deficit in O&M cost kept increasing as against the target to reduce it gradually to zero by 2022. The projected and actual deficit in O&M cost was as depicted in **Exhibit 3.3**.



(Source: Details furnished by TWAD Board)

On analysis, it was observed that:

- The quantity of water supplied under the Project was much less than the projection as commented in **Paragraph 3.1.3.1**, leading to higher variable cost and consequent continuous increase in O&M cost deficit.
- TWAD Board was not prompt in assessing the charges payable by local bodies. Audit observed that the TWAD Board did not even have a proper system to measure the quantity of water supplied to local bodies as the water meters provided were non-functional and no efforts were taken to rectify them. In the absence of water meters, the charges were levied on approximation basis. It was further noticed that Urban Local Bodies were not prompt in settling the water supply bills of TWAD Board. As of September 2018, the accumulated arrears in respect of Urban Local Bodies was ₹ 11.73 crore.
- The Deficit towards O&M expenses were met from Government grants.

Regarding the widening gap between the O&M expenditure and revenue, GoTN replied (November 2018) that the increase in electricity tariff was the main reason. Audit recommends that the TWAD must concentrate on mopping the revenues by ensuring installation of functional meters and levy charges. This would ensure financial viability of the project and reduce dependence on Government grants.

3.1.7 System to detect and prevent errors/omissions

The errors/omissions pointed out are on the basis of a test audit. The Department/Government may, therefore, undertake a thorough review of all units to check whether similar errors/omissions have taken place elsewhere, and if so, to rectify them; and to put a system in place that would prevent such errors/omissions.

3.1.8 Conclusion

The short supply of protected water through the “Hogenakkal Water Supply and Fluorosis Mitigation Project”, coupled with mixing of ground water with the river water resulted in non-achievement of the objective of supplying safe and potable drinking water. The Project did not adequately address the impact already caused by Fluorosis because of underperformance and deficiencies in household survey, inadequate micronutrient supply and corrective dental and orthopedic surgeries. Fluorosis mitigation activities require active co-ordination with the Public Health Department. Issues in execution of civil works resulted in avoidable expenditure of ₹ 2.51 crore and the widening gap between O&M expenditure and revenue posed threat to proper maintenance of the project and its financial viability.

3.2 Avoidable/Unfruitful expenditure

HEALTH AND FAMILY WELFARE DEPARTMENT

3.2.1 Irregular procurement and idling of medical equipment

Irregular procurement resulted in an avoidable expenditure of ₹ 4.29 crore in respect of medical kits supplied to the seven sampled Medical College Hospitals as the equipment procured were neither required nor put to use. This raised a question on the entire procurement at a cost of ₹ 10.60 crore.

Director of Medical Education (DME) annually incurs an expenditure of about ₹ 78 crore on procurement of machineries and equipment. Audits conducted at the DME and seven out of 21 Medical College Hospitals (MCHs) during 2017-18 brought out the following in respect of purchase of machineries and equipment.

With a view to provide effective and preventive treatments during infectious seasons of dengue, H1N1 and Ebola, the DME procured and supplied (February 2015) 5 types of portable diagnostic kits to 19 MCHs in the State at a cost of ₹ 10.60 crore.

As per delegation of powers (October 1994), the DME was vested with financial powers of not more than ₹ 10 lakh for procurement of medical equipment and machinery on each occasion. Procurements costing above ₹ 10 lakh, but not exceeding ₹ 50 lakh were within the powers of Central Purchase Committee/High Power Committee and those costing above ₹ 50 lakh were to be sanctioned by GoTN. The usual practice followed by DME in procurement of equipment and medicines was to call for requirements from MCHs before deciding the procurement quantity.

In November 2014, Tamil Nadu Medical Services Corporation¹¹ (TNMSC) entered in to a rate contract with a Hyderabad based importer of Swedish make rapid test equipment viz., (a) Blood Glucose analyser, (b) HbA1c analyser, (c) Urine Albumin analyser, (d) Hemoglobinometer and (e) WBC analyser. Following this, DME addressed (January 2015) all MCHs to procure these medical equipment as per need, within the funds available and simultaneously cautioned that MCHs having auto/semi auto analysers (**Exhibit 3.4**) should place further orders only on need basis.

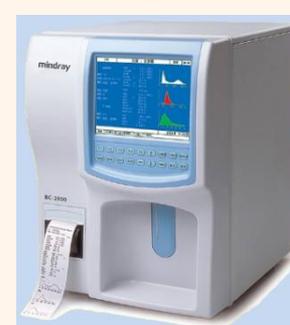
Exhibit 3.4: Diagnostic equipment for clinical biochemistry (Illustration)

Rapid test kits are portable equipment for faster bio-chemical test results with higher



operational cost. Separate equipment is needed for each type of test.

Fully automated/ Semi automated analysers are lab mounted equipment which can perform multiple bio-chemical



tests simultaneously. They combine higher volume with lower operational cost. Medical Council of India has made it mandatory for biochemical laboratories in all MCHs.

Field inspection (February 2015) was carried out by the Health Minister, Health Secretary and the DME. Post the field inspection, the DME ordered that “purchase order may be placed at directorate level to save the delay during the infectious season of Dengue, H1N1 and Ebola”. Audit noticed that even though, no MCHs had sent a requisition for the rapid test equipment, DME recorded (06 February 2015) a note that “needs were high” for the rapid test

¹¹ Tamil Nadu Medical Services Corporation (TNMSC) functions as an agency to procure medicines and equipment for government hospitals in the State.

equipment “for effective and preventive treatment of patients”. The purchase order was placed on the same date for 235 *HemoCue* rapid test equipment¹² at a total cost of ₹ 10.60 crore. The vendor supplied (February 2015) the equipment to 19 MCHs. Test check in the randomly selected seven of the 19 MCHs viz., (a) Government Kilpauk MCH, Chennai, (b) Government Mohan Kumaramangalam MCH, Salem, (c) Government Rajaji Hospital, Madurai, (d) Government Dharmapuri MCH, (e) Government Theni MCH, (f) Tirunelveli MCH and (g) Government Stanley Hospital, Chennai revealed that the equipment were not put to use even after a lapse of more than three years (June 2018). **Exhibit 3.5** depicts the non-utilisation of the rapid test equipment in Government Mohan Kumaramangalam MCH (GMKMCH), Salem.

Exhibit 3.5: Equipment kept unutilised



Test cartridges not opened at GMKMCH, Salem

(Joint physical verification conducted in May 2018)



Equipment boxes not opened at GMKMCH, Salem

(Joint physical verification conducted in May 2018)

Audit observed that:

(i) The decision on procuring rapid test equipment was a clear departure from the established procedure and DME’s own instruction of January 2015. DME circumvented the established system of assessing the requirement by the heads of MCHs concerned and obtaining administrative approval and financial sanction from Government after due consideration of its merits *vis-à-vis* the budgetary position. None of the sampled MCHs had sought for this equipment. Audit noticed that the decision on procurement of rapid test equipment overlooked the availability of auto/semi auto analysers in MCHs. Audit found that all the sampled hospitals had auto/semi auto analysers with much higher capacity to handle everyday needs for blood testing and even to face spikes due to epidemics, which was evident from the data on blood tests conducted in Salem and Dharmapuri Government MCHs (**Appendix 3.5**).

¹² 15 sets each for 9 MCHs and 10 sets each for 10 MCHs at ₹ 4.51 lakh per set comprising equipment for five tests.

(ii) DME violated the delegated financial powers by procuring equipment worth ₹ 10.60 crore although she had been delegated with powers to sanction procurements costing only upto ₹ 10 lakh.

(iii) DME placed the order without following the due process on the pretext of “*avoiding delay during the infectious season of Dengue, H1N1 and Ebola infections*”. These kits were originally proposed (2014) by State Health Society for diagnosis of non-communicable diseases. The Government reply (September 2018) also attested the fact that four of the five types of kits procured were not relevant for diagnosing communicable diseases and the remaining kit also was capable of only screening of infections, as against the tests stipulated in WHO protocols for Dengue, H1N1 and Ebola infections. Thus, the reasoning put forth by DME for the hasty large scale purchase of rapid test equipment, without following, due process was unjustified.

(iv) Another reasoning given by DME for this procurement was “*curtailment of spent on drugs and treatment procedure*”. The Deans of the test-checked hospitals, however, stated (May 2018) that the recurring costs of consumables for conducting the tests with the rapid test equipment were very high when compared with testing using auto/semi auto analysers already available in the hospitals.

(v) Moreover, non-utilisation of the purchased equipment for more than three years in the test-checked hospitals had rendered the three year warranty of the equipment meaningless.

Thus, the decision of the DME to procure rapid test equipment by circumventing the established procedure of assessing requirement, without due diligence and without obtaining Government’s sanction resulted in an avoidable expenditure of ₹ 4.29 crore in all the seven sampled MCHs. This raised a question on the entire procurement amount of ₹ 10.60 crore. The government may consider fixing the accountability of the persons concerned for the loss and unjustified purchase after conducting necessary investigation in the matter.

The Government replied (September 2018) that there was error in judgment on the part of the DME in assessing the requirement of rapid test kits and that steps were taken to relocate them to needy areas within the hospitals and/or to other district hospitals apart from utilising them in medical camps and field and mobile medical units. However, it has contended that (i) Point of Care Testing (POCT) is a fast growing technology with advantages in providing care at patient level, (ii) the equipment procured are of good quality and (iii) the DME was not required to get permission from the Government to procure the equipment as the rate contract was already fixed by TNMSC.

The contentions of the government are not acceptable as (i) the technology adopted or the quality of equipment procured was not questioned by Audit and only the manner of assessment for procuring the equipment and instructions issued *viz.*, that institutions having full/semi auto analysers should procure only on need basis, have been overlooked was pointed out and (ii) DME’s monetary power for procurement is ₹ 10 lakh and Government’s sanction should have

been obtained as the value of the procurement is more than ₹ 10 crore. It was noticed that in other procurements where the value exceeded DME's powers, the sanction of the Government was obtained.

Moreover, the non-utilisation of the medical equipment procured points to the lack of necessity of such equipment and the action of the Government in relocating the procured rapid test kits to needy areas is only an afterthought and reinforces the Audit observation.

HIGHER EDUCATION DEPARTMENT

3.2.2 Unfruitful expenditure due to poor planning

Failure of the University of Madras to assess the demand for new hostel facility resulted in non-utilisation of newly constructed hostel building for more than three years and consequent unfruitful expenditure of ₹ 10.10 crore.

Thirteen Government universities are functioning under the control of the Higher Education Department of GoTN. During 2016-18, six universities were audited. Scrutiny of records relating to the period 2010-17 in the University of Madras and the Higher Education Department during February to March 2018 disclosed the following lapses of the University which resulted in unfruitful expenditure:

In October 2010, the University of Madras (University) planned to construct an International students hostel (Hostel) with 193 rooms in its Taramani Campus, Chennai for foreign students enrolled in all the four campuses¹³ of the University. The University's Building Committee and its Syndicate approved the project in February 2011. The University, through tender process, awarded the work to a contractor in April 2012. The Hostel building was completed in April 2015, at a total cost of ₹ 10.10 crore¹⁴, but not put into use (April 2018) due to lack of demand from foreign students for campus accommodation.

(i) During the three academic years (i.e. 2007-08 to 2009-10) preceding the proposal to construct the Hostel, the number of international students enrolled in the University ranged from 31 to 46. In the succeeding academic years, 2010-11 to 2014-15, the enrolment ranged from 47 to 82. During this period, the number of students availing hostel facilities ranged from 4 to 14 only. But the University, failed to factor in the number of international students and the trend of negligible number of international students seeking hostel accommodation. It was further observed that all the international students were not enrolled in courses conducted in the Taramani Campus as the University

¹³ Chepauk, Guindy, Marina and Taramani.

¹⁴ Civil Works: ₹ 8,24,74,319; Water supply and sanitary works: ₹ 86,46,500; Electrical works: ₹ 98,71,708.

had three other campuses in the city. It was also noticed that during 2009-18, even the meagre number of foreign students who resided in hostels preferred to stay in the Chepauk Campus of the University, which was located 12 kms away from the Taramani Campus. This indicated that the very proposal to locate the Hostel at Taramani was flawed. The University admitted (April 2018) that no survey was conducted to assess the demand for accommodation from foreign students. Only after the building was structurally completed, the University's Building Committee realised (June 2013) the lack of demand, but nothing could be done at that stage.

(ii) It was also observed that simultaneously the University had constructed (April 2015) two other hostel buildings viz., (a) Post Graduate Students' Hostel with 246 rooms and (b) Research Scholar Hostel with 143 rooms in the same campus at a total cost of ₹ 21.27 crore. After completion in April 2015, these two hostels started functioning with an average occupancy rate of about 45 *per cent* during September 2015 to June 2017. Had the University conducted a comprehensive assessment of the need for hostel accommodation in Taramani Campus, it would have been possible to avoid altogether the construction of international students hostel by earmarking rooms for international students in either of these hostels.

(iii) Audit also observed that the unutilised Hostel building invited the attention of anti-social elements resulting in burglaries (in December 2015 and September 2016) wherein electrical and sanitary fittings in the building valuing ₹ 22.30 lakh were stolen despite security arrangements in place.

Thus, construction of the Hostel without assessing the need resulted in the new building not being put into use for more than three years and consequent unfruitful expenditure of ₹ 10.10 crore.

The Government replied (August 2018) that the construction of the hostel was taken up based on the request of international students (enrolled during 2010-11) to have individual rooms with attached kitchen and toilet facilities and with a view to attract more international students by providing such facilities. It further replied that as enough number of international students were not enrolled due to external and unknown reasons, it was now proposed to use the entire international students hostel for the increasing number of women students of the University and that the existing women's hostel in Chepauk Campus was to undergo renovation. The reply is not acceptable as it glosses over the lapses in assessing the demand for accommodation from foreign students. Besides, the viability of the proposal to shift women students of Chepauk Campus hostel to Taramani Campus hostel was also questionable as it involved commuting 12 km each way.

HEALTH AND FAMILY WELFARE DEPARTMENT

3.2.3 Irregular purchase of medicines leading to avoidable expenditure

Irregular purchase of two Ayurvedic medicines by Employees' State Insurance (ESI) hospitals and Director of Medical and Rural Health Services (ESI) resulted in an avoidable expenditure of ₹ 2.67 crore.

Government of Tamil Nadu administers eight hospitals and 216 dispensaries exclusively for the beneficiaries of Employees' State Insurance (ESI) scheme. The Director of Medical and Rural Health Services (ESI) (DMRHS (ESI)) heads the network of ESI medical institutions¹⁵. According to established procedures, ESI medical institutions procure medicines from the firms having Running Rate Contract (RRC) with ESI Corporation, New Delhi. Medicines are also procured from Tamil Nadu Medical Services Corporation (TNMSC), a Public Sector Undertaking (PSU) of GoTN, wherever the prices are cheaper than the RRC prices. A Purchase Committee headed by the Managing Director (MD), TNMSC reviews the medicine indents and coordinates the medicine procurement. In respect of Ayurvedic medicines, GoTN nominated (December 2013) Tamil Nadu Medicinal Plant Farms and Herbal Medicine Corporation Limited (TAMPCOL) as the agency for procurement. In case of non-availability of required medicine in RRC/TNMSC/TAMPCOL, the 'Manual on Purchase Procedure of ESI Corporation' envisages local purchase, costing up to a maximum of ₹ 1 lakh, with the approval of a Local Purchase Committee constituted at every institution.

During 2013-17, DMRHS (ESI) procured Ayurvedic medicines costing ₹ 4.55 crore through local purchase. Test check (April 2018) of records for the period from 2013-17 conducted at DMRHS (ESI) disclosed that in violation of the established procedures, DMRHS (ESI) and three hospitals resorted to local purchases of two Ayurvedic medicines in large quantities as given in **Table 3.5**.

Table 3.5: Local purchase of Ayurvedic medicines

Name of medicines	Period of purchase	Number of units purchased	Cost (₹ in crore)	Remarks
(1)	(2)	(3)	(4)	(5)
<i>Rub N Run oil</i>	2013-14	60,000	1.21	Purchased and payment made by DMRHS (ESI)
	2014-15	9,500	0.18	
	2015-16	50,600	1.07	Purchased by ESI Hospitals, Madurai, Coimbatore and Trichy. Payment by DMRHS (ESI)
	2016-17	7,500	0.15	
<i>Liver Tonic</i>	2013-14	55,000	0.98	Purchased and payment made by DMRHS (ESI)
	2015-16	22,000	0.40	Purchased by ESI Hospitals Madurai and Trichy. Payment by DMRHS (ESI)
	2016-17	7,500	0.14	
Total			4.13	

(Source: Data obtained from DMRHS (ESI))

¹⁵ Except ESI Medical College Hospital, Coimbatore, which comes under Director of Medical Education.

Audit observed that:

- The Drug Purchase Committee, while reviewing (December 2010) the issue of the purchase of *Rub N Run Oil*, decided to obtain the efficacy and utilisation of this medicine. After getting a positive utilisation report from four institutions, the Committee again discussed (February 2011) the issue and decided against the procurement of the medicines as it was not included in the RRC. The DMRHS (ESI), however, procured *Rub N Run oil* in limited quantities in 2011-12 and 2012-13 for various hospitals.
- During 2013-14 and 2014-15, in violation of the established procurement framework involving RRC, TNMSC and TAMPCOL, DMRHS (ESI) procured 69,500 bottles of *Rub N Run oil* at a total cost of ₹ 1.39 crore. On being pointed out by Audit (June 2015), DMRHS (ESI) stated (July 2016) that the purchase was authorised by the Principal Secretary to Government, H&FW Department. The fact, however, was that the Principal Secretary had only sent a letter allowing procurement of *Rub N Run oil*, with a caution to procure on need basis by following the rules in force. He had also instructed to take steps to include *Rub N Run oil* in the RRC list, but no such action was taken.
- During 2015-16 and 2016-17, *Rub N Run oil* was procured by Medical Superintendents of three ESI hospitals and the bills were sanctioned by DMRHS (ESI). The bill values in 12 out of 36 procurements were in the range of ₹ 3.89 lakh to ₹ 19.43 lakh as against the ceiling of ₹ 1 lakh prescribed for local purchase as per ESI Corporation's Manual on Purchase Procedure. In terms of value, procurements costing more than ₹ 1 lakh constituted ₹ 1.20 crore. The Local Purchase Committee contemplated in the Manual had not been constituted in any of these cases.
- Further, DMRHS (ESI) procured (2013-14 and 2015-17) 84,500 bottles of *Liver Tonic*, another Ayurvedic medicine for liver protection, from the same supplier at a cost of ₹ 1.52 crore, by deviating from the established procedure of sourcing from RRC firms/TNMSC/TAMPCOL.
- The circumstances leading to large scale centralised procurement of *Rub N Run oil* and *Liver Tonic* during 2013-15 were not studied in depth as DMRHS (ESI) reported (June 2018) to Audit missing of procurement files. GoTN constituted (June 2017) a special team to verify the records and procurement procedure and submit the report within two months. The team conducted enquiries in August 2017 but no action was taken based on that enquiry.

Rub N Run oil and *Liver Tonic* were proprietary preparations. According to written replies furnished to Audit (July 2016 and April 2018) by Medical Officers and DMRHS (ESI), medicines equivalent to *Rub N Run oil* and *Liver Tonic* were available in RRC list and with TAMPCOL and the same¹⁶ were frequently prescribed in place of these two medicines. Audit found that *Rub N Run oil* and *Liver Tonic*, which were procured in violation of purchase procedures, were exorbitantly priced in comparison with the equivalent medicines in RRC list/TAMPCOL. The avoidable extra expenditure on account of purchase of *Rub N Run oil* and *Liver Tonic* worked out to ₹ 2.67 crore (Appendix 3.6).

On being pointed out by Audit, Government, in their reply (December 2019), admitted to ‘procedural lapses’ in the procurements and informed that disciplinary cases were initiated against the officers including former DMRHS (ESI). Further, GoTN contended that the medicines taken up for comparison were having different ingredients and it would not be possible to conclude which one was a better medicine. The reply on comparison of the medicines procurement with the medicines available in RRC was untenable as these medicines were prescribed interchangeably, which proved that they were comparable. Further, they were considered equivalent by the Department itself.

MUNICIPAL ADMINISTRATION AND WATER SUPPLY DEPARTMENT

TAMIL NADU WATER SUPPLY AND DRAINAGE BOARD

3.2.4 Avoidable expenditure on laying of pipes without prior permission from National Highways Authority of India

TWAD Board laid pipes without obtaining the mandatory permission from National Highways Authorities of India, leading to avoidable expenditure of ₹ 2.42 crore.

Tamil Nadu Water Supply and Drainage (TWAD) Board is entrusted with the development of Water Supply and Sewerage facilities in the State except Chennai Metropolitan Areas. TWAD Board executes and maintains water supply schemes for urban and rural areas, including combined water supply schemes (CWSS), which are meant for more than one local body. During 2017-18, 26 Divisions of TWAD Board were audited. Scrutiny (November and December 2017) of records in office of the Executive Engineer, TWAD Board, Coimbatore revealed the following:

¹⁶ RRC had Rhuvamin Oil, which was an equivalent medicine of *Rub N Run oil* and Livejon syrup, which was an equivalent of *Liver Tonic*. TAMPCOL had Pinda Thailam which was equivalent medicine of *Rub N Run oil* and Liv 2000 syrup, which was an equivalent medicine of *Liver Tonic*.

Government of Tamil Nadu sanctioned (August 2010) ₹ 224.92 crore for the work of 'Augmentation of water supply to Palladam Municipality, 23 Town Panchayats and 965 rural habitations in Coimbatore and Tiruppur districts with Pillur Reservoir as source'. Under the scheme, TWAD Board, *inter alia*, planned to lay clear water transmission pipes along the National Highway (NH 67) for a length of 36.30 kms.

The EE, TWAD Board addressed (April 2011) the Project Director, National Highways Authority of India (NHAI), Karur, seeking permission under Section 38 of the Control of National Highways (Land and Traffic) Act, 2002, for laying pipes in NHAI land.

The TWAD Board's proposal was returned (June 2012) by NHAI, as TWAD Board had planned to lay the pipes within 15 metres of the centerline of the road, which was against the existing instructions of Ministry of Road Transport and Highways (MORTH). The Secretary, Municipal Administration and Water Supply Department took up (August 2013) the matter with MORTH, which in turn, requested (December 2013) NHAI to reconsider the request as a rarest case. NHAI, however, did not give the mandatory permission (January 2014).

In the meantime, TWAD Board awarded tender for ₹ 152 crore with a schedule for completion in January 2014. An agreement was entered into with a contractor (February 2012) and pipes were laid for 7.9 km at a cost of ₹ 26.40 lakh along the NH as per original plan, without prior permission from NHAI.

Taking objection to laying of pipes without permission, NHAI instructed (February 2014) TWAD Board to immediately remove the pipes laid. Accordingly, TWAD Board planned the pipelines in the new alignment at an additional cost of ₹ 23.48 crore. Pipes already laid in the original alignment in NH 67 (laying cost excluding cost of pipes - ₹ 26.40 lakh) were retrieved/ repaired and were transported along with the pipes stacked at site to the site of the revised alignment at a cost of ₹ 2.16 crore¹⁷. The entire work in new alignment was completed in December 2015.

When pointed out by Audit, the Government replied (July 2018) that the pipe laying works was commenced on the basis of the recommendation of the MORTH to NHAI.

The reply was not tenable as EE, TWAD Board had no authority to execute the work merely on the basis of MORTH's recommendation to NHAI to reconsider the request of TWAD Board. Clear cut approval was needed for carrying out the work. The hasty decision of TWAD Board to go ahead with the work without the mandatory approval of NHAI had resulted in an avoidable expenditure of ₹ 2.42 crore.

¹⁷ Retrieving and transporting of pipes already laid - ₹ 1.03 crore; transporting pipes staked in the original alignment along NH 67 - ₹ 0.67 crore; repairing the retrieved pipes ₹ 0.46 crore.

HEALTH & FAMILY WELFARE AND PUBLIC WORKS DEPARTMENTS

3.2.5 Unfruitful expenditure on construction of cafeterias and common rooms

Cafeterias and common rooms constructed at a cost of ₹ 1.35 crore remained idle for more than six years at Chengalpattu Medical College, Chengalpattu and more than two years at Mohan Kumaramangalam Medical College, Salem, for want of basic amenities and Rent Reasonableness Certificate from Public Works Department.

In Tamil Nadu, there were 21 Government Medical Colleges as of March 2018. Out of which, 10 Medical Colleges were audited during 2017-18. Audit conducted at Chengalpattu Medical College (CMC) and Government Mohan Kumaramangalam Medical College (GMKMC) revealed the following:

Medical Council of India's (MCI) norms (April 1999) stipulated provision of separate common rooms for male and female students and a cafeteria in all medical colleges with an annual intake of 100 and above students. With a view to meet the MCI stipulation, GoTN accorded administrative and financial sanction for construction of cafeterias and common rooms at CMC and GMKMC in October 2008 and December 2014 respectively. The constructions were carried out by Public Works Department. The status of the projects at the CMC and GMKMC (August 2018) were as given in **Table 3.6**.

Table 3.6: Status of project at CMC and GMKMC

Name of the institution	Month of sanction	Month of handing over to College	Expenditure incurred so far (₹ in lakh)	Status
CMC	October 2008	August 2018	44.90	Yet to be commissioned
GMKMC	December 2014	December 2015	89.84	
Total			134.74	

(Source: data collected from respective colleges)

- After the building was structurally completed (**Exhibit 3.6**), the Dean, CMC inspected the building in July 2010 and observed several deficiencies, such as, non-provision of approach road, dish washing facility, air-conditioning, locker for students etc. The Dean continued to remind (April 2013 to January 2015) PWD. PWD did not attend to the deficiencies pointed out by the Dean. Despite that, the Dean took over the building from PWD in August 2018, after more than six years since its structural completion. In this connection, Audit observed that the requirement of air conditioner, dish washing facility and locker were not mentioned in the estimate countersigned by the Dean.

Exhibit 3.6 Cafeteria and common room at CMC, Chengalpattu



(Source: Photograph taken by Audit Team during joint physical verification in January 2018)

- Pending rectification of the deficiencies pointed out, the Dean, CMC, approached PWD in April 2013 to call for tender to lease out the building to a contractor. Later in January 2015, the Dean changed this plan and requested PWD for Rent Reasonableness Certificate¹⁸ (rent certificate) so as to let out the building to a selected person/body for running the cafeteria. Though the request for rent certificate was made, no effective steps were initiated by PWD.
- Similarly, the Dean, GMKMC, Salem also approached the PWD in April 2016 for rent certificate. The Dean followed it up with PWD through letter correspondence. PWD did not respond for more than two years. Executive Engineer, Buildings (Construction & Maintenance), Salem replied (May 2018) that no request for rent certificate was received from GMKMC. The reply indicated the complete lack of coordination between the two departments.
- Both the colleges, in their responses to MCI's questionnaire (March 2017 and March 2018) on availability of infrastructure in the College, made a mention that their Colleges had Cafeterias and Common rooms as per requirement. The fact, however, was that these facilities required to be provided as per MCI's norms were not made available to the students of the CMC and GMKMC despite incurring an expenditure of ₹ 1.35 crore.

¹⁸ As per Para 275 of PWD 'D' code, when any Government building is let out to a private person, rent should be regularly recovered for the same at the rates prevailing in the locality for similar accommodation belonging to private owners.

Failure to resolve the issue on the part of the Medical College authorities and PWD resulted in the cafeteria and common room facilities remaining idle, besides depriving 3,202 students of these facilities in the two medical colleges. The entire expenditure of ₹ 1.35 crore has remained unfruitful.

The Government replied (September 2018) that the common rooms were in use and action was being taken to commission the cafeteria buildings in both the colleges. Audit, however, found that common rooms in CMC was not even furnished and the common rooms in GMKMC was used only for 52 days at the time of college culturals and graduation ceremony and rooms were generally kept locked.

SOCIAL WELFARE AND NUTRITIOUS MEAL PROGRAMME DEPARTMENT

3.2.6 Avoidable expenditure and blocking of funds due to non-completion of hostel project for working women

Lack of concerted efforts in completing a hostel project for working women resulted in an avoidable expenditure of ₹ 1.05 crore and idling of central assistance of ₹ 2.48 crore in bank account. The objective of the scheme was also not achieved in full even after 10 years of its sanction, leading to estimated escalation of project cost by ₹ 20.54 crore.

Director of Social Welfare (DSW) runs 22 working women hostels all over Tamil Nadu. Of which, as of March 2018, 15 hostels were functioning from own building and seven were functioning from rented premises. Scrutiny (February and March 2017) of records pertaining to January to December 2016 at the Directorate of Social Welfare revealed the following:

Under a GoI funded scheme, in operation from 1972-73, Government of Tamil Nadu in October 2007 approved construction of a hostel complex with five blocks for working women with monthly income below ₹ 25,000 in Chennai. It was proposed to accommodate 500 working women and 60 pre-school children and other facilities such as crèche, library, computer centre, gymnasium, etc. The complex was intended to provide convenient and safe accommodation for working women. The project was estimated to cost ₹ 12.99 crore, which was to be met using GoI assistance of ₹ 5 crore and the balance of ₹ 7.99 crore was to be met by the State. GoTN also approved (June 2007) taking over of 5.46 acre¹⁹ of land belonging to Arulmigu Vadapalani Andavar Temple (Temple) on a monthly lease rent of ₹ 1 lakh. Tamil Nadu Corporation for Development of Women (TNCDW) was nominated as the implementing agency. Pending approval of the project by GoI,

¹⁹ GoTN ordered leasing of 5.96 acre of land. TNCDW, however, took possession of only 5.46 acres due to exclusion of a part of the proposed land.

GoTN released ₹ 2 crore²⁰ for construction of one block to accommodate 60 working women. In February 2008, TNCDW took over the land from the Temple and entrusted the construction work to Tamil Nadu Police Housing Corporation (TNPHC). Construction of the 60 bed block was completed in July 2010 at a cost of ₹ 2.47 crore²¹ and started functioning in February 2013, after a delay of 31 months.

In the meantime, in December 2010, GoI approved the project at a cost of ₹ 6.61 crore, sanctioned ₹ 4.96 crore as their share (75 per cent) and released (February 2011) ₹ 2.48 crore, being 50 per cent of their share.

Audit observed the following:

- GoTN entrusted (January 2007) the project to TNCDW without assessing the expertise of the agency in this field. This resulted in a proposal, in January 2010, to shift the project implementation to DSW, who already had experience in running working women's hostels. Audit noticed delay in transferring the project from TNCDW to DSW, leading to a delay of 31 months in commissioning the first block of the hostel building.
- Against the proposal to construct five blocks to accommodate 500 working women and 60 pre-school children, only one block to accommodate 60 working women was completed. After completion of first block, DSW did not initiate any proposal to construct the remaining four blocks as the occupancy ranged from 6 to 37 during the initial six months (10 to 62 per cent). The occupancy rate, however, increased gradually and stood at 62 per cent in March 2018.
- The proposal to construct the remaining blocks gained momentum only in February 2018 after a visit by the Hon'ble Minister of Social Welfare. TNPHC prepared an estimate for ₹ 31.06 crore. Audit observed that GoI guidelines did not allow additional assistance over and above ₹ 4.96 crore sanctioned in December 2010. The delay in completing the first block and delay in proposal for the construction of remaining blocks resulted in increase of the estimated cost from ₹ 10.52 crore to ₹ 31.06 crore. The proposal has not been approved by GoTN (June 2018).
- Out of the total land of 5.46 acres (2.37 lakh sq.ft.), taken on lease from the Temple on a monthly lease rent of ₹ 1 lakh, only 17,632 sq.ft was used for construction of one block. Non-completion of the envisaged project with five blocks resulted in payment of ₹ 1.05 crore²² towards lease rent, without the land being put to use. It was also noticed from Commissioner's letter (December 2013) to Secretary to Government, Tamil Development, Religious

²⁰ February 2008 - ₹ 0.8 crore and March 2008 - ₹ 1.20 crore.

²¹ Building cost and administration - ₹ 1.94 crore + planning permission and other items - ₹ 0.53 crore.

²² Calculated on the basis of the lease rent paid and due for the unutilised portion of the land for the period from February 2008 to February 2018.

Endowments and Information Department that the entire vacant land, was encroached by private transport operators for parking of their vehicle by breaking open a portion of the compound wall. The DSW has not taken any effective action to vacate the encroachment.

- The first instalment of GoI grant of ₹ 2.48 crore, received in February 2011, was kept in the bank account of TNCDW till March 2013 and later in the bank account of DSW. Further, ₹ 9.51 lakh out of the interest of ₹ 18.42 lakh earned by TNCDW and ₹ 47.42 lakh earned by DSW by depositing GoI grant in bank account was credited into Government account, and the balance was utilised towards foundation stone laying function, inauguration function, etc.

Thus, due to wrong identification of implementing agency and lack of concerted efforts on the part of DSW to increase the occupancy rate, the objective of the project was not achieved in full, leading to an estimated escalation of project cost by ₹ 20.54 crore. Poor implementation resulted in payment of lease rent of ₹ 1.05 crore, without the land being put to use. Keeping the land vacant resulted in the land being encroached. Further, the GoI assistance of ₹ 2.48 crore was kept idle in bank account and interest receipt of ₹ 0.66 crore earned by investing GoI assistance was diverted for expenditure not covered under the scheme.

On being pointed out by Audit, the Government replied (June 2018) that a fresh estimate for ₹ 31.06 crore was prepared (February 2018) for construction of the remaining four blocks and GoI assistance was being sought for. The fact, however, remained that the project sanctioned in 2007 was not completed even as of 2018 and the GoI assistance remained idle in bank account.

SCHOOL EDUCATION DEPARTMENT

3.2.7 Irregularities in annual maintenance contract

Irregular award of ₹ 5.12 crore Annual Maintenance Contract for computer systems and electronic devices by the Director of Public Libraries and lack of due diligence in contract management resulted in avoidable expenditure of ₹ 0.85 crore.

Director of Public Libraries (DPL) administers a vast network of libraries in the State. During 2016-18, one District Central Library and the Anna Centenary Library (ACL), Chennai, which come under the direct control of DPL, were audited. The audit of ACL disclosed lapses in award of Annual Maintenance Contract (AMC) as discussed below:

Tamil Nadu Transparency in Tenders Act, 1998 and Rules 2000 (TNTAR) govern the procurement of goods and services by public entities. In addition, for engaging service providers for AMC for computers and accessories, the

Government framed (March 2005) exclusive guidelines. These guidelines provide for, among other things, (i) maintenance of a proper complaint-call-registration procedure by the AMC supplier and (ii) payment to the AMC supplier in two equal instalments with pro rata deduction for downtime beyond stipulated period. As per the TNTAR, formal agreement is to be signed with contractors so as to have a legal hold in case of contractor's defaults.

The ACL installed (August 2010) an Integrated Book Monitoring, Networking and Security System (IBMS) in its premises at a cost of ₹ 23.25 crore. IBMS was under warranty for period of three years, ending in August 2013. On completion of the warranty period, the DPL awarded (October 2013) an AMC at a cost of ₹ 2.56 crore for maintaining the IBMS for a period of one year (upto October 2014) to the Firm that supplied the system. The Firm, however, engaged a sub-contractor²³ to execute the AMC.

At the end of the first year of the AMC period, the DPL without any tender, engaged the sub-contractor again for carrying out AMC of IBMS for a further period of one year, i.e., from November 2014 to October 2015 and paid ₹ 2.56 crore as AMC charges.

While the AMC was in force for the second year, based on a Public Interest Litigation on the poor quality of maintenance of assets in ACL, the Honourable Madras High Court appointed (July 2015) Court Commissioners to inspect and submit a report. The Court appointed Commissioners duly submitted (July 2015) a report. Based on the report ACL also served (July 2015) a show cause notice on the AMC provider bringing to their attention the non-functioning of several computers and CCTV cameras and also addressed (August 2015) the DPL regarding various faults in the IBMS viz., (i) non-functioning of more than half the installed desktop PCs and CCTV cameras, (ii) reduced server storage capability of CCTV cameras (one day as against 15 days) and (iii) non-functioning of online catalogue, server and automated security²⁴ gateways. The AMC provider did not rectify the deficiencies pointed out before the end of the AMC period.

At the end of the second AMC period (October 2015), through open tender, the DPL engaged (March 2016) a contractor²⁵ to:

- undertake one-time rectification of the non-functional hardware and software components of the IBMS at a cost of ₹ 2.04 crore before commencement of the AMC. This included replacement of hardware worth ₹ 0.85 crore.
- take up the AMC for maintaining the IBMS in ACL for the next three years (2016-19) for a value of ₹ 6.16 crore. The new firm

²³ M/s Netcom Computers Private Limited.

²⁴ Radio-frequency identification (RFID) gateway to prevent books being carried away.

²⁵ M/s Matrix Security and Surveillance Private Limited, Hyderabad.

completed (June 2016) the one-time rectification work and continued to maintain the IBMS till date (June 2018).

Scrutiny of records in this regard relating to the period 2010-18, in the ACL and DPL, during August 2017 and May 2018, disclosed the following:

- Although awarding AMC to the supplier without a separate tender was admissible under the existing guidelines, acceding to the proposal of the supplier to sub-contract the work to a third party was irregular as DPL had not done any due diligence to assess the credentials of the sub-contractor. The matter was further exacerbated when DPL directly entrusted the AMC for 2014-15 to the same unverified sub-contractor.
- This lapse was further compounded by paying the entire AMC charges (100 *per cent*) in advance to the contractor in contravention of extant orders. This resulted in ACL being unable to hold the service provider accountable by either withholding payments or making *pro rata* deductions for the AMC provider's non/delayed performance during the contract period. ACL was unable to penalise the contractor for defective maintenance which resulted in replacement of components worth ₹ 0.85 crore due to lack of maintenance. It was also observed that DPL failed to obtain the Bank Guarantee stipulated by GoTN to insulate against losses on account of deficiencies on the part of the AMC holder.
- ACL neither signed a detailed Service Level Agreement nor had any system in place for tracking the maintenance of the various hardware and software components of IBMS and to monitor the performance of the AMC provider.

Thus, from the above lapses of the DPL and Chief Librarian & Information Officer (CLIO), in engaging and managing the contract, Audit concluded that the expenditure of ₹ 5.12 crore²⁶ on AMC was irregular and the expenditure of ₹ 0.85 crore for one-time rectification of the faulty hardware components of the IBMS, which was under AMC with the unverified sub-contractor for two years, was avoidable.

To an Audit enquiry in this regard, the CLIO stated that the maintenance schedule records pertaining to the 2014-15 AMC period and complaints register were not available and that the breakdown call register was not maintained as all technical issues were resolved by orally communicating to the AMC provider. The reply strengthened the Audit conclusion that deficiency in contract management caused the avoidable additional expenditure of ₹ 0.85 crore towards one-time expenditure to replace faulty hardware components left in a defective state by the AMC provider.

²⁶ ₹ 2.56 crore per year for two years.

The Government replied (September 2018) that (i) recourse to tenders for AMC could not be taken in view of Court orders directing to provide all necessary infrastructure to readers and (ii) one-time rectification was necessitated as the computer systems and CCTV cameras were damaged due to unreliable power supply in ACL and unprecedented heavy rains during November and December 2015. The reply was not tenable as Court orders did not prevent inviting of tenders for AMC. Besides the reply does not address the issue of non-adherence to extant Government AMC guidelines.

3.3 Regularity issues and others

DEPARTMENT OF SPECIAL PROGRAMME IMPLEMENTATION AND REVENUE & DISASTER MANAGEMENT DEPARTMENT

3.3.1 Scheme for free distribution of electric fans, mixies and grinders to women beneficiaries in the State

3.3.1.1 Introduction

In June 2011, GoTN announced a scheme for free distribution of electric fans²⁷, mixies and grinders (FMG) to women beneficiaries in the State holding family cards with rice entitlement. One woman member of the households having rice card (as on 30 June 2011) was eligible for getting FMG free of cost under the scheme. In case, an eligible household did not have a woman member, the head of the family was the beneficiary. The Scheme was implemented in five phases during 2011-16. The objectives of the scheme were to (i) improve the standard of living of poor women, (ii) make women more effective participants in the economy by providing them some relief from strenuous domestic activities and (iii) provide women with equal opportunities. GoTN nominated Tamil Nadu Civil Supplies Corporation (TNCSC) as the agency for procurement of the appliances and the Revenue Department handled the task of distribution, except in Chennai, where the Commissioner, Greater Chennai Corporation handled this task. At the Government level, the Secretary to Government, Department of Special Programme Implementation, headed implementation of this Scheme.

The Scheme envisaged procuring and supplying FMGs meeting the standards prescribed by Bureau of Indian Standards. The phase-wise details of FMG distribution was as given in **Table 3.7**.

²⁷ In the hilly areas of The Nilgiris District and Kodaikanal area of Dindigul District, induction stoves were distributed in lieu of electric fans.

Table 3.7: Details of phase-wise distribution of FMG

Phase	Year	Distributed (in numbers)			Expenditure* (₹ in crore)
		Fan/ Induction stove	Mixie	Grinder	
I	2011-12	24,19,160	24,25,508	24,34,380	1,347.87
II	2012-13	34,54,590	34,72,270	34,62,223	1,533.82
III	2013-14	34,55,491	34,87,819	34,88,819	1,468.11
IV	2014-15	43,67,634	43,71,660	43,67,635	1,837.27
V	2015-16	37,59,295	37,33,788	37,37,729	1,529.57

* Includes expenditure incurred on procurement, storage, transport, insurance, etc.
(Source: Compiled from details furnished by Commissioner of Revenue Administration)

During 2017-18, Audit scrutinised the records relating to the period 2011-16 at Department of Special Programme Implementation of GoTN, Commissioner of Revenue Administration (CRA), TNCSC and in 16 out of 32 districts and 64 out of 116 taluks in the sampled districts (**Appendix 3.7**), selected through simple random sampling. The deficiencies noticed are discussed in the succeeding paragraphs.

3.3.1.2 Procurement of FMGs

(i) Excess procurement of FMGs

In June 2011, GoTN estimated that 1.83 crore families would benefit under this scheme. Subsequently, after reworking the number of rice entitlement Family Cards²⁸ as on 30 June 2011, GoTN revised (May 2012) the target number of beneficiaries to 1.85 crore. The proposal was to cover 25 lakh beneficiaries in the first phase, 35 lakh beneficiaries each in the second and third phases and 45 lakh beneficiaries each in the fourth and fifth phases. In each phase, villages/wards were selected in rural/urban pockets of each of the 234 Assembly Constituencies and all rice card holders of the village/ward were covered that phase.

While working out the requirement of FMGs for the final phase, in October 2015, CRA cautioned the district collectors to carefully work out the requirement and to deduct the surplus stock of previous phase procurements, which were lying in stock. The district collectors worked out the requirements and after due approval by GoTN, TNCSC procured 36,97,879 fans/stoves, 37,55,963 mixies and 37,40,272 grinders. After distribution of FMGs to all eligible beneficiaries of the fifth and the final phase, as of March 2018, the Revenue Department held huge stock of FMGs in its storage points as given in **Tables 3.8 (a) and (b)**.

²⁸ The State follows Universal Public Distribution System with four types of Family cards viz., (i) Green (Rice) Cards issued to families who opt for all commodities including rice; (ii) White (Sugar) Cards eligible for all commodities except rice, (iii) Khaki (Police) Cards eligible for all commodities and (iv) White (no commodity) Cards not eligible for any commodity.

Table 3.8 (a): Phase-wise details of FMGs procured and distributed

Phase		I	II	III	IV	V
Year		2011-12	2012-13	2013-14	2014-15	2015-16
(In numbers)						
Opening Balance	Fan/I.S.	0	84,361	1,26,250	1,70,759	3,03,125
	Mixie	0	74,492	1,02,222	1,14,403	2,42,743
	Grinder	0	65,620	1,03,397	1,14,578	2,46,943
Procured	Fan/I.S.	25,03,521	34,96,479	35,00,000	45,00,000	36,97,879
	Mixie	25,00,000	35,00,000	35,00,000	45,00,000	37,55,963
	Grinder	25,00,000	35,00,000	35,00,000	45,00,000	37,40,272
Total	Fan/I.S.	25,03,521	35,80,840	36,26,250	46,70,759	40,01,004
	Mixie	25,00,000	35,74,492	36,02,222	46,14,403	39,98,706
	Grinder	25,00,000	35,65,620	36,03,397	46,14,578	39,87,215
Distributed	Fan/I.S.	24,19,160	34,54,590	34,55,491	43,67,634	37,59,295
	Mixie	24,25,508	34,72,270	34,87,819	43,71,660	37,33,788
	Grinder	24,34,380	34,62,223	34,88,819	43,67,635	37,37,729
Closing Balance	Fan/I.S.	84,361	1,26,250	1,70,759	3,03,125	2,41,709
	Mixie	74,492	1,02,222	1,14,403	2,42,743	2,64,918
	Grinder	65,620	1,03,397	1,14,578	2,46,943	2,49,486

I.S Induction stove

Table 3.8 (b): Details of FMGs procured in excess at the end of Phase V

Sl. No.	Detail	Fan	Induction Stove	Mixie	Grinder	Total
1	Total number of FMGs procured for fifth phase*	39,55,862	45,142	39,98,706	39,87,215	1,19,86,925
2	Total number of FMGs distributed in fifth phase	37,16,293	43,002	37,33,788	37,37,729	1,12,30,812
3	Excess procurement (in numbers)	2,39,569	2,140	2,64,918	2,49,486	7,56,113 (6.73 per cent)
4	Unit Cost@ (in ₹)	869.05	1,055.69	1,055.69	2,142.00	..
5	Value of excess procured appliances (in ₹)	20,81,97,439	22,59,177	27,96,71,283	53,43,99,012	102,45,26,911

* Includes old stocks from previous phases.

@ The least unit price among the five phases was adopted

(Source: Details furnished by CRA and TNCSC)

It was seen from **Table 3.8 (b)** that the excess procurement for the fifth phase was 6.73 per cent of the actual distribution in that phase and its value worked out to ₹ 102.45 crore. Faced with the issue of surplus stocks, GoTN ordered (April 2017) to distribute the surplus appliances free of cost to police personnel, schools, anganwadis, etc., in contravention of the Scheme guidelines. Further, GoTN did not assess the utility of domestic model mixies and grinders in school noon meal centres, anganwadis, etc., which did not have grinding needs for items on their menu.

In reply to an audit query, District Collectors (Tirunelveli, Dharmapuri and Perambalur districts) and Tahsildar, Dharmapuri stated (July and September 2017 and February and March 2018) that the surplus stocks arose on account of death, permanent shifting, migration, bogus cards and deletion of ineligible beneficiaries. While announcing the Scheme, GoTN decided to use the list of rice entitled Family Card holders as on 30 June 2011 as the basis for distribution in the first phase. In all subsequent phases, the beneficiary list with the same cutoff date of 30 June 2011 was used, which ultimately resulted in many

beneficiaries present in the original list of 30 June 2011, not being available in the same address after four years at the time of fifth phase distribution due to death, permanent shifting, migration, etc.

Thus, the fact that surplus quantity arose in every phase and the same were utilised in the subsequent phases indicated that the actual requirement for each phase was less than the initial assessment as of 30 June 2011. The wrong adoption of 30 June 2011 data for procurement of FMGs, even for the final phase and failure in not verifying and weeding out those who had migrated/deceased or became ineligible subsequent to the initial assessment during 2011-12 resulted in avoidable procurement of FMGs in excess of actual requirement and consequent avoidable expenditure of ₹ 102.45 crore. GoTN replied (May 2018) to Audit that the excess was only about one *per cent* of the total procurement and action was being taken to distribute this to schools, anganwadis, etc.

GoTN replied (March 2019) that the number of eligible beneficiaries originally estimated as 1.85 crore, came down to 1.81 crore due to diligent monitoring of the distribution process and also due to elimination of bogus cards. The reply endorses the audit finding that the department should have taken measures to verify the June 2011 data especially in the view of surplus stock arising after distribution every year.

(ii) Avoidable extra expenditure on pre-delivery inspection

As per para 15.1 of tender conditions, the manufacturer should arrange for 'Acceptance Test' of finished products in the presence of purchaser's representative and TNCSC could engage a third party to carry out pre-delivery inspection (PDI) to ensure supply of quality products. PDI included (a) ensuring the quality of raw materials used in manufacturing, (b) supervising the manufacturing process and (c) selection of samples for 'Acceptance Test', supervising the tests and independently conducting 'Acceptance Test' of one unit from each batch of 2,500 appliances, etc.

In order to select an agency to carry out PDI, the Managing Director, TNCSC formed (September 2011) a Committee of Experts with four members²⁹. The Committee suggested the appointment of Central Institute of Plastics Engineering and Technology (CIPET), Chennai, as third party inspecting agency. Accordingly, TNCSC appointed (January 2012) CIPET as third party agency for PDI on a fee of 0.25 *per cent* of total value of products for Phase I of the Scheme and the rate was reduced on mutual discussion to 0.2 *per cent* of total value of products for Phases II and III. TNCSC justified the appointment of CIPET, without calling for tenders, on the basis of Section 16 (b) of TN Transparency in Tenders Act, 1998, which facilitated award of contract without following tender procedures in the case of single source procurements. For Phases IV and V, through tender procedures, TNCSC engaged (October 2014) another agency *viz.*, Bharat Test House, New Delhi for PDI. As per the agreement with Bharat Test House, the agency would supply personnel for PDI on a fee of ₹ 16,776 per person per month.

²⁹ Head of the Department, Electrical and Electronics Engineering, College of Engineering, Guindy; Senior Manager (QC), TNCSC; JD, Department of Industries and Commerce and Senior Vice President, ITCOT, Chennai.

Audit noticed that while the services rendered by both agencies were one and the same, the cost of the services of CIPET engaged without following tender procedure was much higher than that of Bharat Test House. This indicated that TNCSC failed to explore the availability of other agencies offering services at competitive rates for PDI services.

As a result of entrusting PDI services under Phases I, II and III to CIPET at higher rates, the Government ended up in incurring an estimated avoidable extra expenditure of ₹ 8.34 crore on PDI charges (**Appendix 3.8**).

GoTN replied (March 2019) that amongst the Central government labs available in Chennai, CIPET was the only aggregated lab for testing plastic items in home appliances. The reply was untenable as it was not mandatory to rely only on a Government establishment when similar services at economical rates were offered by other firms.

3.3.1.3 Distribution of FMGs

(i) Loss due to storage of FMGs in uninsured godowns

Para 11 of the scheme guidelines (August 2011) envisages insuring of FMGs in storage points (godowns) and in transit from storage points to distribution points. FMGs were to be supplied in one godown in each of the 234 Assembly Constituencies. TNCSC insured all these 234 godowns under the 5 phases³⁰ at a cost of ₹ 1.61 crore.

In contravention of the scheme guidelines and instructions of the Government, in four sampled districts³¹, the district administration stored FMGs in several uninsured storage points, in addition to the insured godowns. The reasons therefor were not made available to Audit. Audit noticed that 97,831 FMGs valued at ₹ 13.64 crore, stored in uninsured storage points were damaged due to occurrence of fire and flood. The insurance company did not admit the claim made by TNCSC in a routine manner, for the loss of the above damaged goods as the godowns were not insured (**Appendix 3.9**).

Thus, non-adherence to guidelines and instructions on storage of FMGs and failure of the District Collectors and Tahsildars to get the additional storage points approved and insured had resulted in irrecoverable loss of ₹ 13.64 crore.

(ii) Loss due to deficiencies in ensuring quality and repairing faulty appliances

As per the tender conditions, 32 samples from every batch of 2,500 appliances were to be tested by the manufacturer, in the presence of TNCSC and the agency engaged for third party inspection. Further, one sample from every alternative batch (1 out of 5,000 appliances) was to be sent to an accredited laboratory for 'Type Test'³².

Audit noticed that 36 out of the 3,540 sampled fans/induction stoves, 385 out of the 3,551 sampled mixies and 418 out of the 3,548 sampled grinders did not

³⁰ Only 232 storage points were insured under Phase I - two were not insured.

³¹ Chennai, Kancheepuram, Tiruvallur and Vellore.

³² Type test is an electrical test conducted in National Accreditation Board for Testing and Calibration or Bureau of Indian Standards accredited labs as per IS:555-2006 (Fan), IS:4250-2004 (Mixie) and IS:302-2-209(1994) (Grinder).

pass the test, but the entire batch of 5,000 appliances each, from which the failed samples were drawn, were taken into stock/distributed.

Audit observed that the tender conditions of Phase I had a warranty clause for two years, but did not have any provision to tackle the issue of test failure reports indicating manufacturing faults, received subsequent to receipt/distribution. Therefore, in respect of Phase I supply, the MD, TNCSC decided to levy a penalty of three *per cent* of the available Security Deposit and recovered ₹ 1.78 crore in respect of failure of 21 samples of fans, 372 samples of mixies and 404 samples of grinders, which involved a total batch size of 1.05 lakh fans, 18.60 lakh mixies and 20.20 lakh grinders, valued at ₹ 874.38 crore.

In the subsequent phases, the tender conditions included a specific provision that the full value of the batch with sample failure would be withheld pending replacement of all identified defective pieces of the batch. Under this provision, during II, III, IV and V Phases, TNCSC withheld ₹ 29.55 crore, being the value of 42 batches that failed in tests subsequent to distribution. It was, however, noticed that the entire withheld amount were released to the suppliers based on confirmation from district collectors that no complaints were received from beneficiaries about the quality of the appliances. Audit, however, noticed that as of March 2018, damaged/faulty FMGs³³ valued at ₹ 14.20 crore were lying in storage points in 28 districts across the State after completion of the scheme. In addition, a study conducted by Department of Evaluation and Applied Research (DEAR), in six sampled districts covered under Phases I to III, revealed that out of a sample of 600 beneficiaries, 21 beneficiaries did not use the FMGs (Fan: 9, Mixie: 5 and Grinder: 7) as they were beyond repair.

Thus, the Phase I agreement lacked a suitable provision to cover sample failures noticed after receipt or distribution. In the subsequent phases, though a suitable provision was included in the agreement, the problem of faulty/damaged FMGs, coming to notice subsequent to receipt or distribution, was not addressed adequately. This had resulted in large number of defective pieces being received as well as distributed to beneficiaries, leading to a loss of ₹ 14.20 crore, being the value of damaged 1,13,861 FMGs lying in 28 storage points as detailed in **Appendix 3.10**.

GoTN replied (March 2019) that FMGs got damaged due to handling in godowns and were replaced by the suppliers during the warranty period. The reply, however, did not explain as to how 1,13,861 FMGs valued at ₹ 14.20 crore were not replaced by the suppliers.

Thus, non-compliance to applicable codal provisions and deviations from financial propriety resulted in loss of ₹ 124.43 crore³⁴ to the Government.

³³ Fan: 45,420; Induction Stove: 1,768; Mixie: 38,760 and Grinder: 27,913.

³⁴ Excess procurement: ₹ 102.45 crore (+) Avoidable expenditure on PDI: ₹ 8.34 crore (+) loss due to storage in uninsured godowns: ₹ 13.64 crore.

LABOUR AND EMPLOYMENT DEPARTMENT

3.3.2 Diversion of Manual Workers General Welfare Fund

In violation of scheme guidelines and the directions of Hon'ble Supreme Court, Tamil Nadu Construction Workers Welfare Board diverted ₹ 44.24 crore from Manual Workers General Welfare Fund for construction of building to house Government offices.

Under Section 4 of the Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Work) Act, 1982 (the Act), in 1994, GoTN formulated the Tamil Nadu Manual Workers (Construction Workers) Welfare Scheme. The objectives of the scheme were to provide for various welfare measures³⁵ to benefit the construction workers. The scheme was to be implemented by the Tamil Nadu Construction Workers Welfare Board (the Welfare Board), established under Section 6 of the Act. The Welfare Board has its Head Office in Chennai and covers the whole State through 32 district offices headed by Labour Officer (Social Security Scheme). Persons/agencies engaged in construction activities were to contribute one *per cent* of the estimated cost of the proposed construction works to the Manual Workers General Welfare Fund (Welfare Fund) of the Welfare Board for implementation of the scheme. Local bodies collect the amount at the time of according building permissions and remit it to the Fund. Hon'ble Supreme Court of India, in its judgment dated 07 February 2012 ordered that such funds should not be utilised for any other head of expenditure of the State Government.

Against the total income of ₹ 1,333.92 crore during 2015-18, the Welfare Board incurred expenditure of ₹ 224.69 crore towards awareness camps, marriage assistance, educational assistance, accidental death and funeral assistance etc. Scrutiny of records (August and September 2017) for the period from September 2016 to September 2017 relating to the Secretary, Welfare Board, revealed that in contravention of the scheme guidelines and the directions of the Hon'ble Supreme Court, the Welfare Board utilised the accumulations in the Welfare Fund to construct office complexes for Labour Department as discussed below:

In a Review Meeting of Labour and Employment Department of GoTN, held on 16 March 2012, it was decided to construct district labour office complexes for Labour Department in districts. Based on the decision, in August 2013, the Commissioner of Labour proposed to the Government to construct integrated office complexes in 20 districts for housing various offices of the Labour Department, including Labour Office (Social Security Scheme), which implements the Manual Workers (Construction Workers) Welfare Scheme in addition to other schemes. Suggesting that a substantial portion of the office

³⁵ (1) Running crèches, (2) Personal accident relief, (3) Provident fund scheme, (4) Employees state insurance scheme, (5) Pension scheme, (6) Assistance to meet the funeral expenses of the registered manual workers, (7) Educational assistance and marriage assistance for the children of workers, (8) Maternity assistance for registered female workers, etc.

complexes would be occupied by the Labour Office (Social Security Scheme), the Commissioner of Labour proposed to utilise the accumulations in the Welfare Fund to construct the complexes and sought the approval of the Government to utilise ₹ 40.50 crore from the Welfare Fund. GoTN, in violation of Hon'ble Supreme Court's judgement of February 2012 on utilisation of the balances in Welfare Fund, accorded approval in October 2013 for construction of labour office complexes in 20 districts at a cost of ₹ 40.50 crore to be met out by utilising the Welfare Fund. Subsequently, the Welfare Board in its meeting dated 28 February 2014 accorded approval and released a total of ₹ 44.24 crore to Public Works Department in four tranches between October 2015 and August 2017. As of May 2018, integrated labour office complexes in 10 districts were completed and occupied and works were in progress in the remaining districts.

Audit observed that the decision of GoTN and the Welfare Board to utilise Welfare Fund for construction of integrated labour office complexes for Labour Department amounted to diversion of the Welfare Fund as the money accumulated in the fund was meant only for implementing welfare schemes for construction workers. While it was true that the Labour Officer (Social Security Scheme), implemented welfare measures under Construction Workers Welfare Scheme, it was one of the many functions of Labour Officer (Social Security Scheme). Further, Labour Office (Social Security Scheme) was just one of the several offices of Labour Department housed in the integrated labour office complexes. For instance, in addition to the Labour Office (Social Security Scheme), the Integrated Labour office Complex, Tiruchirappalli, housed the offices of Zonal Joint Commissioner of Labour, Regional Deputy Commissioner of Labour, Assistant Commissioner of Labour, three offices of territorial Labour Inspectors, six offices of territorial Deputy/Assistant Inspectors of Labour, three offices of Stamping Inspectors (Legal Metrology) and one Legal Metrology Laboratory. It was also observed that all these building were constructed on Government owned land and hence ownership rights rested with GoTN.

On this being pointed out by Audit, the Government replied (July 2018) that the building was constructed to provide all facilities under one roof for the benefit of workers. It also stated that even though the land on which the buildings were constructed were not transferred to the Board, the buildings were deemed to be the assets of the Board.

The reply of the Government missed the crux of the issue that the Board was a separate legal entity with its own source of funds and well defined objectives. The Board was not entitled to construct its building on Government lands without transfer of title through sale or alienation free of cost. The claim of the Government that the buildings are deemed to be the assets of the Board was not tenable as the land belonged to the Government. The act of utilising the Welfare Fund for construction of Labour Office complex amounted to violation of the Act and the judgement of Hon'ble Supreme Court in this regard.

REVENUE AND DISASTER MANAGEMENT DEPARTMENT

3.3.3 Non-realisation of revenue due to non-revision of lease rent

Inordinate delay in revising and fixing lease rent resulted in non-realisation of revenue of ₹ 4.10 crore.

During 2017-18, 128 Taluk offices were audited. The audits brought out issues on non-renewal of leased land, short collection of lease rent, etc., in 58 Taluk offices. One of the issues, which involved serious lapse and substantial loss of revenue, is discussed below based on scrutiny of records of Sholinganallur Taluk and Secretariat during February and March 2018.

Revenue Standing Order 24-A, permits leasing of Government land for specified periods by individuals, private bodies, companies, etc., for non-agricultural purposes. It also stipulates that the lease may be for a period upto 20 years. The lease rent should be revised at the time of renewal or once in three years, whichever is earlier. The power to renew the lease of Government land valuing more than ₹ 10 lakh rests with the Commissioner of Land Administration/Government of Tamil Nadu. As per extant orders (June 1998), the lease rent for Government lands was required to be fixed at 14 *per cent* of the market value when let out for commercial purpose. The District Administration was responsible for initiating action to vacate the lessee on completion of the lease period or for renewal of lease periodically.

Government land³⁶ measuring 10,000 sq. ft. (23 cents) on Velacherry Road, Chennai was leased³⁷ (January 2001) to Indian Oil Corporation Limited (IOCL) for the purpose of establishing a retail outlet. The lease deed was for a period of 10 years, from 19 February 2001. The lease rent was fixed at 14 *per cent* of market value of land, to be revised once in every three years. The lease rent was initially fixed as ₹ 1.29 lakh per annum, payable in advance. IOCL paid lease rent (₹ 20.14 lakh) at the same rate for the period from February 2001 to September 2016.

Audit observed that:

- The Tahsildar, Sholinganallur did not take any action for periodical revision of lease rent due from 19 February 2004, 19 February 2007 and 19 February 2010. Further, no action was taken either to renew the lease in February 2011 or to vacate the lessee on completion of the lease period of 10 years.
- The District Collector, Kancheepuram sent four letters to the Tahsildar between August 2004 and June 2008, seeking information

³⁶ Survey Number 23/2B, Pallikaranai Village, Kancheepuram District.

³⁷ Lease deed between IOCL and the District Revenue Officer, Kancheepuram was executed in February 2001.

on collection of lease rent and instructing revision of lease rent. There was no response from the Tahsildar for non-revision of lease rent. The District Collector, however, did not initiate any further action and stopped reminding the Tahsildar after June 2008.

- Neither the Taluk office nor the Collectorate had a regularly updated database of Government lands leased out to private parties, companies, etc., with details of lease rent, due date for revision of rent, due date for renewal of lease, etc. Lack of a comprehensive system resulted in inadequate monitoring.
- On this being pointed out by Audit (October 2017), the Tahsildar, Sholinganallur, without following the due process of approaching the GoTN for revising and fixing the lease rent, raised (January 2018) a demand for revised lease rent and asked IOCL to pay ₹ 4.10 crore for the period upto February 2019 (Table 3.9). IOCL did not pay the demand raised (May 2018).

Table 3.9: Details of revised lease rent raised by Tahsildar, Sholinganallur

Period of lease			Due date for revising lease rent	Guideline value* per square foot	Guideline value for 10,000 square feet (Col 5 X 10,000)	Lease rent leviable at 14 per cent of land cost (Guideline value) (Col. 3 x Col. 6 x 14 per cent)	Lease rent collected at old rate as per lease agreement	Non-realisation of revenue due to non-revision of lease rent (Col. 7 (-) Col. 8)
From	To	Duration						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19/02/2004	18/02/2007	3 years	19/02/2004	125	12,50,000	5,25,000	3,85,668	1,39,332
19/02/2007	18/02/2010	3 years	19/02/2007	125	12,50,000	5,25,000	3,85,668	1,39,332
19/02/2010	18/02/2013	3 years	19/02/2010	2,386	2,38,60,000	1,00,21,200	3,85,668	96,35,532
19/02/2013	18/02/2016	3 years	19/02/2013	4,500	4,50,00,000	1,89,00,000	3,85,668	1,85,14,332
19/02/2016	18/02/2019	3 years	19/02/2016	3,015	3,01,50,000	1,26,63,000	85,704 (upto September 2016)	1,25,77,296
Total						4,26,34,200	16,28,376	4,10,05,824 or ₹ 4.10 crore

(Source: Details furnished by Tahsildar, Sholinganallur)

Thus, the failure on the part of Tahsildar, Sholinganallur and District Collector, Kancheepuram to initiate effective action for revision of lease rent once in every three years and the failure of the Commissioner of Land Administration and the Government in not ensuring a structured mechanism to monitor the renewal/revision of leases/lease rent and for accurate and timely collection of lease rent, resulted in non-realisation of revenue of ₹ 4.10 crore.

The matter was referred to the Government in June 2018; reply has not been received (January 2020).

MUNICIPAL ADMINISTRATION AND WATER SUPPLY DEPARTMENT

TIRUTTANI MUNICIPALITY

3.3.4 Under-utilisation of Bio-Methanation-cum-Power Generation Plant

The objective of establishing Bio-Methanation-cum-Power Generation Plant at a cost of ₹ 89.75 lakh in Tiruttani Municipality in Tiruvallur District remained unachieved for want of desired quantity of bio-degradable waste.

The Municipal Solid Waste (Management & Handling) Rules, 2000 and its Revised Rules, 2016 (Rules) demand local bodies to educate the waste generators to minimise generation of waste, reuse the waste to the extent possible, practise segregation of waste and home composting, store waste segregated at source in different bins, handover segregated waste to the waste collectors, etc. The Rules further demand the local bodies to collect and transport the wastes to the processing facilities to minimise the burden on landfill and set up waste processing and disposal facilities. The State Government shall enforce the provisions through periodical reviews and the State Pollution Control Board shall monitor compliance with the provisions so as to contain ground water pollution and global greenhouse gases, besides incidence of diseases. The Rules specify Bio-Methanation as a method to dispose municipal solid waste to produce methane-rich biogas and bio-manure. The method reduces emission of methane into the atmosphere thereby conserving the environment. Biogas is used for cooking and generating electricity. Bio-manure is a substitute for chemical fertiliser and sold as organic manure.

Tiruttani Municipality (Municipality) in Tiruvallur District proposed (December 2012) to establish a five Metric Tonne (MT) capacity Bio-Methanation-cum-Power Generation Plant (Plant) in the Municipality at a cost of ₹ 90 lakh. The Municipality estimated 14.36 MT of bio-degradable waste out of 25 MT of solid waste generated per day. Further, it anticipated an income of ₹ 5.25 lakh³⁸ per annum by sale of organic manure and savings of ₹ 17.99 lakh³⁹ per annum in the consumption of electricity by using biogas and transport charges of bio-degradable waste to the dumping yard. The Government of Tamil Nadu sanctioned (March 2013) the project under Integrated Urban Development Mission 2012-13.

³⁸ Income by sale of organic manure: 175 MT per annum @ ₹ 3,000 per MT = ₹ 5.25 lakh.

³⁹ Savings in consumption of electricity: 480 units per day for 350 days @ ₹ 5.50 per unit = ₹ 9.24 lakh and savings in manpower and transport: 5 MT per day for 350 days @ ₹ 500 per MT = ₹ 8.75 lakh. Total anticipated savings: ₹ 9.24 lakh (+) ₹ 8.75 lakh = ₹ 17.99 lakh.

The Municipality invited tenders (May 2013) for the work on turn-key basis including operation and maintenance for seven years and awarded (July 2013) the work of establishment of the Plant at a cost of ₹ 89.75 lakh. The work scheduled for completion in six months was actually completed in December 2016. The delay was attributed to public protest against installing the Plant in the identified site leading to deferred commencement of work. The Municipality so far paid a sum of ₹ 72 lakh (December 2018) to the contractor.

Audit scrutiny (March and June 2018) of works-in-progress records of the Municipality for the period 2015-17 disclosed that despite generating 12 MT of solid waste per day, it supplied 0.50 MT of bio-degradable waste only, to feed the Plant. The Municipality failed to deliver even the reduced quantity (September 2017) of 2 to 2.5 MT of bio-degradable waste per day demanded by the contractor to conduct the trial run. As a result, the contractor handed over the Plant without generating biogas (September 2017). The Municipality did not agree (June 2018) to the handing over, on the plea that the contractor failed to hand over the plant in running condition.

The Municipality replied (June 2018) that (a) with inadequate number of sanitary staff, the segregated waste fell short of the desired quantity of bio-degradable waste, (b) upon finalising the tender for outsourcing part of sanitary work, it could meet the desired requirement to run the plant and (c) after supplying the desired quantity on a regular basis, it would begin production of biogas to generate power. The reply was not tenable as the Municipality had proposed to establish the Plant after preparing detailed project report and ensuring adequate quantity of bio-degradable waste with the existing staff strength. Further, in accordance with the Rules, the Municipal Council enacted a bye-law effective from April 2017 enforcing responsibility on garbage generators to segregate and provide bio-degradable and non-biodegradable waste separately for disposal, failing which it shall levy fine on defaulters.

The Government replied (October 2018) that (i) the Municipality supplied two MT of bio-waste per day to the Plant from August 2018, (ii) the Plant generated 160 units power per day and (iii) the power was utilised for the crematorium, slaughter house and bore well. A scrutiny of records and joint physical verification of the Plant (January 2019) with the municipal officials revealed that the Plant was made operational from September 2018 by feeding 1.50 MT of bio-degradable waste per day. The Municipality, however, had no record for the quantum of power generated. The Government's claim regarding utilisation of power was not tenable as the slaughter house was not leased out and the gasifier crematorium was kept idle. Further, there was no reduction in the electricity consumption of bore well after the establishment of the Plant.

Thus, under-utilisation of the plant established at a cost of ₹ 89.75 lakh, led to environmental degradation, non-realisation of anticipated income from sale of organic manure and recurring expenditure on electricity and transport charges.

COIMBATORE CITY MUNICIPAL CORPORATION

3.3.5 Non-utilisation of artificial hockey turf

Improper planning and non-adherence to International Hockey Federation standards resulted in non-utilisation of artificial hockey turf created at a cost of ₹ 3.24 crore.

Section 100 (2) of the Coimbatore City Municipal Corporation Act, 1981 (Act), requires the Commissioner to seek Government's approval for a work or series of works, the entire estimated cost of which exceeds ₹ 1 crore through the Corporation Council.

The Coimbatore City Municipal Corporation (Corporation) had a Hockey Turf at a school campus⁴⁰ for conducting training to students. The turf became unusable due to lapse of time and the Corporation decided (July 2014) to establish an 'Artificial Hockey Turf⁴¹ (Water Based) with cast *in-situ* Shock Pad⁴²', in accordance with the International Hockey Federation (FIH) standards at a cost of ₹ 4.42 crore for conduct of tournaments and to provide training. FIH laid down the field standards for quality-assured artificial turfs for all levels of play which includes provision for fencing. The standards emphasise the need for security fence and a gate to control entry and exit in the design and pre-construction phase of installation to prevent damage by public trespass.

Audit scrutiny (June 2018) of works-in-progress records for the period 2014-18 in the Corporation disclosed that, even though the estimated cost of the work exceeded ₹ 1 crore and required Government's approval, the work was split into six parts to enable financial sanction within the powers of the Corporation Council and thereby avoid seeking Government's approval. The split up works were categorised as civil works consisting of construction of retaining wall (₹ 0.73 crore) and formation of black top surface (₹ 0.75 crore) and other component works consisting of supply of synthetic turf (two separate works at ₹ 0.75 crore each), supply of polyurethane binder, glue and seaming tape (₹ 0.75 crore) and supply of SBR granules and installation of rain-gun sprinklers, synthetic hockey turf and shock pad (₹ 0.69 crore).

By inviting tenders, the civil works were awarded in May 2015 and the other component works in September 2015 with the period of completion as six months. The civil works were completed (May 2016/October 2016)

⁴⁰ Corporation Boys & Girls Higher Secondary School, Rathina Sabapathi Puram.

⁴¹ An artificial sports surface made of synthetic or textile fibres to look like natural grass, designed to provide the best possible conditions to play the game of hockey.

⁴² A spongy underlying layer made of rubber granules and polyurethane binder mixed on site and laid as a base for artificial turf to ensure soft landing when slips and falls happen.

incurring an expenditure of ₹ 1.53 crore. Against materials valued ₹ 2.61 crore⁴³ supplied under other component works, the Corporation paid (December 2016 - April 2018) ₹ 1.71 crore to the contractor. The Corporation met the expenditure out of its own funds.

Despite completion of civil works and supply of materials, the turf was not laid on account of damage to the shock pad laid at site. The Corporation issued (August 2017) show cause notice to the contractor for faulty installation and damage to the *in-situ* shock pad due to asymmetrical binding. The contractor contended that absence of safeguard to the work site resulted in public trespass on the ground including playing cricket in the hockey pitch area, inflicting damages to the shock pad. To an Audit query (June 2018), the Corporation stated (June 2018) that additional improvement works at a cost of ₹ 0.44 crore were sanctioned (June 2018) for fencing the hockey ground and action was initiated to repair the shock pad for laying the turf.

Audit observed that the Corporation violated the extant provisions of the Act to evade Government's approval by splitting the work. Further, the FIH standards emphasised the need for security fence in the pre-construction phase of installation. But the Corporation failed to incorporate the requirement of a fence in the proposed work, resulting in damage to the turf by public trespass. This prevented the laying of artificial turf over the shock pad and the turf valued ₹ 1.50 crore is lying idle in the open ground since supply (June 2017), making it susceptible to deterioration.

Thus, the Corporation failed to comply with the FIH standards in providing security fence at the initial stage of planning which resulted in damage to the asset created at an expenditure of ₹ 3.24 crore⁴⁴. In order to provide fencing around the site and ensure utilisation of the asset, the Corporation was required to incur additional estimated expenditure of ₹ 0.44 crore.

GoTN replied (October 2019) that the project would be completed using Smart City funds. The fact, however, remained that due to improper planning the artificial hockey turf constructed at a cost of ₹ 3.24 crore was not utilised for about two years.

⁴³ Supply of SBR granules, polyurethane binder, glue and seaming tape (December 2015): ₹ 1.11 crore; synthetic turf (June 2017): ₹ 1.50 crore.

⁴⁴ Amount paid to the contractors for civil works was ₹ 1.53 crore and for other component works was ₹ 1.71 crore.

3.4 Loss of revenue

MUNICIPAL ADMINISTRATION AND WATER SUPPLY DEPARTMENT

COIMBATORE CITY MUNICIPAL CORPORATION, GREATER CHENNAI CORPORATION AND PALANI MUNICIPALITY

3.4.1 Incorrect assessment of property tax

Incorrect assessment of property tax resulted in loss of revenue of ₹ 40.02 lakh and short levy of ₹ 67.51 lakh.

The Tamil Nadu District Municipalities Act, 1920 and Municipal Corporation Acts of respective City Municipal Corporations empower the municipalities and City Municipal Corporations to levy Property Tax (PT) on all buildings within the city at such percentage of Annual Value⁴⁵ (AV) as determined by the Council. PT on land and buildings is the mainstay of ULB's own revenue. During the year 2017-18, the accounts of 76 ULBs were audited. Audit came across 15 instances of incorrect assessment of property tax, involving a total money value of ₹ 5.64 crore. Major instances of incorrect assessment of PT are discussed in the following paragraphs.

(a) Coimbatore Municipal Corporation

Section 121 of the Coimbatore City Municipal Corporation Act, 1981 empowers the Coimbatore City Municipal Corporation (Corporation) to levy PT on all buildings within the city at such percentage of AV as determined by the Corporation Council.

GoTN ordered (November 2007) general revision of PT in all ULBs from April 2008 and issued (February 2008) guidelines for the revision. Accordingly, the Council resolved (May 2008) to revise the PT by increasing the Basic Value⁴⁶ of all categories of buildings. While conducting audit (January 2018) of the Corporation, PT assessments relating to eight out of the 35 Star-rated hotels within city limits were scrutinised. It was noticed that two PT assessments (81240820 and 81241033), in respect of a property on V.H. Road in Ward 81 of the Corporation, were incorrect due to wrong classification of the category of the building as commercial building instead of lodging house (hotel). The property was a lodging house since March 2005 and enjoyed the status of a Star Hotel during the period from September 2009 to August 2014. The Basic Value applicable and actually adopted in respect of hotels and commercial buildings during the period from April 2005 to March 2018 were as given in **Table 3.10**.

⁴⁵ Annual value is the gross rental value the building is reasonably expected to fetch. It is determined by considering factors such as usage, location, type of construction and age of the building.

⁴⁶ Basic Value is the monthly rental value of different categories of usage of buildings per sq.ft., as fixed by the Corporation Council.

Table 3.10: Wrong adoption of Basic Value for PT assessment

Period	To be adopted		Actually adopted	
	Category of the property	Basic Value (₹/sq.ft.)	Category of the property	Basic Value (₹/sq.ft.)
April 2005 to March 2008	Hotel	7.80	Commercial shop	6.50
April 2008 to March 2009	Hotel	8.58	Commercial shop	7.15
April 2009 to September 2014	Star Hotel	33.60	Commercial shop	7.15
October 2014 to March 2018	Hotel	8.58	Commercial shop	7.15

(Source: Council resolution of Coimbatore City Municipal Corporation)

Audit noticed that due to incorrect adoption of the category of the property, for the period from April 2005 to March 2018, the Corporation under-assessed PT to the tune of ₹ 73.57 lakh, of which ₹ 40.02 lakh would be a loss of revenue due to the embargo on collection of arrears in PT beyond a period of six years. The details of PT due and actually collected are given in **Appendix 3.11**.

On this being pointed out, the Corporation agreed (June 2018) to revise the PT assessment by adopting appropriate Basic Value after verifying the category of the building. This lapse indicated failure in updating accurate information on the building usage in the records of the Revenue Wing of the Corporation.

(b) Greater Chennai Corporation

The Annual Rental Value for assessment of PT by the Greater Chennai Corporation (GCC) is worked out based on factors such as location, building type, age of building, usage, etc. Audit scrutinised (October 2017) all the 3,758 new residential PT assessments of Zone V of GCC with reference to 7,066 trade licences issued by the Zone during 2016-17. It was noticed that buildings of four trade licence holders, using their premises for business purposes, were being assessed for PT as residential premises. This misclassification of four commercial buildings as residential buildings resulted in PT short levy of ₹ 23.20 lakh as detailed in **Table 3.11**.

Table 3.11: Short levy of Property Tax by GCC

Sl. No.	Assessment No.	Basic Rate applicable per sq.ft (In ₹)	Assessed area in sq.ft	Property tax per half year (₹ in lakh)				
				Due to be levied	Levied	Short levy	Period (No. of half years)	Total short levy
1	05-061-01167-000 (Tenant occupied)	7.50	13,800	1.40	0.17	1.23	2012-18 (11)	13.53
2	05-058-04356-000 (Owner occupied/ semi-permanent) ⁴⁷	4.80	25,017	1.21	0.41	0.80	2012-18 (11)	8.80
3	05-058-07457-000 (Owner/Tenant occupied) ⁴⁸	3.00	4,440	0.15	0.10	0.05	2012-18 (11)	0.55
4	05-056-02135-000 (Residential/Tenant occupied) ⁴⁹	1.00	3,050	0.08	0.04	0.04	2014-18 (8)	0.32
		(Tenant occupied)	3.30					
Total amount short levy				2.84	0.72	2.12		23.20

HY: Half Year

(Source: GCC's records)

The above short levy of PT indicated failure in the system of GCC to verify the correctness of the self-assessment returns of assessees. Further, there was no co-ordination within the Revenue Wing of GCC as properties classified as residential were issued trade licences to undertake commercial activities without revising PT.

GoTN replied (November 2018) that GCC took steps to collect the arrears and that a sum of ₹ 11.12 lakh had been collected so far. GoTN further stated that GCC has undertaken the project for preparation of base map, property and utility mapping and door to door survey through consultancy services.

Final report on the action taken to (a) recover the balance amount of ₹ 12.08 lakh (b) revisit the existing system for adopting checks at appropriate levels to verify the correctness of the self-assessment returns and (c) ensure co-ordination within the Revenue Wing of GCC, was awaited (February 2019).

(c) Palani Municipality

PT is assessed at prescribed percentage of the Annual Rental Value, worked out based on Basic Value of the building and other factors such as age and type of buildings and its utilisation. For the purpose of determining Basic Value, Palani Municipality (Municipality) was demarcated into four zones based on location, predominant usage, infrastructure availability etc. Basic Value per sq.ft. is fixed by the Municipal Council for residential properties in different zones. The Basic Value for industrial and commercial properties is taken at respectively twice and thrice the Basic Value of residential properties in the respective zones.

⁴⁷ Permanent structure: 24,503 sq.ft (+) Semi-permanent structure: 514 sq.ft = Total assessed area: 25,017 sq.ft.

⁴⁸ Owner occupied: 3,020 sq.ft (+) Tenant occupied: 1,420 sq.ft = Total assessed area: 4,440 sq.ft.

⁴⁹ Residential area: 3,050 sq.ft (+) Commercial area: 900 sq.ft = Total assessed area: 3,950 sq.ft.

The guidelines also necessitate the Executive Authority to assess tax on property after verifying the correctness of the self-assessment returns filed by the assesseees through officials of the municipality.

The Municipality revised (April 2008) the Basic Value of residential properties as ₹ 1.30, ₹ 1.10, ₹ 0.85 and ₹ 0.70 per sq.ft. for Zones A, B, C and D respectively.

Audit scrutiny (April 2018) of 110 out of the 1,060 new PT assessments during the audit period of 2014-18 revealed that in respect of a newly constructed (April 2014) commercial building (Assessment numbers: 21289, 21290, 21291 and 21292) measuring 44,856 sq.ft. falling under Zone A, the Municipality adopted the Basic Value applicable to Zone D at ₹ 0.70 per sq.ft. instead of at ₹ 1.30 per sq.ft., which is applicable to Zone A, in which the building was located. The short levy of PT on this account was ₹ 10.76 lakh for the period from April 2014 to March 2018, as indicated in **Appendix 3.12**.

GoTN replied (August 2018) that the assessments have been revised and action was being taken to collect the revised PT. The short levy, however, was not recovered (August 2018). Non-application of the correct Basic Value indicated failure to apply adequate checks at appropriate levels by superior officers to ensure correctness of the self assessments.

Chennai
The 5 March 2020



(DEVIKA NAYAR)
Principal Accountant General
(General and Social Sector Audit),
Tamil Nadu and Puducherry

Countersigned



New Delhi
The 9 March 2020

(RAJIV MEHRISHI)
Comptroller and Auditor General of India

APPENDICES

Appendix 1.1

(Reference: Paragraph 1.5.2; Page 3)

Department-wise details of Outstanding Inspection Reports and Paragraphs

Sl. No.	Name of the Department	Number of Outstanding	
		Inspection Reports	Audit Observations
1	Adi-Dravidar and Tribal Welfare	194	1,040
2	Backward Classes, Most Backward Classes and Minorities Welfare	112	359
3	Co-operation, Food and Consumer Protection	115	252
4	Finance	47	96
5	Health and Family Welfare	686	3,147
6	Higher Education	355	1,554
7	Home, Prohibition and Excise	401	1,337
8	Housing and Urban Development	34	122
9	Labour and Employment	69	144
10	Law	7	19
11	Municipal Administration and Water Supply	207	464
12	Personnel and Administrative Reforms	8	22
13	Planning, Development and Special Initiatives	20	43
14	Public	18	40
15	Revenue	1,525	5,714
16	Rural Development and Panchayat Raj	63	222
17	School Education	491	1,781
18	Social Welfare and Nutritious Meal Programme	217	756
19	Tamil Development and Information	58	265
20	Tourism, Culture and Religious Endowments	47	151
21	Welfare of Differently Abled Persons	90	368
22	Youth Welfare and Sports Development	31	109
23	Special Programme Implementation	3	13
Total		4,798	18,018

Appendix 2.1
(Reference: Paragraph 2.1.5; Page 15)

District-wise offices visited

Sl. No.	Police Department	Transport Department	Health and Family Welfare Department	Highways Department
Chennai District				
1	Office of the Commissioner of Police, Vepery, Chennai	Joint Transport Commissioner (South), Joint Transport Commissioner (North)	Rajiv Gandhi Government General Hospital, Royapettah Government General Hospital, Kilpauk and Stanley Medical College Hospitals	Divisional Engineer, Highways (Construction & Maintenance), Chennai City Roads Chennai
2	Traffic Investigation Wing, Adyar, Thirumangalam, Pondy Bazaar, Guindy, St. Thomas Mount, Chromepet, GNT Road, Poonamallee,	District Collector		Commissioner, Greater Chennai Corporation (Bus Route Roads)
3	Elephant Gate, Royapuram, Koyambedu, Washermanpet, Kilpauk, Anna Nagar and Anna Square	RTOs, West, North, Meenambakkam and Tambaram		
Cuddalore District				
4	Office of the Superintendent of Police, Cuddalore	District Collector	Joint Director of Health Services, Cuddalore	Divisional Engineer, Highways (Construction & Maintenance) Department, Cuddalore
5	Panruti, Pennadam, Puduchathiram, Ramanatham, Vadalur, Vridhachalam, Kadampuliyur, Thirpapuliyur, Nellikuppam, Veppur and Cuddalore Old Town Police Stations	RTO (Cuddalore), Unit Offices Panruti and Vridhachalam	Government District Hqrs. Hospital, Cuddalore, Government Taluk Hospital, Vridhachalam, Thittagudi and Panruti	Commissioner, Cuddalore Municipality
Coimbatore District				
6	Office of the Commissioner of Police, Coimbatore	District Collector	Joint Director of Health Services, Coimbatore	Divisional Engineer, Highways (Construction & Maintenance) Department, Coimbatore
7	Office of the Superintendent of Police, Coimbatore	RTO, South and North and Pollachi	Coimbatore Medical College Hospital	Commissioner, Coimbatore Corporation
8	Traffic Investigation Wing, Coimbatore City East and West		Government Hqrs. Hospital, Pollachi	
9	Thudialur, Pollachi East, Kaunthampatti, Periyanaickenpalayam, Sulur, Karamadai, Mettupalayam, Annur and Kovilpalayam Police Station		Government Taluk Hospital, Mettupalayam	
Pudukottai District				
10	Office of the Superintendent of Police, Pudukottai	District Collector	Joint Director of Health Services, Pudukottai	Divisional Engineer, Highways (Construction & Maintenance) Department, Pudukottai
11	Alangudi, Vellanur, Viralimalai, Keeranur, Thirumayam, Thirugokarnam, Annavasal, Aranthangi, Gandarvakottai and Mathur Police Stations	RTO (Pudukottai) and Illupur Unit Office	Pudukottai Medical College Hospital, Government Hospital, Aranthangi and Government Taluk Hospital, Viralimalai	Commissioner, Pudukottai Municipality

Appendix 2.2
(Reference: Paragraph 2.1.5; Page 15)

Sample Selection Process

Road Accident Database Management System (RADMS) is a web based software used by the Police, Transport, Highways and Trauma Care departments to capture road accident information. The RADMS data on accidents gives a fair picture of the effectiveness of road safety measures in different districts. Therefore, the district-wise data on road safety performance were considered to rank the districts using data analytics tools on a scale of 1 to 4, with '1' being very poor and '4' being very good. The parameters adopted for ranking of the districts are given below.

- (i) Number of fatalities per fatal accident,
- (ii) Fatalities per total accidents,
- (iii) Vehicles without Fitness Certificate involved in accident,
- (iv) Vehicles involved in fatal accident out of total vehicles,
- (v) Accidents due to drunken driving,
- (vi) Accident victims admitted to hospital after the golden hour,
- (vii) Percentage of accidents on National Highways,
- (viii) Percentage of number of accidents occurred on State Highways,
- (ix) Number of accidents in single, double and four lane,
- (x) Number of black spots and
- (xi) Fatalities in black spots.

The State was divided into three zones, south, central and north. One district from each zone with the poorest performance in the aggregate score of the road safety performance parameters was selected.

- (a) North Zone - Cuddalore,
- (b) Central Zone - Coimbatore
- (c) South Zone - Pudukottai.

Besides, one district which had the highest aggregate score was also selected.

- (d) Chennai.

Appendix 2.3

(Reference: Paragraph 2.1.9.1; Page 39)

Details of road safety measures as per IRC provisions lacking in test-checked roads/reaches of Chennai District

Sl. No.	Name of the Road	Road side hazards		Carriage-way provisions			Pedestrian facilities encroachments	Median safety measures	Speed breakers - no advance warning sign
		Chevron markings and hazard sign boards	No hazard markers	Road / arrow markings were not provided	Cautionary sign board was not provided where the collector road enters into the arterial road	Carriageway was encroached with parking of vehicles and berm width of the roads was inadequate to the specified standard of 2.5 m			
	Indian Road Congress (IRC) Specification Number	67-2010		35-2015			67-2010 and 35-2015	SP 41-1994	99-1988 and 67-2010
1	Grand Southern Trunk Road (SHU 88)	3 stretches	6 stretches	12 stretches	4 stretches	..	4 stretches	4 stretches	6 stretches
2	Grand Northern Trunk Road (SHU 87)	..	5 stretches	8 stretches	..	12 stretches	15 stretches	4 stretches	..
3	Chennai Corporation - bus route roads								
	(i) Uthamar Gandhi Salai	3 locations		5 locations			3 locations	2 locations	..
	(ii) Alandur Road	2 locations		3 locations			1 location	1 location	..
	(iii) Race course road	2 locations		1 location			1 location	1 location	..
	(iv) East Ramanathan Salai	2 locations		1 location			1 location
	(v) Wallajah Road	5 locations		..			4 locations	3 locations	..
	(vi) Usman Road	1 location		2 locations		
	(vii) Sir Theyagaraya Road	3 locations		2 locations			..	4 locations	..

Appendix 2.4
(Reference: Paragraph 2.1.10.2 (a) and (d); Pages 46 and 47)

Details of inadequate equipment in the trauma care centres of the test-checked hospitals in sampled districts

Sl. No.	Name of the equipment	Requirement as per GO guidelines	Equipment available in									
			RGGGH	Kilpauk MCH	GH, Royapettah	Stanely MCH	Coimbatore MCH	Pudukottai MCH	GH, Aranthangi	GH, Cuddalore	GH, Vrindhachalam	GH, Pollachi
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Mobile Image intensifier (C-Arm) - with CD Rom, Printer, 12" CCD, Double Monitor, Facilities for Electronic Transmission and Networking for Tele-Radiology with X-ray and DSA facilities	1	1	1	0	1	0	0	0	3	0	1
2	3 D Ultrasonography - Trolley based	1	1	1	1	0	0	0	0	1	0	0
3	500 mA X ray machine with dark room facility	1	1	1	1	1	0	1	0	1	0	1
4	CT scan multi slice	1	1	0	1	1	0	1	0	1	0	0
5	100 mA Portable X ray machine	1	1	0	0	0	0	1	0	1	1	0
6	Operation Theatre table - 4 segment, translucent top with orthopaedic attachment	1	1	0	0	1	0	0	0	1	0	1
7	Cautery machine - mono & bi polar with vessel sealer	2	2	0	0	only 1	0	0	0	2	0	0
8	Operation Theatre ceiling light - shadow less	2	2	0	2	only 1	0	0	0	2	0	1
9	High vacuum suction machine	2	2	2	0	0	0	4	0	1	0	0

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
10	Anaesthesia machine with monitor 6-8 channel	2	2	2	0	0	0	2	0	4	0	0
11	Pneumatic tourniquet	2	2	0	0	0	0	0	0	0	0	0
12	General surgical instruments	2 sets	2 sets	0	2 sets	2 sets	0	0	0	0	2 sets	0
13	Thoracotomy instrument	1 set	1 set	0	0	0	0	0	0	0	0	0
14	Spine surgery instruments	1 set	1 set	0	1	0	0	0	0	1	0	0
15	Power drill & power saw	1	1	0	1	0	0	0	0	0	0	1
16	Craniotomy instrument	2 sets	2 sets	0	1	1 set only	0	0	0	0	0	0
17	Splints & traction	2	2	0	2	2	0	0	0	0	0	0
18	Lab, automatic blood gas analyser	1	1	1	0	0	0	3	0	0	0	0
19	Automatic Bio Analyser	1	1	1	0	0	0	1	0	0	1	0
20	Patient warming system	1	1	0	0	0	0	0	0	0	0	0
21	Defibrillator	2	2	2	1	0	1	22	0	2	0	0
22	Operating microscope	1	1	0	0	0	0	0	0	0	0	0
23	Operating Head Lights	2	2	0	0	0	0	0	0	0	0	0
24	Fowler's bed	20	20	0	0	20	8	10	0	6	0	0
25	10 bedded step down/recovery unit 5 monitors & 4 channels	Requi-red	2	0	0	0	0	0	0	0	0	0
26	Rehabilitation Equipment - SW Diathermy, IFT Machine, Cervical and Lumbar traction and Physiotherapy	Requi-red	1	0	1	1	1	0	0	0	0	0
27	Blood bank	Requi-red	1	1	1	1	1	1	0	1	0	1
	1			1	0	1	1	0	1	0	1	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
28	Ventilator with Adaptive support ventilation technology	6	6	6	1	only 3	6	1	0	only 2	0	0
29	Multi Parameter Monitor including ET CO2	6	6	6	1	2	0	0	0	0	0	0
30	Laminar air flow - Modular theatre	1	1	0	1	0	0	0	0	0	0	0
31	Electricity back-up for 8 hours	1	1	0	1	0	1	0	0	0	0	0
32	Computer with LAN, Networking and Broad Band facility, Printers, UPS	6	6	6	0	0	0	0	0	0	0	0
33	Telephone, Intercom, Mobile phone	Requi -red	1	1	0	0	1	0	0	1	0	0
34	Central supply of oxygen, Nitrous oxide, compressed air and vacuum	Requi -red	1	1	0	1	1	0	0	1	1	0
35	Tracheostomy set	5	5	0	1	5	0	0	0	0	0	0
36	Venesection set	6	6	0	0	6	0	0	0	0	0	0
37	ECG Machine	1	1	1	1	1	1	1	0	1	1	1
38	Nerves stimulator	2	2	2	1	2	0	0	0	0	0	0
39	Patient shifting Cot / Trolley	Requi -red	1	0	0	0	1	0	0	0	0	1
	Total item wise equipment available	39	39	16	19	19	10	12	0	18	5	8
	Equipment not available		0	23	20	20	29	27	39	21	34	31
	<i>Percentage of item wise equipment available</i>		100	41	49	49	26	31	0	46	13	21
	<i>Percentage of item wise equipment not available</i>		0	59	51	51	74	69	100	54	87	79

MCH: Medical College Hospital; GH: Government Hospital

Appendix 2.5
(Reference: Paragraph 2.1.10.2 (b); Page 46)

Details of inadequate staff in the Trauma Care Centres of the test-checked hospitals in sampled districts

Sl. No.	Category of Staff	Designation	Requirement as per GO 122	Man power available in									
				RGGGH	Kilpauk MCH	Royapettah GH	Stanely MCH	Coimbatore MCH	Pudukottai MCH	GH, Aranthangi	GH, Cuddalore	GH, Vridhachalam	GH, Pollachi
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	Specialist	General Surgeon	2	4	2	0	0	0	0	0	0	0	1
2		Orthopaedic Surgeon	4	4	4	0	0	0	0	0	8	0	0
3		Anaesthetist	3	6	0	0	0	0	0	0	0	0	0
4		Casualty Medical Officer	4	30	3	0	0	0	1	0	0	0	0
5	Nursing Staff	Staff Nurses	12	100	0	0	0	0	0	0	8	0	1
6		Nursing Assistant	4	24	0	0	0	0	0	0	3	0	0
7	Para Medics	Pharmacist	1	1	0	0	0	0	0	0	0	0	0
8		Operation Theatre Technician	3	10	0	0	0	0	0	0	2	0	0
9		Lab Technician	2	4	1	0	0	0	0	0	1	0	0
10		Radiographer	3	4	0	0	0	0	0	0	1	0	0
11		Hospital worker	6	6	0	0	0	0	0	0	1	0	1
12		Sanitary worker	6	6	0	0	0	0	0	0	0	0	0
13		Ministerial staff (with computer knowledge)	1	1	0	0	0	0	0	0	0	0	0
14		Physiotherapist	2	2	0	0	0	0	0	0	0	0	0
15		Plaster of paris Technician	4	4	0	0	0	0	2	0	1	0	0
16	Others	Security persons	4	8	0	0	0	4	0	0	0	0	0
Grand total			61	214	10	0	0	4	3	0	25	0	3
Staff not available				0	51	61	61	57	58	61	36	61	58
<i>(Percentage of staff not available)</i>				<i>0</i>	<i>84</i>	<i>100</i>	<i>100</i>	<i>93</i>	<i>95</i>	<i>100</i>	<i>59</i>	<i>100</i>	<i>95</i>

MCH: Medical College Hospital; GH: Government Hospital

Appendix 2.6
(Reference: Paragraph 2.1.12.2; Page 53)

Details of non-implementation of road safety measures recommended by District Road Safety Committee/noticed during joint physical verification

District and DRSC Meeting date	Pudukottai Joint physical verification: July 2018 DRSC meeting: November 2015						Cuddalore Joint physical verification: July 2018 DRSC meeting: June and November 2017 and March 2018		Coimbatore Joint physical verification: August 2018 DRSC meeting February 2015			
	National/ State Highway Number	SH 29	SH 29	SH 26	SH 26	SH 71	SH 71	NH	SH 138	SH 15	MDR 361	SH
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Road name	Tanjavur-Sayalkudi Road	Tanjavur-Sayalkudi Road	Trichy-Pudukottai-Aranthangi-Mimisal	Trichy-Pudukottai-Aranthangi-Mimisal	Musiri-Kulithalai-Pudukottai-Sethubava Chathiram Road	Musiri-Kulithalai-Pudukottai-Sethubava Chathiram Road	Cuddalore-Chidambaram	Jail Hill-Vellakurai-Kumalangulam	Metupalayam-Sathyamangalam	..	Salem-Cochin Road	Brook Bond Road
Location	Kattumavadi junction	Aranthangi, Near GH	Vilanur - pond	Nanakudi curve	Entire stretch	Entire stretch	Mohini Bridge, Seemati-SBI and branch roads meeting NHC	Main Gate of Central Jail	Sirumugai Road-Koothamadaai junction	Podhanaur-Kurici road junction and Kurichi bus stop junction	PSG Colleges	Brook Bond mall
Road reach	93/4-94/6	92/210	105/2	90/6-90/8	46/6-89/59 ^A	101/96-137/2 ^B	70/6	0/2		
Roundabout	×											
Caution & sign board	×	×			×	×				×		
No junction						×						
No traffic island					×	×						
High Mast Lamp	×											
Traffic lane line	×				×	×						
Border/edge line	×				×	×						
Arrow/direction markings	×					×						
Widening of road							×					

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Hazard markings	×				×	×	×	×		×		
Chevron markings	×				×	×						
Zebra crossing	×				×	×						
Stop line before bus bay	×											
Speed breakers	×				×	×	×	× ^D		×		
Safety barrier for median	×											
Footpath & guard rails	×	×			×	×					× ^E	× ^F
RoW encroachments	×	×			×	×						
Center median	..	×			×	×	×					
Iron crash barrier			×	×								
Solar flashing light					×	×						
Road berms/lacking, not maintained					×	×		×				
Pavement markings					×	×	×					
Median openings					×	×						
Tree obstruction			×									
Narrow bends									×			
Studs							×			×		

(A) Temple encroachment on curve (69/6), Minor bridge and culverts at 10 locations had no hazard markings, safety barriers and reflectors; (B) Invisible curve (136/8) and accident spot (127/2), Minor bridge and culverts at 4 locations had no hazard markings, safety barriers and reflectors; (C) Poor visibility in the night and hazards like traffic islands, median openings and objects close to the carriageway and Electric lights and only one marker on one side were installed in the bridge. Centre median was not installed; (D) Work not done as per specifications; (E) Foot over Bridge located inside the college campus should be given public access from foot path and (F) Foot over Bridge not provided.

Despite instructions issued (November 2014) in the DRSC meeting to the SP, Cuddalore to take steps to prevent fatal accidents in two black spots viz., Sethiathope Rajiv Gandhi Statue Junction and Sethiathope X Road, during joint physical verification by audit it was noticed that the junction was not manned by the Police, there were no signals and CCTV cameras in the former location and there was no warning board/sign board and speed breakers were not painted for visibility in the latter location.

Appendix 2.7
(Reference: Paragraph 2.2.5; Page 57)
Sampled ISM Institutions

Sl. No.	Name of the Institution	Number of institutions		Names of the sampled ISM institutions
		Available	Sampled	
1	Medical Colleges and attached Hospitals	6	5	Government Siddha MCH, Chennai Government Ayurvedic MCH, Nagercoil Government Yoga and Naturopathy MCH, Chennai Government Unani MCH, Chennai. Government Homoeopathy MCH, Thirumangalam
2	District Siddha Medical Officers (DSMO)	22	6	Dindigul, Erode, Thanjavur, The Nilgiris, Sivagangai and Vellore districts
3	ISM Wings in Govt. Hospitals (Medical College Hospitals (MCH), District Hqrs Hospitals (DHQH), Taluk/ Non-Taluk Hospitals (TK/NTK)	471	47	Dindigul - 09 Erode - 05 Thanjavur - 10 The Nilgiris - 04 Sivagangai - 08 Vellore - 11
4	ISM Wings in PHCs/ Dispensaries and AYUSH Wellness centres	1,014	53	Dindigul - 10 Erode - 09 Thanjavur - 07 The Nilgiris - 07 Sivagangai - 08 Vellore - 12

Appendix 2.8

(Reference: Paragraph 2.2.8.2(a); Page 65)

Non-provision of In-patient facilities in test-checked ISM wings

Sl.No.	Name of the Wing	System	District	Availability of IP facilities
1	TK Hospital, Anthiyur	Siddha	Erode	No
2	NTK Hospital, Kavindampadi	Siddha	Erode	No
3	TK. Hospital, Kodaikanal	Siddha	Dindigul	No
4	TK Hospital, Oddanchatram	Siddha	Dindigul	No
5	TK Hospital, Vedasandur	Siddha	Dindigul	No
6	NTK Hospital, Thandikudi	Siddha	Dindigul	No
7	TK Hospital, Ilayangudi	Siddha	Sivagangai	Yes
8	TK Hospital, Thirupuvanam	Siddha	Sivagangai	No
9	NTK Hospital, Poolankurichi	Siddha	Sivagangai	No
10	TK Hospital, Orathanadu	Siddha	Thanjavur	Yes
11	TK Hospital, Pattukottai	Y&N	Thanjavur	No
12	NTK Hospital, Adiramapattinam	Unani	Thanjavur	Yes
13	NTK Hospital, Tirupanandal	Siddha	Thanjavur	Yes
14	TK Hospital, Manjoor	Siddha	The Nilgiris	Yes
15	TK Hospital, Ambur	Siddha	Vellore	Yes
16	TK Hospital, Arakkonam	Homoeo	Vellore	Yes
17	TK Hospital, Arakkonam	Siddha	Vellore	Yes
18	TK Hospital, Arakkonam	Y&N	Vellore	No
19	NTK Hospital, Kalavai	Siddha	Vellore	No

TK: Taluk

NTK: Non-Taluk

Appendix 2.9

(Reference: Paragraph 2.2.8.2(c)(ii); Pages 66 and 67)

Details of equipment supplied/not-supplied/non-functioning in Siddha, Ayurveda and Unani Wings

District	Sl. No.	Name of the ISM wing			Treadmill		Decoction Vending machine		Steam Bath		Exercise Cycle	
					Supplied	Not functioning	Supplied	Not functioning	Supplied	Not functioning	Supplied	Not functioning
Dindigul	1	Ammaiyanaickanur	GPHC	Siddha	0	0	0	0	0	0	0	0
	2	Thadikombu	GPHC	Siddha	0	0	0	0	0	0	0	0
	3	Kosavapatti	GPHC	Siddha	0	0	0	0	0	0	0	0
	4	K. Pudukottai	NRHM PHC	Siddha	0	0	0	0	0	0	0	0
	5	Kallimanthayam	NRHM PHC	Siddha	0	0	1	1	1	0	1	0
	6	Poolathur	NRHM PHC	Siddha	0	0	1	1	1	1	1	1
	7	Sirunaickenpatti	NRHM PHC	Siddha	0	0	1	0	1	0	1	0
	8	Pilathu	NRHM PHC	Siddha	0	0	1	0	1	0	1	0
	9	Thandikudi	NTK.Hpl.	Siddha	0	0	0	0	0	0	0	0
	10	Kodaikanal	TK.Hpl.	Siddha	1	0	0	0	1	0	0	0
	11	Oddanchatram	TK.Hpl.	Siddha	1	1	0	0	1	0	1	0
	12	Vedasandur	TK.Hpl.	Siddha	1	1	0	0	1	1	1	0
	13	Dindigul	DHQH	Siddha	1	1	1	0	1	1	0	0
	14	Dindigul	DHQH	Ayurveda	0	0	0	0	0	0	0	0
		Total (A)	14		4	3	5	2	8	3	6	1
Erode	15	Muthur	GPHC	Ayurveda	1	1	1	0	1	1	0	0
	16	Kunnathur	GPHC	Siddha	0	0	0	0	0	0	0	0
	17	Siruvalur	GPHC	Siddha	0	0	0	0	0	0	0	0
	18	Chavadipalayam	GPHC	Siddha	0	0	0	0	0	0	0	0
	19	Modakurichi	GPHC	Siddha	0	0	0	0	0	0	0	0
	20	Nasiyanur	NRHM PHC	Siddha	0	0	1	0	1	0	1	0
	21	Vellode	NRHM PHC	Siddha	1	0	1	0	1	0	1	0
	22	Athani	NRHM PHC	Siddha	0	0	1	1	1	0	1	0
	23	Kavindapadi	NTK.Hpl.	Siddha	1	0	0	0	1	0	0	0
	24	Anthiyur	TK.Hpl.	Siddha	0	0	0	0	0	0	0	0
	25	Erode	DHQH	Siddha	1	0	0	0	1	0	1	0
		Total (B)	11		4	1	4	1	6	1	4	0

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District	Sl. No.	Name of the ISM wing			Treadmill		Decoction Vending machine		Steam Bath		Exercise Cycle	
					Supplied	Not functioning	Supplied	Not functioning	Supplied	Not functioning	Supplied	Not functioning
Sivaganga	26	Idayamelur	NRHM PHC	Ayurveda	0	0	1	0	1	0	1	0
	27	Thiruvegampet	GPHC	Siddha	1	0	1	1	1	1	0	0
	28	Muthanendal	GPHC	Siddha	1	1	1	0	1	1	0	0
	29	Mallakottai	GPHC	Siddha	1	1	1	1	1	0	0	0
	30	Karuppur	G.S.RLDy.	Siddha	0	0	0	0	0	0	0	0
	31	Sooranam	NRHM PHC	Siddha	0	0	1	1	1	1	1	0
	32	Poolankurichi	NTK.Hpl.	Siddha	0	0	0	0	0	0	0	0
	33	Ilayangudi	TK.Hpl.	Siddha	1	1	0	0	1	1	1	0
	34	Thirupuvanam	TK.Hpl.	Siddha	1	0	1	1	1	0	0	0
	35	Sivangai	MCH	Siddha	1	1	1	1	1	1	0	0
	36	Karaikudi	DHQH	Siddha	1	1	0	0	1	1	1	1
			Total (C)	11		7	5	7	5	9	6	4
Thanjavur	37	Adiramapattinam	NTK.Hpl.	Unani	0	0	0	0	0	0	0	0
	38	Solapuram	NRHM PHC	Ayurveda	0	0	1	1	0	0	0	0
	39	Kabisthalam	GPHC	Siddha	1	1	1	1	1	1	0	0
	40	Murukkangudi	GPHC	Siddha	0	0	0	0	0	0	0	0
	41	Patteeswaram	GPHC	Siddha	1	1	1	0	1	0	0	0
	42	Pappanadu	GPHC	Siddha	1	1	1	1	1	1	0	0
	43	Madukkur	NRHM PHC	Siddha	0	0	1	0	0	0	0	0
	44	Tirupanandal	NTK.Hpl.	Siddha	0	0	0	0	0	0	0	0
	45	Orathanadu	TK.Hpl.	Siddha	0	0	0	0	0	0	0	0
	46	Thanjavur	MCH	Siddha	0	0	0	0	0	0	0	0
	47	Kumbakonam	DHQH	Siddha	1	1	0	0	1	1	0	0
	48	Kumbakonam	DHQH	Ayurveda	0	0	0	0	0	0	0	0
		Total (D)	12		4	4	5	3	4	3	0	0
The Nilgiris	49	Naduvattam	GPHC	Siddha	1	0	0	0	1	1	1	0
	50	Ketti	GPHC	Siddha	0	0	0	0	0	0	0	0
	51	Keramattam	GPHC	Siddha	0	0	0	0	0	0	0	0
	52	Kinnakorai	G.S.RLDy.	Siddha	0	0	0	0	0	0	0	0
	53	Manjoor	TK.Hpl.	Siddha	0	0	0	0	0	0	0	0
	54	Udhagamandalam	DHQH	Siddha	1	0	0	0	1	0	1	0
			Total (E)	6		2	0	0	0	2	1	2

District	Sl. No.	Name of the ISM wing			Treadmill		Decoction Vending machine		Steam Bath		Exercise Cycle	
					Supplied	Not functioning	Supplied	Not functioning	Supplied	Not functioning	Supplied	Not functioning
Vellore	55	Melkalathur	NRHM PHC	Ayurveda	0	0	0	0	0	0	0	0
	56	Lalapet	GPHC	Siddha	1	0	1	0	1	0	0	0
	57	Andiyappanur	GPHC	Siddha	1	1	1	1	1	1	0	0
	58	Banavaram	GPHC	Siddha	1	1	1	1	1	1	0	0
	59	Pudumadu	Tribal Dy.	Siddha	0	0	0	0	0	0	0	0
	60	Patchur	NRHM PHC	Siddha	0	0	1	1	1	0	1	0
	61	Ponnai	NRHM PHC	Siddha	0	0	1	0	1	0	1	0
	62	Kalavai	NTK.Hpl.	Siddha	0	0	0	0	1	1	0	0
	63	Ambur	TK.Hpl.	Siddha	1	0	0	0	1	0	1	1
	64	Arakonam	TK.Hpl.	Siddha	1	1	0	0	1	1	1	1
	65	Kaveripakkam	GPHC	Unani	0	0	0	0	0	0	0	0
	66	Ammoor	NRHM PHC	Unani	0	0	0	0	0	0	0	0
	67	Vellore	MCH	Siddha	1	1	0	0	1	1	0	0
	68	Vellore	MCH	Unani	0	0	0	0	0	0	0	0
	69	Walaja	DHQH	Siddha	1	1	0	0	0	0	1	0
		Total (F)	15		7	5	5	3	9	5	5	2
		Grand Total (A+B+C+D+E+F)	69		28	18	26	14	38	19	21	4

Appendix 2.10

(Reference: Paragraph 2.2.8.2 (c) (iii); Page 68)

Equipment supplied to non-functioning ISM Units in The Nilgiris District

Sl. No.	Name of the equipment	Name of the wings	Date of supply	Rate in ₹ and number	Total cost in ₹
1	Thokkanam Table with SS foot stepper	Kolacombai , Ambalamoola, Kattabettu, Kollappalli, Srimadurai, Nelakottai, Melurhosatty	30-11-2014	20,486 x 7	1,43,402
2	Examination table	Kolacombai , Melurhosatty , Kattbettu, Srimadurai, Kolappally, Ambalamoola ,Nelakottai, Kookalthorai.	30-11-2014	7,256 x 8	58,048
3	Decoction vending machine	Kolacombai, Melurhosatti, Kattbettu, Srimadurai, Kolappally, Ambalamoola	26-03-2014	58,905 x 6	3,53,430
4	Dhorni pot	Kolacombai, Melurhosatti, Kattbettu, Srimadurai, Kolappally, Ambalamoola	10-01-2015	5,040 x 6	30,240
5	Steam Bath sitting type (single person) and steam generator	Kolacombai, Melurhosatti, Kattbettu, Srimadurai, Kolappally, Ambalamoola	10-01-2015	56,385 x 6	3,38,310
6	Stethoscope, Thermometer, Infraphill lamp set, medicated steam inhaler	Kolacombai, Melurhosatty, Kattbettu, Srimadurai, Kolappally, Ambalamoola, Nelakottai, Kookalthorai.	19-02-2016	2,164.40 x 8	17,315
7	Computer /UPS	Kolacombai, Melurhosatty ,Kattabettu, Srimadurai, Kolappally, Ambalamoola, Kookalthorai, Nelakottai.	17-06-2015	49,316 x 8	3,94,528
8	R.O Plant	Kolacombai, Melurhosatti, Kattbettu,Srimadurai, Kolappally, Ambalamoola, Nelakottai	28-06-2017	30,450 x 7	2,13,150
Total cost					15,48,423

Appendix 2.11

(Reference: Paragraph 2.2.9.3; Page 70)

Shortage of manpower in ISM hospitals and ISM Wings (AMO/MO)

Sl. No.	Name of the Post	System	Regular/ Contract Pay	Number of posts		
				Sanctioned	Positioned	Vacant
1	Superintendent (AAGHIM)	Siddha	Regular	1	0	1
2	Hospital Superintendent (A)	Ayurveda	Regular	1	0	1
3	Medical Officer (S)	Siddha	Regular	15	1	14
4	Scrutinising Medical Officer (Siddha)	Siddha	Regular	1	0	1
5	RMO (A)	Ayurveda	Regular	1	1	0
6	Medical Officer (A)	Ayurveda	Regular	6	4	2
7	Medical Officer (U)	Unani	Regular	3	1	2
8	Scrutinising Medical Officer (Unani)	Unani	Regular	1	1	0
9	Medical Officer / RMO (Y & N)	Y & N	Regular	2	0	2
10	MO (Modern Medicine)		Regular	1	0	1
11	Clinical Pathologist		Regular	1	1	0
12	Bio-Chemist		Regular	1	1	0
13	Pathologist		Regular	2	0	2
14	Radiologist		Regular	2	2	0
15	AMO (S/A/U/H)*		Regular	965	941	24
16	Asst. Superintendent (H)	Homoeo	Regular	1	1	0
17	AMO (Y & N)	Y & N	Regular	90	39	51
18	DSMO	Siddha	Regular	22	13	9
Total				1,116	1,006	110 (10 per cent)

* S/A/U/H - Siddha/Ayurveda/Unani/Homoeopathy

Para medical & others in regular wings

Sl. No.	Name of the Post	Regular/ Contract Pay	Number of posts		
			Sanctioned	Positioned	Vacant
1	Nursing Superintendent Gr.II	Regular	7	7	0
2	Nurses	Regular	96	92	4
3	Nurses	Con.Pay	4	4	0
4	Chief Pharmacist (Siddha)	Regular	2	0	2
5	Pharmacy Supervisor (S/A/U)	Regular	5	0	5
6	Asst. in Pharmacy	Regular	4	0	4
7	Pharmacist** (S/A/U/H)	Regular	892	644	248
8	Nursing Therapist (Y & N)	Regular	4	4	0

** Vacancy percentage: Pharmacist (Siddha) - 22.1; Pharmacy (Ayurveda) - 71.7

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Sl. No	Name of the Post	Regular/ Contract Pay	Number of posts		
			Sanctioned	Positioned	Vacant
9	Nursing Assistant (Male/Female)	Regular	80	8	72
10	Attendant/Attender/Women Servant	Regular	8	5	3
11	Anatomy Bearer/Stretcher Bearer	Regular	5	2	3
12	Waterman	Regular	5	3	2
13	Gate Peon	Regular	1	1	0
14	Barber	Regular	1	1	0
15	Sweeper/ Sweeper cum Water Women/ Sweeper cum Waterman	Regular	26	13	13
16	Gardener	Regular	2	1	1
17	Watchman	Regular	21	8	13
18	Sanitary Worker	Regular	52	20	32
19	Office Assistant	Regular	40	8	32
20	Lascar	Regular	14	6	8
21	Cook / Cook Matty/ Cook Attendant	Regular	14	6	8
22	Dhobi	Regular	7	5	2
23	Hospital Servant / Hospital Worker / Multipurpose Worker	Regular	639	400	239
24	Mortuary Attendant	Regular	2	1	1
25	Packer	Regular	1	1	0
26	Sweeper for Cleaning Vessels	Regular	4	0	4
27	Cleaner	Regular	3	1	2
28	Duffedar	Regular	1	0	1
29	Ambulance Van Attendant	Regular	2	1	1
30	Peon cum Waterman	Regular	1	0	1
31	Dispensary Attender		2	1	1
32	Hospital Worker (OS)	Out Sourcing	2	2	0
33	Watchman / Sweeper (OS)	at Texco	2	1	1
34	Sweeper	(Con. Pay)	5	5	0
35	Hospital Worker / Sanitary Worker	(Con. Pay)	11	10	1
36	Gardener	(Con. Pay)	4	4	0
37	Watchman	(Con. Pay)	2	2	0
38	Dhobi	(Con. Pay)	3	3	0
39	Cook	(Con. Pay)	2	2	0
40	Masseur (Male / Female)	(Con. Pay)	5	0	5
41	Lab Attendant / Attender	(Con. Pay)	5	5	0
42	Multipurpose Worker	Out Sourcing	9	9	0
Others—Hospital					
43	Scientific Officer (DTL)	Regular	2	0	2
44	Computer System Analyst cum Programmer	Regular	1	0	1

Sl. No.	Name of the Post	Regular/ Contract Pay	Number of posts		
			Sanctioned	Positioned	Vacant
45	Pharmacy Attendant	Regular	74	26	48
46	Plaster Technician	Regular	1	0	1
47	Therapeutic Assistant	Regular	203	115	88
48	A.N.M.	Regular	5	3	2
49	Radiographer	Regular	4	1	3
50	Masseur	Regular	32	20	12
51	Dark Room Assistant	Regular	3	0	3
52	X-Ray Attendant	Regular	2	0	2
53	Dispensary Servant (Con. Pay)	(Con. Pay)	19	2	17
54	Multipurpose Worker	(Con. Pay)	11	0	11
Total			2,352	1,453	899 (38 per cent)

Shortage of man power in NRHM Wings

Sl. No.	Name of the Post	Number of posts		
		Sanctioned	Positioned	Vacant
1	Consultant (S/A/H/Y&N)	475	354	121
2	Dispenser (S/A/U/H)	424	134	290
3	Therapeutic Assistant (M/F) (Y & N)	71	4	67
4	Multipurpose Worker	475	258	217
Total		1,445	750	695 (48 per cent)

Shortage of manpower in AYUSH Wellness clinic

Sl. No.	Name of the Post	Number of posts		
		Sanctioned	Positioned	Vacant
1	Doctor/Consultant (S/A/U/H/Y&N)	31	0	31
2	Therapeutic Assistant	34	0	34
3	Attender	26	0	26
Total		91	0	91 (Cent per cent)

Appendix 2.12

(Reference: Paragraph 2.2.9.4; Page 71)

Non-functioning of ISM Wings in test-checked districts due to non-posting of doctors

Sl.No	Name of the Wing	Wing	Date from which not functioning
The Nilgiris			
1	NRHM, C, Ambalmoola	Siddha	September 2013
2	NRHM, PHC, Kolapalli	Siddha	March 2011
3	NRHM, PHC, Kolacombai	Siddha	March 2011
4	NRHM, PHC, Melurhosatty	Siddha	March 2011
5	NRHM, PHC, Kottabettu	Siddha	March 2011
6	NRHM, PHC, Srimadurai	Siddha	March 2011
7	NRHM, PHC, Nedugula	Siddha	July 2011
8	NRHM, PHC, T.Oranalli	Siddha	September 2013
9	NRHM, PHC, Nilakottai	Unani	March 2011
10	NRHM, PHC, Kookalthurai	Homoeo	May 2011
11	NRHM, PHC, Bikkatty	Homoeo	July 2014
Thanjavur			
12	NRHM, PHC, Kuruvikarambai	Homoeo	March 2011
13	NRHM, PHC, Pandaravadai	Unani	May 2012
14	NRHM, PHC, Sillathur	Siddha	March 2012
DSMO, Vellore			
15	NRHM, PHC, Kallapadi	Siddha	November 2013
16	NRHM, PHC, Vilapakkam	Siddha	August 2015
17	NRHM, PHC, Ussoor	Unani	May 2017
18	NRHM, PHC, Minnal	Unani	September 2017
19	NRHM, PHC, Nowlack	Unani	August 2016
DSMO, Dindigul			
20	GPHC, Mannavanur	Siddha	February 2017
21	GPHC, Siluvathur	Ayurveda	October 2013
22	GPHC, Ayyalur	Ayurveda	March 2017
23	GPHC, Kosukurichi	Unani	May 2011
24	GPHC, Narasingapuram	Unani	2009
25	GPHC, Keeranur	Unani	2009
26	GPHC, Viralipatti	Unani	2009
27	Dt. Hqrs. Hospital, Dindigul	Unani	2010
DSMO, Sivaganga			
28	Govt. Taluk Hospital, Devakottai	Y&N	May 2017
29	NRHM PHC, Puzhuthipatti	Unani	April 2011
30	NRHM PHC, Idayamelur	Ayurveda	March 2016
31	NRHM PHC, Keelasevalpatti	Ayurveda	January 2013

Appendix 2.13
(Reference: Paragraph 2.2.10.4; Page 75)
Shortfall in drawing samples

Sl.No.	District	2013-14			2014-15			2015-16			2016-17			2017-18		
		Target	Samples drawn	Shortfall	Target	Samples drawn	Shortfall	Target	Samples drawn	Shortfall	Target	Samples drawn	Shortfall	Target	Samples drawn	Shortfall
1	Chennai	42	42	0	63	63	0	96	60	36	96	85	11	96	112	0
2	Cuddalore	42	33	9	63	63	0	96	82	14	96	64	32	96	84	12
3	Erode	42	42	0	63	65	0	96	79	17	96	96	0	96	110	0
4	Tiruppur	42	42	0	63	66	0	96	74	22	96	89	7	96	83	13
5	Kancheepuram	42	36	6	63	71	0	96	68	28	96	94	2	96	63	33
6	Tiruvannamalai	42	43	0	63	62	1	96	80	16	96	98	0	96	96	0
7	Tirunelveli	42	27	15	63	82	0	96	68	28	96	13	83	96	67	29
8	Vellore	42	36	6	63	75	0	96	48	48	96	83	13	96	55	41
9	Nilgiris	42	41	1	63	68	0	96	96	0	96	99	0	96	96	0
10	Dharmapuri	42	39	3	63	64	0	96	88	8	96	96	0	96	80	16
11	Nagapattinam	42	27	15	63	60	3	96	71	25	96	96	0	96	100	0
12	Virudhunagar	42	20	22	63	73	0	96	94	2	96	104	0	96	66	30
13	Pudukottai	42	27	15	63	61	2	96	82	14	96	25	71	96	47	49
14	Dindigul	42	37	5	63	68	0	96	96	0	96	96	0	96	93	3
15	Nagercoil	42	33	9	63	45	18	96	106	0	96	69	27	96	80	16
16	Periyakulam	42	34	8	63	54	9	96	84	12	96	32	64	96	98	0
17	Ramanathapuram	42	44	0	63	66	0	96	81	15	96	104	0	96	86	10
18	Salem	42	27	15	63	68	0	96	72	24	96	44	52	96	72	24
19	Sivagangai	42	39	3	63	36	27	96	108	0	96	91	5	96	99	0
20	Thanjavur	42	29	13	63	60	3	96	70	26	96	95	1	96	96	0
21	Thoothukudi	42	20	22	63	63	0	96	49	47	96	81	15	96	92	4
22	Trichy	42	27	15	63	53	10	96	104	0	96	87	9	96	89	7
23	Villupuram	42	41	1	63	68	0	96	40	56	96	86	10	96	81	15
	Total	966	786*	183	1,449	1,454*	73	2,208	1,800	438*	2,208	1,827*	402	2,208	1,945*	302

* Samples drawn differs from Table 2.32 at Page 75 due to drawal of multiple samples of same batch of product

**Appendix 2.14
(Reference Paragraph 2.3.7.3; Page 89)**

Leakage of revenue on account of non-receipt of Profession Tax from traders

Sl. No.	Name of the Municipality	Minimum of the slab per half year (in ₹)	2015-16		2016-17		2017-18	
			Number of Licences issued	Amount of Profession tax not levied (₹ in lakh)	Number of Licences issued	Amount of Profession tax not levied (₹ in lakh)	Number of Licences issued	Amount of Profession tax not levied (₹ in lakh)
1	Arcot	118	759	1.79	421	0.99	283	0.67
2	Gobichettipalayam	133	706	1.88	706	1.88	721	1.92
3	Karaikudi	100	1,578	3.16	1,101	2.20	838	1.68
4	Thirumangalam	120	973	2.34	1,010	2.42	1,042	2.50
5	Thiruvarur	130	134	0.35	310	0.81	214	0.56
6	Tirupathur	118	515	1.22	23	0.05	394	0.93
7	Walajapet	118	140	0.33	187	0.44	94	0.22
	Total		4,805	11.07	3,758	8.79	3,586	8.48

Appendix 2.15
(Reference Paragraph 2.3.9.1 (i); Page 107)

Pending requests received during September 2015 to January 2018
in the test-checked municipalities

Sl. No.	Name of the Municipality	Pending requests
1	Anakaputhur	276
2	Arakkonam	697
3	Arcot	1,513
4	Bhavani	1,665
5	Coonoor	478
6	Gobichettipalayam	352
7	Karaikudi	3,074
8	Kumbakonam	5,027
9	Mannargudi	2,644
10	Pallavapuram	8,263
11	Pammal	1,460
12	Thirumangalam	1,771
13	Thiruvarur	7,922
14	Tirupathur	3,452
15	Udhagamandalam	2,690
16	Walajapet	273
	Total	41,557

Appendix 2.16

(Reference Paragraph 2.3.9.1 (ii); Page 108)

Delay in delivery of municipal services

Sl. No.	Name of the Municipality	Property Tax Assessments			Water Connections		
		No. of requests received and closed	No. of requests closed within due dates	No. of request closed after due dates	No. of requests received and closed	No. of requests closed within due dates	No. of request closed after due dates
1	Anakaputhur	861	696	165	348	21	327
2	Arakkonam	130	31	99	0	0	0
3	Arcot	410	273	137	173	60	113
4	Bhavani	126	49	77	0	0	0
5	Coonoor	426	381	45	10	1	9
6	Gobichettipalayam	474	269	205	143	128	15
7	Karaikudi	1,690	221	1,469	819	19	800
8	Kumbakonam	1,737	621	1,116	259	10	249
9	Mannargudi	2,238	2,056	182	797	397	400
10	Pallavapuram	4,488	1,160	3,328	1,523	1,263	260
11	Pammal	1,432	900	532	338	13	325
12	Thirumangalam	728	210	518	154	0	154
13	Thiruvarur	926	222	704	150	14	136
14	Tirupathur	428	383	45	0	0	0
15	Udhagamandalam	961	312	649	48	7	41
16	Walajapet	54	41	13	27	2	25
	Total	17,109	7,825	9,284	4,789	1,935	2,854

Appendix 2.17

(Reference Paragraph 2.3.9.2 (i); Page 108)

Arrears of Profession Tax in the test-checked municipalities

Sl. No.	Name of the Municipality	No. of Assessments	Amount (₹ in lakh)
1	Anakaputhur	329	3.44
2	Arakkonam	3,706	153.47
3	Arcot	1,263	28.77
4	Bhavani	687	10.49
5	Coonoor	767	22.35
6	Gobichettipalayam	521	5.57
7	Karaikudi	3,649	52.05
8	Kumbakonam	2,634	110.87
9	Mannargudi	1,651	37.25
10	Pallavapuram	2,876	77.65
11	Pammal	834	36.84
12	Thirumangalam	1,269	23.05
13	Thiruvarur	1,740	46.34
14	Tirupathur	3,292	54.93
15	Udhagamandalam	653	11.51
16	Walajapet	357	9.57
	Total	26,228	684.15 or 6.84 crore

Appendix 2.18

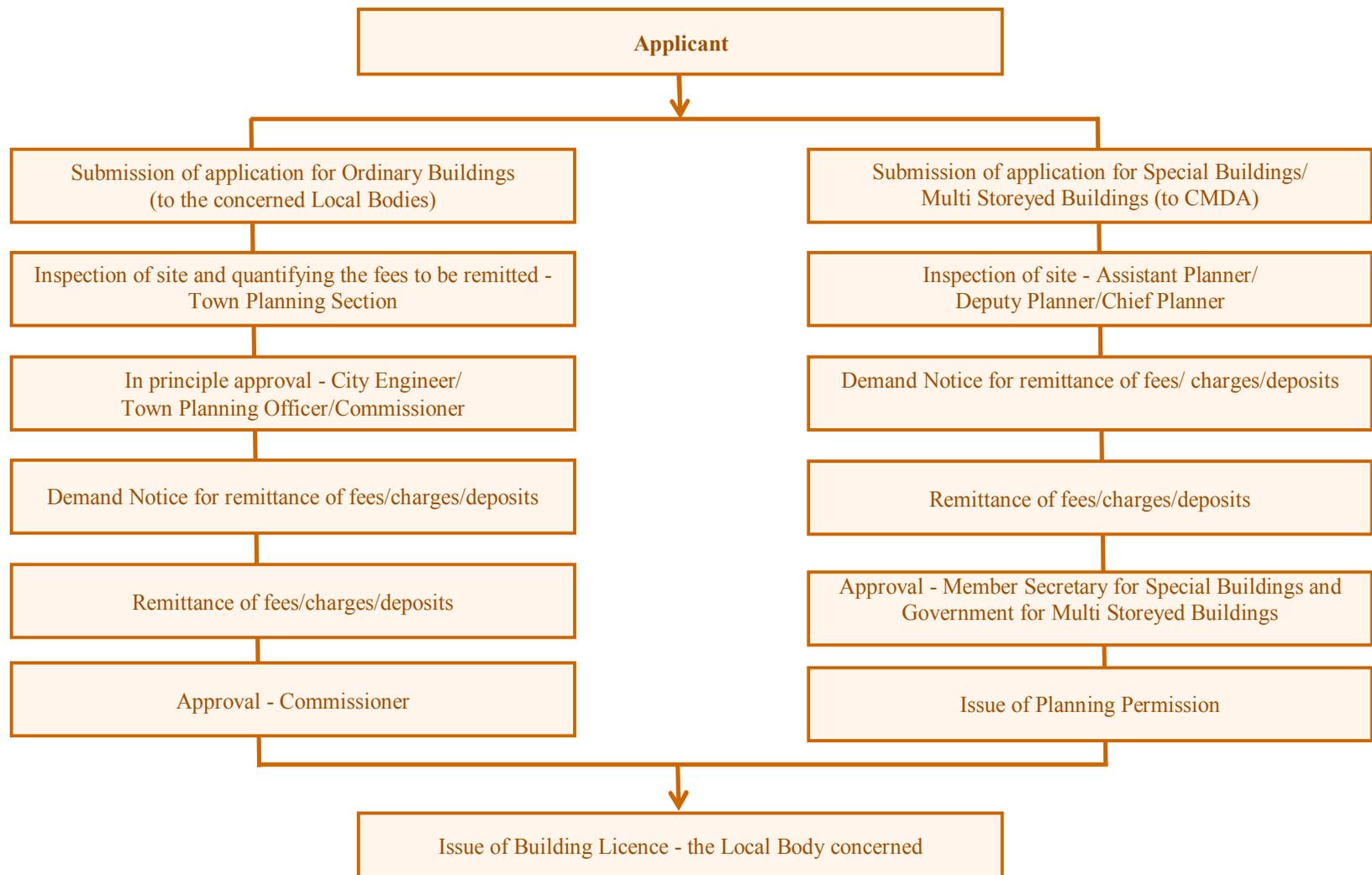
(Reference Paragraph 2.3.9.2 (iv); Page 109)

Non-tax arrears in the test-checked municipalities

Sl. No.	Name of the Municipality	Period	Amount (₹ in lakh)
1	Anakaputhur	2017-18	2.42
2	Arakkonam	2015-16 to 2017-18	9.57
3	Arcot	2015-16 to 2017-18	17.97
4	Bhavani	2016-17 to 2017-18	1.35
5	Coonoor	2015-16 to 2017-18	5.97
6	Gobichettipalayam	2016-17 to 2017-18	3.32
7	Karaikudi	2013-14 to 2017-18	351.47
8	Kumbakonam	2013-14 to 2017-18	158.41
9	Mannargudi	2014-15 to 2017-18	11.12
10	Pallavapuram	2015-16 to 2017-18	20.32
11	Thirumangalam	2013-14 to 2017-18	5.78
12	Thiruvarur	2013-14 to 2017-18	22.20
13	Tirupathur	2014-15 to 2017-18	100.78
14	Udhagamandalam	2013-14 to 2017-18	2,073.56
15	Walajapet	2015-16 to 2017-18	9.05
	Total		2,793.29 or 27.93 crore

Appendix 2.19
(Reference Paragraph 2.4.1; Page 112)

Statement showing the workflow of planning permission



Appendix 2.20

(Reference Paragraph 2.4.6.1; Page 115)

Property Tax assessment details

Sl. No.	Name of the local body	Number of floors	Number of buildings with 3 to 5 floors assessed for Property Tax	Number of buildings out of Col.(4) assessed for Property Tax without planning permission from CMDA	Percentage (5)/(4)*100
(1)	(2)	(3)	(4)	(5)	(6)
1	GCC				
	Zone V	3,4 and 5	704	640 buildings in 360 streets	91
	Zone X	3,4 and 5	642	325 buildings in 243 streets	51
	Zone XI	3,4 and 5	607	433 buildings in 301 streets	71
	Zone XV	3,4 and 5	484	331 buildings in 178 streets	68
	Total			2,437	1,729 buildings in 1,082 streets
2	Pallavapuram Municipality	3,4 and 5	188	156 buildings in 22 streets	83
3	Poonamallee Municipality	4 and 5	10	8 buildings in 6 streets	80
	Total		198	164 buildings in 28 streets	

CMDA-Chennai Metropolitan Development Authority;
GCC - Greater Chennai Corporation

Appendix 2.21

(Reference Paragraph 2.4.6.2; Page 116)

Violations in planning permissions issued by local bodies

Sl. No.	Name of the test-checked local body	Number of planning permissions for ordinary buildings		
		Test-checked	with violations	
			Floor area exceeding 300 sq.m.	Floor area exceeding permissible limit in second floor
1	Zone V of GCC	161	21	0
2	Zone X of GCC	278	14	9
3	Zone XI of GCC	267	24	16
4	Zone XV of GCC	208	34	12
5	Pallavapuram Municipality	341	18	57
6	Poonamallee Municipality	67	0	2
7	Madambakkam Town Panchayat	150	18	30
8	Perungalathur Town Panchayat	100	9	12
9	Thirunindravur Town Panchayat	67	1	0
10	Puzhal Panchayat Union	21	0	0
11	St Thomas Mount Panchayat Union	856	63	93
12	Tiruvallur Panchayat Union	19	2	0
	Total	2,535	204	231

GCC - Greater Chennai Corporation

Appendix 2.22

(Reference Paragraphs 2.4.7.1 and 2.4.7.2; Pages 118 and 119)

**Collection of and disbursement of Development Charges and Open Space Reservation Charges
in Chennai Metropolitan Area during 2013-18**

(₹ in crore)

Category of local bodies	Development Charges				Open Space Reservation Charges			
	Collected	To be released	Released	Balance	Collected	To be released	Released	Balance
Greater Chennai Corporation	50.61	37.96	30.65	7.31	333.42	250.06	234.50	15.56
Municipalities	7.22	5.42	3.37	2.05	70.60	52.95	31.57	21.38
Town Panchayats	2.68	2.01	0.60	1.41	22.03	16.52	4.49	12.03
Panchayat Unions	*4.08	3.05	0	3.05	*58.87	44.15	0	44.15
Total	64.59	48.44	34.62	13.82	484.92	363.68	270.56	93.12

* Amount collected for the period 2016-18 not furnished by CMDA

Appendix 2.23

(Reference Paragraph 2.4.7.2 (i); Page 119)

Collection of OSR charges in lieu of provision of OSR land

Sl. No.	Planning permission number and date	Type of building	Frontage (in metre)	Total extent of land	Extent of OSR land for which OSR charges collected	OSR charges collected
					(in sq.m.)	(₹ in crore)
1	7806 - 07/02/2013	SB	79.52	4,628.58	367.56	0.38
2	7198 - 21/06/2013	MSB	64.40	4,085.84	258.00	2.78
3	8110 -16/08/2013	MSB	91.00	9,769.00	677.00	1.46
4	8390 -18/11/2013	SB	102.95	5,178.52	125.00	0.20
5	8141 - 31/12/2013	MSB	85.60	9,984.57	698.46	6.45
6	8181 - 29/10/2014	MSB	81.30	5,638.18	263.82	1.28
7	9122 - 13/05/2015	SB	72.60	8,046.79	507.00	2.18
8	9024 - 10/08/2015	MSB	62.10	7,530.00	453.00	1.95
9	9061 - 11/03/2016	MSB	55.21	5,915.74	291.74	1.82
10	9071- 10/05/2016	MSB	46.65	5,320.34	532.03	2.00
11	9077 - 26/05/2016	MSB	57.90	5,709.55	264.73	5.70
12	11118 - 08/12/2016	MSB	83.20	8,465.12	846.51	3.19
13	11333 - 24/03/2017	SB	42.91	4,183.87	119.38	2.06
Total						31.45

OSR - Open Space Reservation; SB - Special building; MSB - Multi-storeyed building

Appendix 2.24

(Reference Paragraph 2.4.7.2 (iii); Page 120)

**Non-transfer of gift deeds of OSR land to local bodies in
test-checked planning permissions**

Sl. No.	Planning Permission Number and date	Plot Area	Extent of OSR land	Date of gift deed
		(in sq. m.)		
1	8624 - 14/02/2014	11,850.94	1,162.57	02/01/2014
2	8169 - 29/05/2014	14,665.07	1,490.16	10/04/2014
3	8173 - 12/06/2014	30,604.55	3,098.86	02/05/2014
4	9244 - 09/09/2015	24,389.46	2,460.00	03/08/2015
5	9413 - 19/11/2015	22,014.72	1,869.85	25/05/2015
6	9433 - 22/12/2015	22,520.44	2,026.45	14/10/2015
7	9584 - 06/07/2016	4,728.84	473.60	07/03/2016
8	11203 - 18/11/2016	1,36,663.50	12,724.42	05/11/2015
9	11297 - 20/02/2017	46,050.00	4,810.63	10/01/2017
10	11326 - 18/03/2017	19,296.39	1,945.71	06/01/2017
11	11622 - 06/10/2017	22,024.00	2,231.51	28/08/2017
12	11342 - 03/04/2017	43,228.59	4,987.57	25/01/2017
13	11472 - 11/08/2017	45,827.54	4,281.50	15/06/3017
14	11606 - 22/09/2017	14,961.23	2,314.23	28/07/2017

OSR - Open Space Reservation

Appendix 2.25

(Reference Paragraph 2.4.8; Page 120)

Details of Floor Space Index and Premium Floor Space Index
for various types of buildings

Type of building and DR provision	Category	Floor Space Index	Premium Floor Space Index DR 36		
			At 20 per cent for road width of 9 m to less than 12 m	At 30 per cent for road width of 12 m to less than 18 m	At 40 per cent for road width of 18 m and above
Ordinary building DR 25 (1) E	-	1.50	-	-	-
Special building DR 26 (Table-A)	-	1.50	1.80	1.95	2.10
Group Development DR 27 (3) D	-	1.50	1.80	1.95	2.10
MSB for Residential building DR 28 (2) D	I (a)	1.50	1.80	1.95	2.10
	I (b)	1.75	2.10	2.27	2.45
	II and III	2.50	3.00	3.25	3.50
		2.25	2.70	2.92	3.15
	2.00	2.40	2.60	2.80	
MSB Other Developments DR 28 (2) D	I (a)	1.50	1.80	1.95	2.10
	I (b)	1.75	2.10	2.27	2.45
	II and III	2.50	3.00	3.25	3.50
		2.25	2.70	2.92	3.15
		2.00	2.40	2.60	2.80

DR - Development Regulations; MSB - Multi-storeyed building

Appendix 2.26

(Reference: Paragraphs 2.4.8(i)(a), 2.4.8(i)(b), 2.4.8(ii)(a), 2.4.8(ii)(b), 2.4.8(ii)(c) and 2.4.8(ii)(d); Pages 122, 123, 124 and 125)

Incorrect assessment of Floor Space Index

Sl.No.	Planning Permit number and date	Excess FSI*	Proportionate land for excess FSI** (in sq.ft)	Guideline value per sq.ft (in ₹)	Value of proportionate land Col.4 x Col.5 (₹ in crore)
(1)	(2)	(3)	(4)	(5)	(6)
1	7200 - 28/06/2013	0.60	83,070.01	2,750	22.84
2	8121 - 26/09/2013	0.06	14,508.15	1,500	2.18
3	9020 - 10/07/2015	0.15	38,122.64	2,000	7.62
4	9413 - 20/11/2015	0.10	14,730.43	2,200	3.24
5	9094 - 30/08/2016	0.10	23,132.14	6,500	15.04
6	9097 - 09/09/2016	0.29	40,059.18	4,000	16.02
Total					66.94

FSI - Floor Space Index; Sq.ft - Square foot

* Excess FSI = FSI to be adopted - Adopted FSI

** Proportionate Land = [Plot area in sq.m.(excluding gifted portion) x Excess FSI]/ Normal FSI x Conversion factor of 10.764

Appendix 2.27

(Reference Paragraph 2.4.9.1; Page 126)

Inadequate parking facilities

Sl. No.	Planning Permit number and date	Type of building	Building area	Parking required		Parking provided		Shortage in provision of parking	
			FSI Area	Car	Two wheeler	Car	Two wheeler	Car	Two wheeler
			(in sq.m.)	(in numbers)					
1	7804 08/02/2013	SB-Commercial	1,519.52	33	33	22	68	11	0
2	7849 04/03/2013	SB-Residential	4,282.17	41	25	20	92	21	0
3	7198 21/06/2013	MSB -Commercial	12,398.19	247	247	201	217	46	30
4	7199 10/07/2013	MSB-Commercial/ Residential	26,535.29	459	372	394	518	65	0
5	8115 29/08/2013	MSB- Information Technology	1,60,674.41	3,214	6,427	2,702	5,738	512	689
6	8137 27/12/2013	MSB -Commercial	4,791.32	53	211	42	161	11	50
7	8141 31/12/2013	MSB- Commercial/ Residential	28,262.81	562	555	437	437	125	118
8	8182 05/11/2014	MSB- Information Technology	1,58,143.91	3,124	6,300	2,414	4,614	710	1,686
9	8183 15/11/2014	MSB- Information Technology	7,267.54	145	291	110	220	35	71
10	9011 15/04/2015	MSB-Office	8,386.18	91	368	70	283	21	85
11	9061 11/03/2016	MSB- Commercial	15,201.36	303	303	249	622	54	0
12	9536 02/05/2016	SB -Commercial	7,324.98	79	322	61	244	18	78
13	9622 26/09/2016	SB -Commercial	4,080.05	82	164	68	135	14	29
14	11132 20/02/2017	MSB- Commercial/ Residential	1,78,627.84	3,046	2,280	2,483	1,798	563	482
15	11138 17/03/2017	MSB- Hospital	11,936.77	159	159	120	121	39	38
16	11333 24/03/2017	SB -Office/ Commercial	6,206.50	198	206	108	141	90	65
17	11148 12/04/2017	MSB- Information Technology	82,887.09	1,661	3,323	1,255	2,530	406	793
18	11151 11/05/2017	MSB-Commercial/ Residential	38,245.55	408	398	385	366	23	32
Total				13,905	21,251	11,141	17,005	2,764	4,246

FSI - Floor Space Index; SB - Special building; MSB - Multi-storeyed building

Note: Total of two wheeler parking required and provided was calculated where there was shortfall.

Appendix 2.28

(Reference Paragraph 2.4.10.2; Page 129)

Delay in conduct of site visit and issue of building licences by Greater Chennai Corporation

Delay in conduct of site visit	Zone V		Zone X		Zone XI		Zone XV		Total number of applications
	Applications (In numbers)	Delay in issue of building licence	Applications (In numbers)	Delay in issue of building licence	Applications (In numbers)	Delay in issue of building licence	Applications (In numbers)	Delay in issue of building licence	
1 to 15 days	432	21 to 438 days	489	18 to 558 days	342	18 to 365 days	368	16 to 620 days	1,631
16 to 30 days	174	36 to 358 days	60	32 to 278 days	52	31 to 264 days	70	35 to 190 days	356
31 to 60 days	112	47 to 454 days	19	74 to 147 days	39	55 to 246 days	26	49 to 344 days	196
61 to 90 days	16	94 to 247 days	7	101 to 153 days	4	131 to 217 days	9	101 to 211 days	36
91 to 339 days	9	135 to 322 days	3	155 to 385 days	Nil	Nil	4	132 to 247 days	16
Total	743		578		437		477		2,235

Appendix 2.29

(Reference Paragraph 2.4.10.3; Page 130)

Environment Clearance obtained after issue of Planning Permission

Sl. No.	Planning Permit number	Date of Planning Permit approval	Date of application for Environment Clearance	Date of issue of Environment Clearance	Planning permits issued before Environment Clearance (Number of days)
1	7171	24/01/2013	07/06/2013	01/06/2018	1,954
2	7176	18/02/2013	04/02/2013	01/06/2013	103
3	7834	25/02/2013	17/07/2012	01/04/2013	35
4	7178	01/03/2013	05/04/2013	01/06/2013	92
5	7183	14/03/2013	07/08/2013	09/04/2014	391
6	7918	08/05/2013	29/09/2011	01/07/2013	54
7	7950	31/05/2013	13/06/2014	30/03/2015	668
8	7200	26/06/2013	01/03/2013	01/09/2013	159
9	8235	19/07/2013	07/06/2013	06/02/2014	202
10	8256	05/08/2013	26/07/2013	01/02/2016	910
11	8265	16/08/2013	29/10/2013	21/04/2014	248
12	8279	26/08/2013	06/01/2014	01/07/2017	1,405
13	8118	03/09/2013	10/09/2012	06/02/2014	156
14	8122	04/10/2013	12/03/2013	09/04/2014	187
15	8131	06/12/2013	02/01/2014	10/04/2014	125
16	8133	16/12/2013	10/12/2013	30/04/2014	135
17	8558	20/12/2013	03/09/2013	01/04/2015	467
18	8146	13/02/2014	29/10/2013	28/11/2014	288
19	8152	07/03/2014	25/11/2013	18/03/2014	11
20	8657	11/03/2014	22/01/2014	20/03/2014	9
21	8154	12/03/2014	02/01/2014	21/04/2014	40
22	8717	29/04/2014	28/01/2014	30/04/2014	1
23	8741	19/05/2014	26/02/2014	02/06/2014	14
24	8762	28/05/2014	20/03/2014	18/12/2014	204
25	8443	09/12/2014	13/11/2014	23/12/2014	14
26	9025	06/01/2015	10/12/2014	01/04/2015	85
27	8935	18/02/2015	28/07/2014	18/03/2015	28
28	8975	24/03/2015	09/01/2015	01/04/2015	8
29	9193	17/07/2015	12/03/2015	02/11/2015	108
30	8522	12/04/2016	18/02/2015	01/08/2016	111
31	11392	11/05/2017	09/06/2017	01/07/2017	51

Appendix 2.30

(Reference Paragraph 2.4.11.5; Page 134)

Construction commenced before issue of Planning Permission

Sl. No.	Planning Permit number and date	Type of building	Total built up area in sq.m.	Number of dwelling units in case of residential building	Stage of construction as on the date of issue of Planning Permission
1	7190 09/05/2013	MSB residential	2,58,810	7,440	Structurally completed
2	8160 03/04/2014	MSB Hospital/ Institutional	44,252.27	--	Additional construction - partially completed
3	8182 03/11/2014	MSB/Information Technology	2,66,030.61	--	Structurally completed
4	8891 31/12/2014	SB residential	1,863.12	12	Structurally completed
5	9033 01/10/2015	MSB residential	7,96,234.14	20,274	Structurally completed
6	9297 29/10/2015	MSB residential	2,02,600.00	8,048	Construction of blocks in various stages
7	9087 29/07/2016	MSB residential	3,525.67	16	Structurally completed
8	9094 30/08/2016	MSB residential	1,89,763.85	1,188	Two blocks structurally completed
9	11153 22/06/2017	MSB residential	1,45,855.32	1,500	Completed and ready for occupation

SB - Special building; MSB - Multi-storeyed building

Appendix 3.1
(Reference: Paragraph 3.1.1; Page 140)

Selected Implementing Units

District	Municipality	Town Panchayats	Panchayat Unions	Village Panchayats
Dharmapuri	Dharmapuri	Harur	Harur	Achalvadi
		Kadathur		Kongavembu
		Pennagaram		Chellampatti
				Veppampatti
			Pappireddipatti	Manjavadi
				Pattukonampatti
Krishnagiri	-	Kelamangalam	Bargur	Anchoor
		Uthangarai		Balinayanapalli
				Guttur
				Sigaralapalli
			Uthangarai	Chandrapatti
				Gengabirampatti
				Karumandapathi
				Thiruvanapatti
			Veppanapalli	Chennasandiram
				Samanthamalai
	Sigaramaganapalli			

Appendix 3.2

(Reference: Paragraph 3.1.3.1; Page 142)

Supply of Hogenakkal water to local bodies served by pumping mains and gravity mains

Sl. No.	Name of the Local body	Population as per 2011 census	Demand quantity for 2011 census (in mld)	Supply (in mld)			Average quantity supplied during 2015-18	Shortfall/ excess during 2015-18 (mld)	Shortfall/ excess during 2015-18 (in per cent)
				2015-16	2016-17	2017-18			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (cols. 8 - 4)	(10)
Pumping mains									
1	Krishnagiri Municipality	72,000	2.22	3.87	3.11	2.69	3.22	1.00	45.05
2	Hosur Municipality	2,44,518	16.23	9.27	9.50	9.19	9.32	(-) 6.91	(-) 42.58
3	Karimangalam TP	15,635	0.49	0.43	0.39	0.33	0.38	(-) 0.11	(-) 22.45
4	Marandahalli TP	12,811	0.57	0.52	0.52	0.51	0.52	(-) 0.05	(-) 8.77
5	Palacode TP	20,645	0.53	0.62	0.67	0.63	0.64	0.11	20.75
6	Bargur TP	16,625	0.83	0.18	0.50	0.55	0.41	(-) 0.42	(-) 50.60
7	Kaveripattinam TP	15,000	0.34	1.08	0.59	0.42	0.70	0.36	105.88
8	Nagojanahalli TP	9,804	0.37	0.41	0.39	0.31	0.37	0.00	0
9	Kelamangalam TP	13,294	0.64	0.85	0.88	0.70	0.81	0.17	26.56
10	Denkanikottai TP	25,000	1.01	0.70	0.69	0.59	0.66	(-) 0.35	(-) 34.65
11	Palacode PU	1,56,117	5.29	4.97	5.15	4.48	4.87	(-) 0.42	(-) 7.94
12	Karimangalam PU	1,43,451	4.87	4.35	4.80	4.39	4.51	(-) 0.36	(-) 7.39
13	Bargur PU	1,91,483	6.51	1.78	5.22	5.37	4.12	(-) 2.39	(-) 36.71
14	Krishnagiri PU	1,54,441	5.52	2.69	3.78	3.43	3.30	(-) 2.22	(-) 40.22
15	Kaveripattinam PU	1,69,252	5.66	6.66	5.99	5.10	5.92	0.26	4.59
16	Veppanapalli PU	94,483	3.29	2.81	3.68	2.91	3.13	(-) 0.16	(-) 4.86
17	Kelamangalam PU	1,28,884	4.45	3.60	3.30	2.72	3.21	(-) 1.24	(-) 27.87
18	Thally PU	1,81,017	6.09	4.77	4.48	3.95	4.40	(-) 1.69	(-) 27.75
19	Shoolagiri PU	1,77,900	5.99	3.29	3.80	3.79	3.63	(-) 2.36	(-) 39.40
20	Hosur PU	1,16,388	3.51	2.86	3.01	2.58	2.82	(-) 0.69	(-) 19.66
Total			74.41				56.94	(-) 17.47	(-) 23.48

Sl. No.	Name of the Local body	Population as per 2011 census	Demand quantity for 2011 census (in mld)	Supply (in mld)			Average quantity supplied during 2015-18	Shortfall/ excess during 2015-18 (mld)	Shortfall/ excess during 2015-18 (in per cent)
				2015-16	2016-17	2017-18			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (cols. 8 - 4)	(10)
Gravity mains									
1	Dharmapuri Municipality	68,595	4.98	5.05	4.99	3.63	4.56	(-) 0.42	(-) 8.43
2	B. Mallapuram TP	12,711	0.32	0.36	0.37	0.33	0.35	0.03	9.37
3	Harur TP	25,640	1.13	0.96	1.02	0.95	0.98	(-) 0.15	(-) 13.27
4	Kadathur TP	11,380	0.48	0.50	0.49	0.42	0.47	(-) 0.01	(-) 2.08
5	Kambainallur TP	12,586	0.41	0.43	0.43	0.40	0.42	0.01	2.44
6	Pappireddipatti TP	9,374	0.23	0.26	0.28	0.22	0.25	0.02	8.7
7	Pennagaram TP	16,892	0.78	0.65	0.66	0.63	0.65	(-) 0.13	(-) 16.67
8	Pappaparatti TP	12,555	0.58	0.55	0.62	0.59	0.59	0.01	1.72
9	Uthangarai TP	18,468	0.79	0.87	0.81	0.80	0.83	0.04	5.06
10	Morappur PU	1,51,495	5.14	5.12	5.35	4.70	5.06	(-) 0.08	(-) 1.56
11	Harur PU	1,65,291	5.59	4.75	5.25	5.00	5.00	(-) 0.59	(-) 10.55
12	Pappireddipatti PU	96,448	3.30	2.73	2.57	2.31	2.54	(-) 0.76	(-) 23.03
13	Pennagaram PU	2,05,199	7.07	5.89	6.64	6.87	6.47	(-) 0.60	(-) 8.49
14	Nallampalli PU	1,90,535	6.38	6.69	6.68	5.83	6.40	0.02	0.31
15	Dharmapuri PU	1,81,994	6.40	6.86	5.61	5.23	5.90	(-) 0.50	(-) 7.81
16	Mathur PU	1,07,520	3.65	4.17	3.97	3.83	3.99	0.34	9.32
17	Uthangarai PU	1,44,375	4.90	4.80	4.96	4.80	4.85	(-) 0.05	(-) 1.02
	Total		52.13				49.31	(-) 2.82	(-) 5.41

Appendix 3.3

(Reference: Paragraph 3.1.5.1; Page 148)

Statement showing the excess payment due to adoption of new rates for additional quantities

Description of pipes (Size in mm)		Agreement quantity (m)	Executed quantity (m)	Difference in executed quantity (In per cent) Excess (+) Shortfall (-)	Quantity executed at higher rates (m)	Higher rate adopted per metre (In ₹)	Agreement rate to be adopted per metre after discount of 10.835 per cent (In ₹)	Difference in rate per metre (In ₹)	In-admissible payment (In ₹)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) (7) - (8)	(10) (6) x (9)
DI K7	450	15,930	15,931.43	(+) 0.009	212	5,328	3,815.37	1,512.63	3,20,677.56
DI K7	250	12,880	12,854.52	(-) 0.2	750	2,443	1,719.99	723.01	5,42,257.50
DI K7	150	65,533	64,901.09	(-) 1	354	1,436	1,028.07	407.93	1,44,407.22
DI K7	100	84,155	81,453.34	(-) 3.21	11,253	971	694.60	276.40	31,10,329.20
DI K9	350	17,065	17,064.99	(-) 0.00006	1,015	4,514	3,209.94	1,304.06	13,23,620.90
DI K9	300	32,590	32,590.25	(+) 0.0008	680	3,733	2,585.78	1,147.22	7,80,109.60
DI K9	250	49,360	49,363.77	(+) 0.008	315	2,952	2,040.99	911.01	2,86,968.15
DI K9	150	53,556	54,466.86	(-) 1.7	1,110	1,624	1,200.16	423.84	4,70,462.40
HDPE	280	15,670	15,670.61	(+) 0.004	666	1,850	987.06	862.94	5,74,718.04
HDPE	125	5,260	5,205.97	(-) 1.03	1,546	440	193.49	246.51	3,81,104.46
HDPE	63	16,11,842	16,53,446.00	(+) 2.58	1,09,457	104	49.93	54.07	59,18,339.99
Total									1,38,52,995.02

Appendix 3.4

(Reference: Paragraph 3.1.5.2; Page 148)

Statement showing the avoidable expenditure due to provision of separate item for jointing DI pipes

Package No.	Item	Jointing			Conveying and laying			Total (₹)	Rate quoted in feeder mains/ transmission mains for conveying laying and jointing per metre (₹)	Payment to be made as per rate adopted for feeder mains (₹)	Avoidable payment (₹)
		Quantity	Rate per joint (₹)	Amount (₹)	Quantity (m)	Rate (₹)	Amount (₹)				
(1)	(2)	(3)	(4)	(5) (3) x (4)	(6)	(7)	(8) (6) x (7)	(9) (5) + (8)	(10)	(11)	(12) (9) - (11)
III	DI 100 mm	36,599.00	27.00	9,88,173.00	1,93,563.51	14.00	27,09,889.14	36,98,062.14	14.00	27,09,889.14	9,88,173.00
	DI 150 mm	5,978.00	35.00	2,09,230.00	35,531.50	22.00	7,81,693.00	9,90,923.00	22.00	7,81,693.00	2,09,230.00
	DI 200 mm	4,791.00	46.00	2,20,386.00	26,766.95	23.00	6,15,639.85	8,36,025.85	22.00	5,88,872.90	2,47,152.95
	DI 250 mm	4,288.00	64.00	2,74,432.00	27,034.05	39.00	10,54,327.95	13,28,759.95	41.00	11,08,396.05	2,20,363.90
	DI 300 mm	1,061.00	77.00	81,697.00	5,642.50	41.00	2,31,342.50	3,13,039.50	41.00	2,31,342.50	81,697.00
	DI 350 mm	886.00	84.00	74,424.00	4,904.20	44.00	2,15,784.80	2,90,208.80	41.00	2,01,072.20	89,136.60
	DI 400 mm	91.00	93.00	8,463.00	459.43	48.00	22,052.64	30,515.64	48.00	22,052.64	8,463.00
	DI 450 mm	1,683.00	104.00	1,75,032.00	10,643.35	52.00	5,53,454.20	7,28,486.20	52.00	5,53,454.20	1,75,032.00
IV	DI 100 mm	57,062.00	106.00	60,48,572.00	3,04,836.31	18.00	54,87,053.58	115,35,625.58	29.00	88,40,252.99	26,95,372.59
	DI 150 mm	30,528.00	133.00	40,60,224.00	1,66,018.44	22.00	36,52,405.68	77,12,629.68	44.00	73,04,811.36	4,07,818.32
	DI 200 mm	12,494.00	167.00	20,86,498.00	67,354.36	28.00	18,85,922.08	39,72,420.08	58.00	39,06,552.88	65,867.20
	DI 250 mm	11,878.00	226.00	26,84,428.00	60,287.77	38.00	22,90,935.26	49,75,363.26	73.00	44,01,007.21	5,74,356.05
	DI 300 mm	2,677.00	260.00	6,96,020.00	15,017.35	43.00	6,45,746.05	13,41,766.05	87.00	13,06,509.45	35,256.60
	DI 350 mm	8,839.00	306.00	27,04,734.00	42,203.62	51.00	21,52,384.62	48,57,118.62	102.00	43,04,769.24	5,52,349.38
	DI 400 mm	4,624.00	369.00	17,06,256.00	26,111.34	62.00	16,18,903.08	33,25,159.08	116.00	30,28,915.44	2,96,243.64
	DI 450 mm	2,690.00	426.00	11,45,940.00	14,813.43	71.00	10,51,753.53	21,97,693.53	131.00	19,40,559.33	2,57,134.20
	DI 500 mm	2,150.00	495.00	10,64,250.00	12,403.69	82.00	10,17,102.58	20,81,352.58	145.00	17,98,535.05	2,82,817.53
V	DI 100 mm	43,449.00	27.00	11,73,123.00	2,40,002.50	9.00	21,60,022.50	33,33,145.50	9.00	21,60,022.50	11,73,123.00
	DI 150 mm	22,393.00	35.00	7,83,755.00	1,17,510.18	14.00	16,45,142.52	24,28,897.52	14.00	16,45,142.52	7,83,755.00
	DI 200 mm	10,292.20	46.00	4,73,441.20	54,001.89	15.00	8,10,028.35	12,83,469.55	15.00	8,10,028.35	4,73,441.20
	DI 250 mm	10,655.00	64.00	6,81,920.00	60,510.84	39.00	23,59,922.76	30,41,842.76	39.00	23,59,922.76	6,81,920.00
	DI 300 mm	8,986.00	77.00	6,91,922.00	50,078.13	41.00	20,53,203.33	27,45,125.33	41.00	20,53,203.33	6,91,922.00
	DI 350 mm	2,806.00	84.00	2,35,704.00	17,086.95	44.00	7,51,825.80	9,87,529.80	44.00	7,51,825.80	2,35,704.00
	DI 400 mm	1,022.00	93.00	95,046.00	5,930.03	48.00	2,84,641.44	3,79,687.44	48.00	2,84,641.44	95,046.00
Total											113,21,375.16

Appendix 3.5

(Reference: Paragraph 3.2.1 (i); Page 153)

Details of blood samples tested using existing auto/
semi auto analysers in two sampled hospitals (Illustrative)

Sl. No.	Name of the hospital	Name of the equipment	Number of blood samples that can be tested in the equipment		Year	Maximum number of blood samples tested per day during the last 3 years	Capacity utilisation of the equipment during the last 3 years (in per cent)
			Per hour	Per day (2 shifts/ 16 hours) (Col. 4 x 16 hours)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Government Dharmapuri Medical College Hospital	Auto analyser	480	8,160	2015-16	1,530	18.75
		Semi auto analyser	30		2016-17	1,382	16.94
					2017-18	1,956	23.97
2	Government Mohan Kumaramangalam Medical College Hospital, Salem	Auto analyser (2 numbers)	300 (+) 150	8,000	2015-16	2,436	30.45
		Semi auto analyser	50		2016-17	2,548	31.85
					2017-18	3,352	41.90

Appendix 3.6

(Reference: Paragraph 3.2.3; Page 159)

Avoidable extra expenditure on purchase of *Rub N Run oil* and *Liver Tonic*

Year	No. of bottles purchased	Purchase price per bottle (100 ml)	Cost of equivalent medicine per bottle (100 ml) (50 ml x2)*	Difference	Amount
<i>Rub N Run oil</i>					
2013-14	60,000	195	64	131	78,60,000
2014-15	9,500	185	64	121	11,49,500
2015-16	50,600	185	64	121	61,22,600
2016-17	7,500	185	64	121	9,07,500
Total					1,60,39,600

* cost of 50 ml is ₹ 32

Year	No. of bottles purchased	Purchase price per bottle (300 ml)	Cost of equivalent medicine per bottle (300 ml) (100 ml x 3)**	Difference	Amount
<i>Liver Tonic</i>					
2013-14	55,000	175	48.33	126.67	69,66,850
2015-16	22,000	175	48.33	126.67	27,86,740
2016-17	7,500	175	48.33	126.67	9,50,025
Total					1,07,03,615
Grand Total					2,67,43,215

** Cost of 100 ml is ₹ 16.11

Appendix 3.7

(Reference: Paragraph 3.3.1.1; Page 169)

Details of sampled districts and taluks

Sl. No.	Name of the selected district	Name of the selected taluk			
1	Coimbatore	Mettupalayam	Madukarai	Coimbatore (South)	Valparai
2	Dharmapuri	Palacode	Karimangalam	Pennagaram	Dharmapuri
3	Kancheepuram	Kancheepuram	Sholinganallur	Uthiramerur	Cheyur
4	Kanyakumari	Thovalai	Agastheesvaram	Vilavancode	Kalkulam
5	Krishnagiri	Hosur	Pochampalli	Bargur	Krishnagiri
6	Madurai	Madurai (West)	Vadipatti	Madurai (South)	Madurai (North)
7	Perambalur	Alathur	Perambalur	Kunnam	Veppanthattai
8	Sivagangai	Elayankudi	Thiruppathur	Sivagangai	Karaikudi
9	Thanjavur	Orathanadu	Thiruvaiyaru	Kumbakonam	Papanasam
10	The Nilgiris	Coonoor	Kundha	Gudalur	Kothagiri
11	Theni	Andipatti	Periakulam	Bodinayakkanur	Theni
12	Tiruchirappalli	Manapparai	Manachanallur	Tiruchirappalli (West)	Tiruchirappalli (East)
13	Tiruvannamalai	Kilpennathur	Polur	Tiruvannamalai	Vembakkam
14	Tirunelveli	Tirunelveli	Tenkasi	Sengottai	Palayamkottai
15	Tiruvallur	Uthukottai	Ambattur	Tiruvallur	Avadi
16	Villupuram	Vikravandi	Gingee	Kallakurichi	Tindivanam

Appendix 3.8

(Reference: Paragraph 3.3.1.2 (ii); Page 172)

Details of avoidable extra expenditure on Pre-Delivery Inspection (PDI) charges

Sl. No.	Phase	Number of FMGs procured	Name of the PDI agency	PDI charges paid (₹)	Unit rate of PDI charges (₹) (Col. 5/Col. 3)	PDI charges payable adopting unit rate of Phases IV & V (₹)	Avoidable extra expenditure Col. 5 (-) Col. 7 (₹)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	I	2,85,00,000	Central Institute of Plastics Engineering and Technology, Chennai	8,95,66,806	3.143	61,84,500	8,33,82,306
2	II						
3	III						
4	IV	2,46,94,114	Bharat Test House, New Delhi	53,66,635	0.217	53,66,635	..
5	V						
	Total	5,31,94,114		9,49,33,441		1,15,51,135	8,33,82,306

Appendix 3.9

(Reference: Paragraph 3.3.1.3 (i); Page 172)

Details of loss due to storage of FMGs in uninsured godowns

Sl. No.	Name of the District	Appliances damaged	Number of appliances damaged	Amount of claim not admitted by the insurance company (In ₹)	Reason for non-admission of claim by the insurance company
1	Chennai	Fan	29,376	10,03,30,929	The claim was rejected as the claim location was not insured.
		Mixie	21,968		
		Grinder	24,392		
2	Kancheepuram	Fan	1,355	74,33,860	Claim location was not insured.
		Mixie	871		
		Grinder	1,751		
3	Tiruvallur	Fan	3,100	2,65,17,467	The claim was rejected as the claim location was not insured.
		Mixie	4,961		
		Grinder	8,677		
4	Vellore	Fan	30	21,30,197	The claim was rejected as the claim location was not insured.
		Mixie	725		
		Grinder	625		
	Total		97,831	13,64,12,453	

Appendix 3.10
(Reference: Paragraph 3.3.1.3 (ii); Page 173)
Details of damaged and faulty FMGs in godowns

Sl. No.	District	Number of damaged/faulty FMGs			
		Fan	Induction Stove	Mixie	Grinder
1	Ariyalur	251	..	131	157
2	Chennai*	4,578	..	12,473	674
3	Coimbatore	3,605	..	1,926	2,895
4	Cuddalore	4,637	..	3,800	3,654
5	Erode	917	..	632	396
6	Kancheepuram*	5,920	..	2,576	3,690
7	Kanyakumari	1,681	..	1,514	865
8	Karur	200	..	33	7
9	Krishnagiri	313	..	156	131
10	Madurai	4,465	..	2,563	1,833
11	Namakkal	59	..	73	39
12	The Nilgiris	..	1,768	1,232	0
13	Perambalur	842	..	684	766
14	Pudukottai	0	..	0	238
15	Ramanathapuram	598	..	274	303
16	Salem	1,828	..	585	1,100
17	Sivagangai	154	..	33	68
18	Thanjavur	1,622	..	1,370	827
19	Theni	42	..	39	38
20	Tirunelveli	3,418	..	2,957	2,594
21	Tiruppur	2,020	..	865	722
22	Tiruvallur*	4,550	..	3,068	5,381
23	Tiruvarur	626	..	376	426
24	Tiruchirappalli	232	..	165	112
25	Tuticorin	586	..	268	301
26	Vellore*	1,462	..	155	252
27	Villupuram	86	..	0	0
28	Virudhunagar	728	..	812	444
	Total	45,420	1,768	38,760	27,913
	<i>Unit Price[#] (₹)</i>	<i>869.05</i>	<i>1,055.69</i>	<i>1,055.69</i>	<i>2,142.00</i>
	Value of damaged/faulty FMGs (₹)	3,94,72,251	18,66,460	4,09,18,544	5,97,89,646
	Grand Total				14,20,46,901 or ₹ 14.20 crore

* After adjusting for the number of FMGs damaged due to fire and flood

The least unit price among the five phases was adopted

Appendix 3.11

(Reference: Paragraph 3.4.1 (a); Page 183)

Short levy of Property Tax by Coimbatore City Municipal Corporation

Assessment No.	Area (in sq.ft.)	Period	PT per HY (₹ in lakh)			Total loss of revenue and short levy (₹ in lakh)
			Due	Levied	Short levy	
(1)	(2)	(3)	(4)	(5)	(6)	(7) Col (6) x Number of HYs
81240820	42,648	Loss of revenue				
		April 2005 to March 2008 (6 HYs)	1.79	1.62	0.17	1.02
		April 2008 to March 2009 (2 HYs)	1.97	1.79	0.18	0.36
		April 2009 to March 2012 (6 HYs)	7.70	1.79	5.91	35.46
		Short levy				
		April 2012 to September 2014 (5 HYs)	7.70	1.79	5.91	29.55
		October 2014 to March 2018 (7 HYs)	1.97	1.79	0.18	1.26
81241033	3,608	Loss of revenue				
		October 2007 to March 2009 (3 HYs)	0.15	0.13	0.02	0.06
		April 2009 to March 2012 (6 HYs)	0.65	0.13	0.52	3.12
		Short levy				
		April 2012 to September 2014 (5HYs)	0.65	0.13	0.52	2.60
		October 2014 to March 2018 (7 HYs)	0.15	0.13	0.02	0.14
Total (Loss of revenue: ₹ 40.02 lakh and Short levy: ₹ 33.55 lakh)					73.57	

HY : Half Year

Appendix 3.12

(Reference: Paragraph 3.4.1 (c); Page 185)

Short levy of Property Tax by Palani Municipality
for the period 2014-18

Sl. No.	Description	Property tax (in ₹)		
		To be levied	Levied	Short levy
Assessed area: 44,856 Sq.ft				
1	Annual Rental Value (ARV) Assessed area (x) three times of zonal rate (x) 12 months	20,99,261	11,30,371	9,68,890
2	Building Value (BV) ARV (-) land value (1/6 of ARV)	17,49,384	9,41,976	8,07,408
3	Value of Property (PV) BV (-) 10 per cent for maintenance	15,74,446	8,47,778	7,26,668
4	Annual Value (AV) Land value (+) PV	19,24,323	10,36,173	8,88,150
5	Property Tax per HY AV (x) 11.5 per cent	2,21,297	1,19,160	1,02,137
6	Education Tax (2.5 per cent on AV)	48,108	25,904	22,204
7	Library Cess (10 per cent of Property Tax)	22,130	11,916	10,214
8	Total tax on property per HY (Rows 5 + 6 + 7)	2,91,535	1,56,980	1,34,555
9	Property Tax for 8 HYs (2014-15 to 2017-18)	23,32,280	12,55,840	10,76,440

HY : Half Year

Glossary of abbreviations

Abbreviations	Full Form
AAGHIM	Anna Government Hospital of Indian Medicine
ACL	Anna Centenary Library
ACoP	Additional Commissioner of Police
ADGP	Additional Director General of Police
AERB	Atomic Energy Regulatory Board
AMC	Annual Maintenance Contract
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ARV	Annual Rental Value
ATNs	Action Taken Notes
AV	Annual Value
BPRD	Bureau of Police Research and Development
CAG	Comptroller and Auditor General of India
CCH	Central Council of Homeopathy
CCIM	Central Council of Indian Medicine
CED	Central Excise Duty
CFC	Citizen Facilitation Centres
Ch.MA	Chennai Metropolitan Area
CIPET	Central Institute of Plastics Engineering and Technology
CLIO	Chief Librarian & Information Officer
CMA	Commissioner of Municipal Administration
CMC	Chengalpattu Medical College
CMDA	Chennai Metropolitan Development Authority
CoP	Commissioner of Police
CRA	Commissioner of Revenue Administration
CRIDP	Comprehensive Road Infrastructure Development Programme
CRZ	Coastal Regulatory Zone
CSR	Community Service Register
CSS	Closed Source Software
CWP	Citizen Web Portal
CWSS	combined water supply schemes
DC	Development Charges
DCB	Demand, Collection and Balance

Abbreviations	Full Form
DEAR	Department of Evaluation and Applied Research
DF&RS	Directorate of Fire and Rescue Services
DHQ	District Headquarters
DHQH	District Headquarters Hospitals
DI	Ductile Iron
DIMH	Directorate of Indian Medicine and Homeopathy
DL	Driving Licence
DLFA	Directorate of Local Fund Audit
DME	Director of Medical Education
DMRHS	Director of Medical and Rural Health Services
DSMO	District Siddha Medical Officers
DPC	Duties, Powers and Conditions of Services
DPL	Director of Public Libraries
DPO	District Police Office
DR	Development Regulations
DRSC	District Road Safety Committee
DSW	Director of Social Welfare
EARC	Emergency Accident Relief Centre
EC	Enforcement Cell
ECG	Electrocardiogram
EE	Executive Engineer
ELCOT	Electronics Corporation of Tamil Nadu Limited
EMR	Emergency Medical Response
ESI	Employees' State Insurance
EWS	Economically Weaker Section
FA	Financial Accounting
FIH	International Hockey Federation
FIRs	First Information Reports
FMG	Fans, Mixies and Grinders
FSI	Floor Space Index
GAMC	Government Ayurvedic Medical College
GCC	Greater Chennai Corporation
GH	Government Hospitals

Abbreviations	Full Form
GHMC	Government Homoeopathy Medical College
GMKMC	Government Mohan Kumaramangalam Medical College
GMKMCH	Government Mohan Kumaramangalam Medical College and Hospital
GoI	Government of India
GoTN	Government of Tamil Nadu
GRS	Grievance Redressal System
GSMC	Government Siddha Medical College
GST	Goods and Services Tax
GTMCH	Government Thanjavur Medical College Hospital
GUMC	Government Unani Medical College
HIG	High Income Group
HPTs	Highway Patrol Teams
HPV	Highway Patrol Vehicle
HWS	Hogenakkal Water Supply Scheme
H&UD	Housing and Urban Development
IBMS	Integrated Book Monitoring, Networking and Security System
IDC	Inter Departmental Committee
IDEA	Interactive Data Extraction and Analysis
IDT	Inter Departmental Team
IEC	Information, Education and Communication
IOCL	Indian Oil Corporation Limited
IP	Inpatient
IRC	Indian Road Congress
IRs	Inspection Reports
ISM	Indian Systems of Medicine
IIT	Indian Institute of Technology
ITMS	Integrated Traffic Management System
JICA	Japan International Co-operation Agency
KMCH	Kilpauk Medical College Hospital
LIG	Low Income Group
LPCD	Litres Per Capita per Day
MAWS	Municipal Administration and Water Supply

Abbreviations	Full Form
MC	Monitoring Committee
MCH	Medical College Hospital
MCI	Medical Council of India
MD	Managing Director
MIS	Management Information System
mg/l	milligram/litre
MLD	Million litres per day
MORTH	Ministry of Road Transport and Highways
MPW	Multi-Purpose Workers
MR	Miscellaneous Receipts
MRTS	Mass Rapid Transit System
MSBs	Multi-Storeyed Buildings
MT	Metric Tonne
MVI	Motor Vehicles Inspector
NABH	National Accreditation Board for Hospitals and Healthcare
NAM	National AYUSH Mission
NH	National Highway
NHAI	National Highways Authority of India
NIC	National Informatics Centre
NRHM	National Rural Health Mission
NSQ	Not of Standard Quality
O&M	Operation and Maintenance
OHMs	Object Hazard Markers
OHT	Over Head Tank
OP	Outpatient
OSR	Open Space Reservation
OSS	Open Source Software
PCE	Project Chief Engineer
PDI	pre-delivery inspection
PG	Post graduate
PHCs	Primary Health Centres
PIP	Project Implementation Plan
POCT	Point of Care Testing

Abbreviations	Full Form
PSU	Public Sector Undertaking
PT	Property Tax
PU	Panchayat Unions
PWD	Public Works Department
QC	Quality Control
R&D	Research and Development
RADMS	Road Accident Data Management System
RC	Registration Certificate
RDMA	Regional Directors of Municipal Administration
RFID	Radio-Frequency Identification
RFP	Request for Proposal
RRC	Running Rate Contract
RSA	Road Safety Audit
RSC	Road Safety Commissioner
RTA	Road Traffic Accident
RTO	Regional Transport Offices/Officers
SAAP	State Annual Action Plan
SBs	Special Buildings
SCRIB	State Crime Record Bureau
SDG	Sustainable Development Goals
SE, PMC	Superintending Engineer, Project Management Cell
SEIAA	State Level Environment Impact Assessment Authority
SH	State Highway
SMP	Second Master Plan
SPMU	State Project Managing Unit
sq.ft	square foot
sq.m	square metre
SRS	System Requirement Specification
SRSC	State Road Safety Council
STPC	State Traffic Planning Cell
SUC	Solid Waste Management User Charges
TAMPCOL	Tamil Nadu Medical Plant Farms & Herbal Medicine Corporation Limited

Abbreviations	Full Form
TCC	Trauma Care Centre
TNCDW	Tamil Nadu Corporation for Development of Women
TNCSC	Tamil Nadu Civil Supplies Corporation
TNeGA	Tamil Nadu e-Governance Agency
TNMSC	Tamil Nadu Medical Services Corporation
TNPHC	Tamil Nadu Police Housing Corporation
TNSDC	Tamil Nadu State Data Centre
TNSUDP	Tamil Nadu Sustainable Urban Development Project
TNTAR	Tamil Nadu Transparency in Tenders Act, 1998 and Rules 2000
TPs	Town Panchayats
TVC	Town Vending Committee
TWAD Board	Tamil Nadu Water Supply and Drainage Board
UG	Undergraduate
UGD	Under Ground Drainage
UO	Unit Office
ULBs	Urban Local Bodies
UTIS	Urban Tree Information System
VLT	Vacant Land Tax
YNLC	Yoga & Naturopathy Lifestyle Clinic
WB	World Bank
WHO	World Health Organisation
WS	Water Supply

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