

**"PLACED BEFORE THE
STATE LEGISLATURE ON 9 JUL 2018**

**Report of the
Comptroller and Auditor General of India
on
Economic Sector**

for the year ended March 2017

**Government of Tamil Nadu
Report No. 7 of the year 2017**

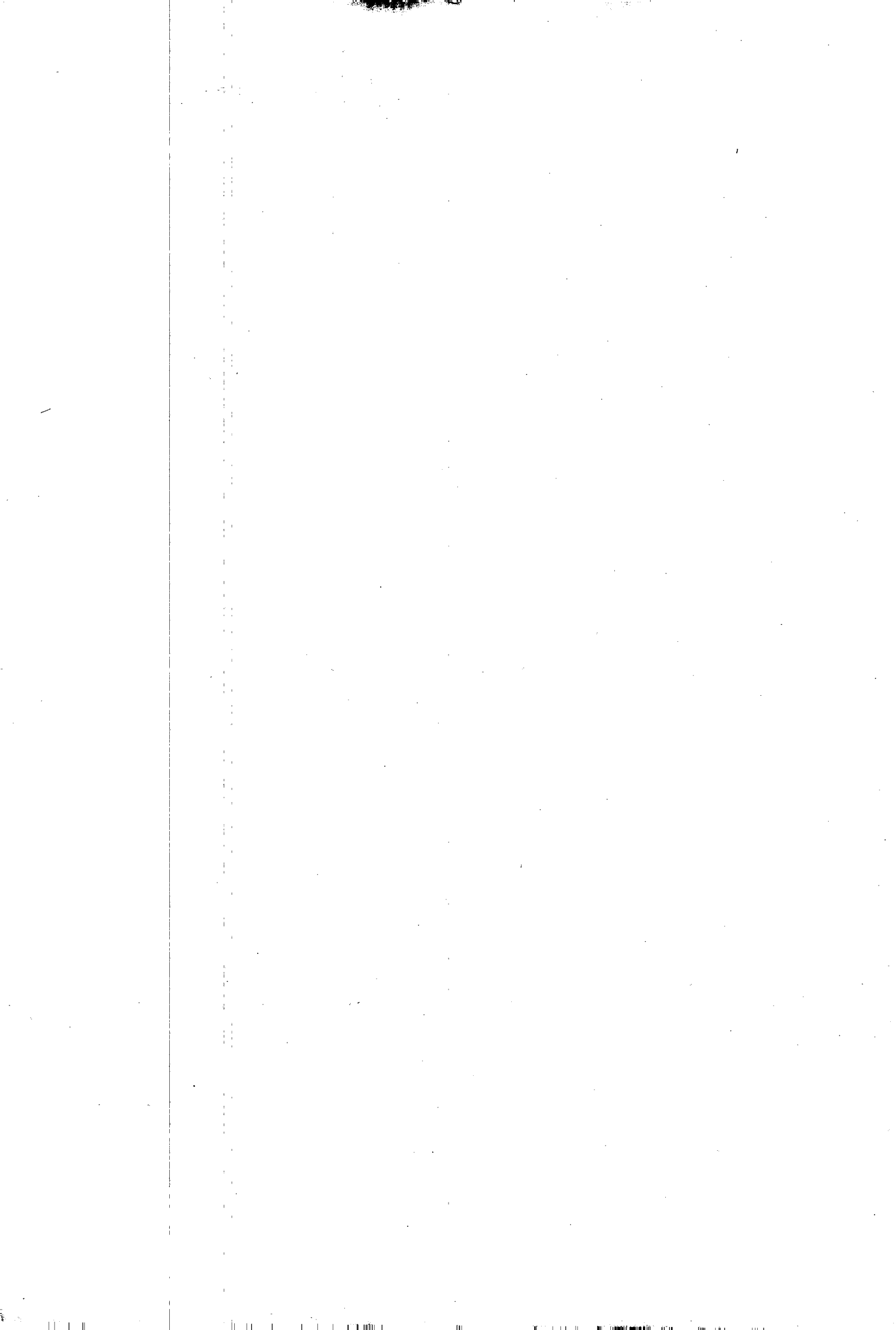


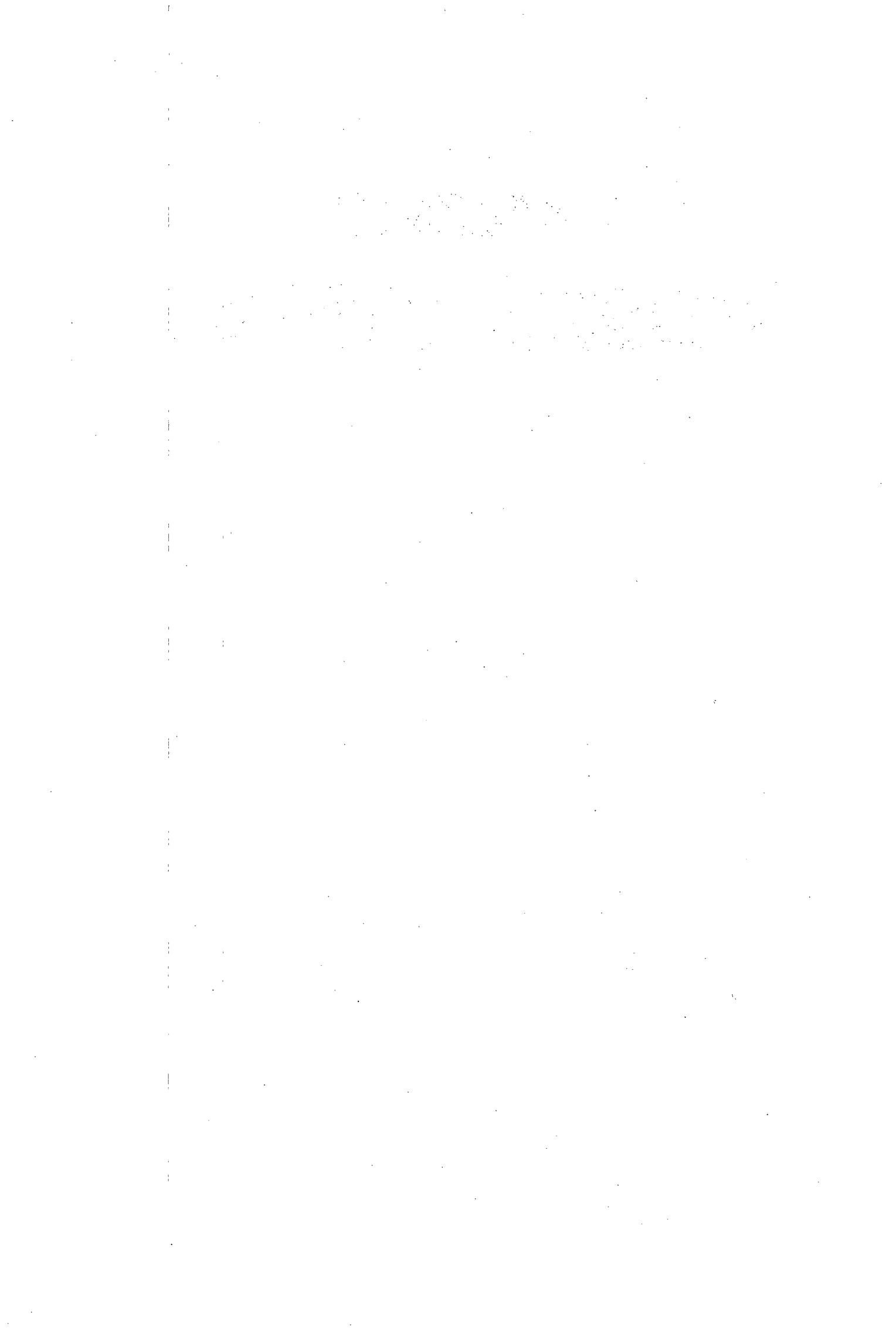
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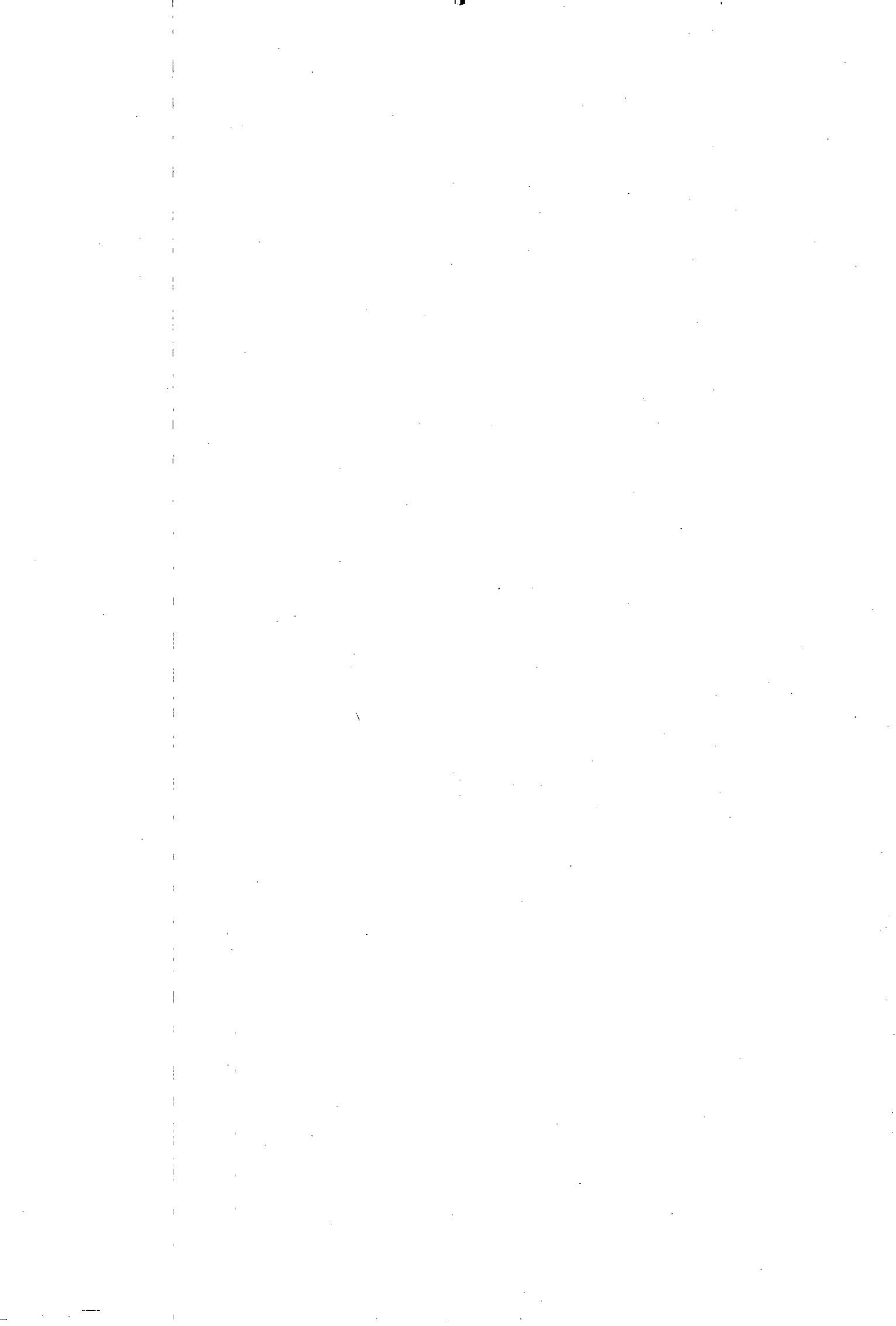
P R E F A C E

This Report for the year ended March 2017 has been prepared for submission to the Governor of Tamil Nadu under Article 151 of the Constitution of India for being placed in the Tamil Nadu Legislature.

The Report contains significant results of the Performance Audit and Compliance Audit of the Departments of the Government of Tamil Nadu under Economic Services, including Departments of Agriculture; Animal Husbandry, Dairying and Fisheries; Environment and Forests; Handlooms, Handicrafts, Textiles and Khadi; Highways and Minor Ports; Industries; Information Technology; Micro, Small, Medium Enterprises; Public Works and Tourism. However, other Departments are excluded and covered in the Report on General and Social Sector Services.

The instances mentioned in this Report are those, which came to notice in the course of test audit for the period 2016-17 as well as those which came to notice in earlier years, but could not be reported in the previous Audit Reports. The instances relating to the period subsequent to 2016-17 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

CHAPTER I GENERAL

1.1 Introduction

Tamil Nadu is one of the largest States of India, with a population of 7.21 crore and a geographical area of 1,30,058 sq km. For the purpose of Administration, there are 37 Departments, headed by Principal Secretaries, who are assisted by Commissioners/Directors and subordinate officers under them.

Government functioning is broadly classified as General Services, Social Services and Economic Services. This Report covers the functioning of 10 Departments of Economic Sector listed in the table given below.

Of the 10 Departments with a total expenditure of ₹ 23,081.72 crore covered here, a major portion of the expenditure was incurred by Highways and Minor Ports (30.46 per cent), followed by Agriculture (28.18 per cent), Public Works (17.50 per cent) and Industries (7.41 per cent) Departments during 2016-17.

1.2 Trend of expenditure

A comparative position of expenditure incurred by the Departments during the year 2016-17 along with preceding four years is given in **Table No. 1.1** and **Chart No.1.1**

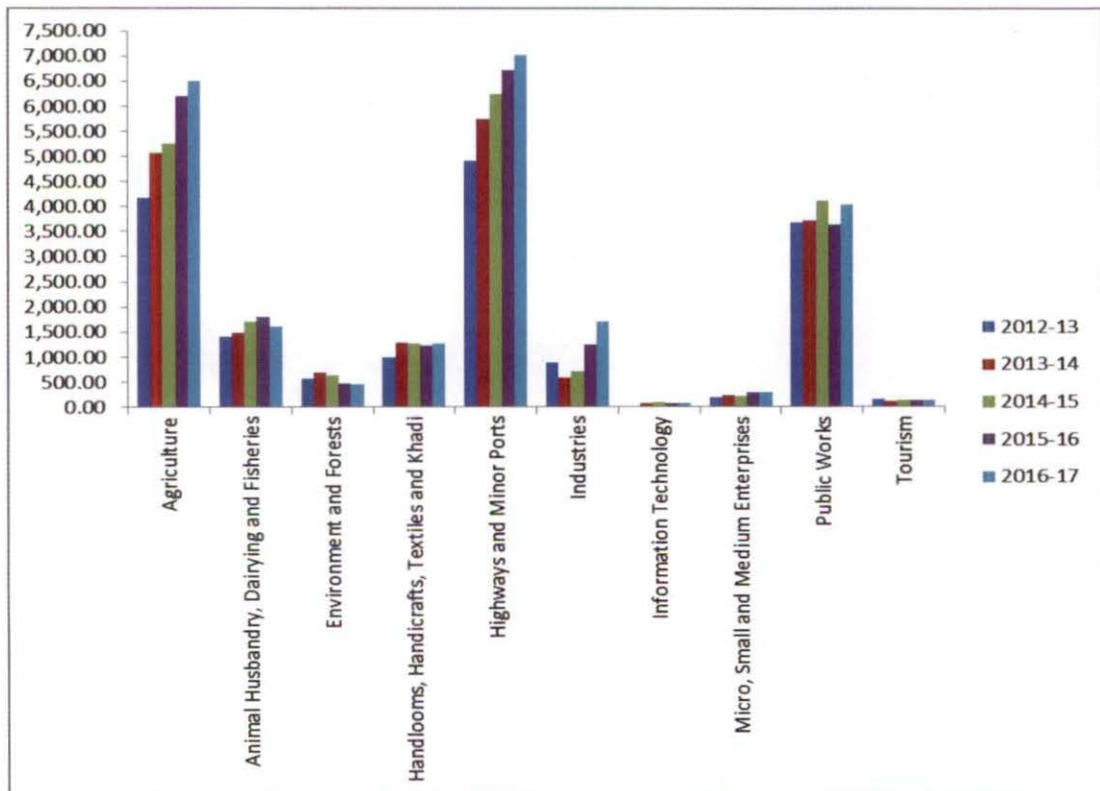
Table No. 1.1: Trend of expenditure for five years

(₹ in crore)

Sl. No.	Name of the Department	2012-13	2013-14	2014-15	2015-16	2016-17
1	Agriculture	4,173.29	5,067.84	5,247.25	6,199.67	6,505.30
2	Animal Husbandry, Dairying and Fisheries	1,398.06	1,487.60	1,705.37	1,795.75	1,597.31
3	Environment and Forests	578.32	686.75	633.96	473.47	443.53
4	Handlooms, Handicrafts, Textiles and Khadi	986.79	1,287.38	1,271.56	1,234.97	1,257.55
5	Highways and Minor Ports	4,918.07	5,744.66	6,254.65	6,719.63	7,030.85
6	Industries	896.50	591.90	703.58	1,253.08	1,709.50
7	Information Technology	6.64	75.83	81.72	79.29	70.22
8	Micro, Small and Medium Enterprises	199.17	238.63	219.06	284.04	299.78
9	Public Works	3,677.31	3,710.66	4,113.54	3,628.23	4,038.92
10	Tourism	146.42	105.50	125.33	126.17	128.76
Total		16,980.57	18,996.75	20,356.02	21,794.30	23,081.72

(Source: Finance Accounts for the years 2012-13 to 2016-17)

Chart No. 1.1: Trend of expenditure (₹ in crore)



(Source: Finance Accounts for the years 2012-13 to 2016-17)

Reasons for increase or decrease in expenditure are stated below:

Highways and Minor Ports Department: The increase in expenditure was due to maintenance of roads under Comprehensive Road Infrastructure Development Programme as permanent measure for prevention of floods in Chennai city and suburban areas and carrying out new major works and construction of bridges.

Public Works Department: The increase in expenditure was due to carrying out major works viz., Intra State Linking of Rivers, Permanent Flood Control, Protection Works in Cuddalore District.

Micro, Small and Medium Enterprises Department: The increase in expenditure was due to implementation of new schemes replacing existing schemes for development of Medium Enterprises in the State.

Industries Department: The increase in expenditure was due to increase in the disbursement of VAT subsidy.

Handlooms, Handicrafts, Textiles and Khadi Department: The increase in expenditure was due to rebate on sale of handloom cloth, Installation of Solar Power Panels in Co-operative Spinning Mills and establishment of Hi-tech Weaving Park under Textile Centres Infrastructure Development Scheme.

Animal Husbandry, Dairying and Fisheries Department: The decrease in expenditure was due to withdrawal of the free distribution of sheep/goat and milch cows to the persons living below poverty line.

1.2.1 Some major schemes implemented by the Departments of the Economic Sector during 2016-17

- (i) Comprehensive Road Infrastructure Development Programme covering State Highways, Major District Roads, Other District Roads at a cost of ₹ 3,046.17 crore, implemented by Highways Department.
- (ii) Free distribution of handloom cloth to the people below poverty line at a cost of ₹ 448.82 crore by Handlooms and Textiles Department.
- (iii) Premium Subsidy for implementation of Pradhan Mantri Fasal Bima Yojana - State Share at a cost of ₹ 415.43 crore by Agriculture Department.
- (iv) Installation of Drip and Sprinklers Irrigation System in farmers' holdings in Ground Water Stresses Blocks at a cost of ₹ 245.79 crore by Agriculture Department.

1.3 About this Report

This Report of the Comptroller and Auditor General of India (CAG) relates to matters arising from the Audit of 10 Government Departments and 48 Autonomous Bodies under the Economic Sector. Compliance Audit covers examination of the transactions relating to expenditure of the audited entities to ascertain whether the 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 whether the objectives of the programme/activity/Department are achieved economically, efficiently and effectively.

1.4 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 Service) (DPC) Act, 1971. CAG conducts audit of expenditure of the Departments of Government of Tamil Nadu under Section 13¹ of the CAG's (DPC) Act. CAG is the sole Auditor in respect of Autonomous Bodies which are audited under Sections 19(3)² and 20(1)³ of the CAG's (DPC) Act. In addition, CAG also conducts audit of other Autonomous Bodies, under Section 14⁴ of CAG's (DPC) Act, which are substantially funded by the Government. Principles and methodologies for

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

² 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.

³ 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.

⁴ Audit of (i) all receipts and expenditure of a body or 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 ₹ one crore.

various audits are prescribed in the Auditing Standards and the Regulations on Audit and Accounts, 2007 issued by the CAG.

1.5 Planning and conduct of audit

The primary purpose of this Report is to bring to the notice of the State Legislature, significant results of audit. Auditing Standards require that the materiality level for reporting should be commensurate with the nature, volume and magnitude of transactions. The audit observations are expected to enable the Executive to take corrective action, as also to frame policies and directives that will lead to improved financial management, thus, contributing to better governance.

Audit process starts with the assessment of risks faced by various Departments of Government based on expenditure incurred, criticality/complexity of activities, level of delegated financial powers, assessment of overall internal controls and concerns of stakeholders. Previous audit observations are also considered in this exercise. The frequency and extent of audit are decided based on this risk assessment.

Inspection Reports (IRs) containing audit observations are issued to the Heads of the Department/field officers after completion of audit. The Departments are requested to furnish replies to the audit observations within one month of receipt of the IRs. Whenever replies are received, audit observations are either settled or further action for compliance is advised. Important audit observations arising out of these IRs are processed for inclusion in the Audit Reports, which are submitted to the Governor of the State under Article 151 of the Constitution of India for laying on the table of the house of the State Legislature.

1.6 Response to audit

1.6.1 Draft Paragraphs and Performance Audit

Eleven Draft Paragraphs and one Performance Audit on Tamil Nadu Biodiversity Conservation and Greening Project were forwarded, demi-officially, to the Principal Secretaries of the Departments concerned between May and October 2017, with the request to send their responses. Government replies to 11 Draft Paragraphs and the Performance Audit were received. The replies have been incorporated in the Audit Report, wherever applicable. In respect of Performance Audit, an Entry Conference was held in April 2017 and an Exit Conference was held with the representatives of the Government in October 2017 and views expressed therein have been included in the Report.

1.6.2 Follow-up action on Audit Reports

With a view to ensuring accountability of the Executive in respect of the issues dealt with in the Audit Reports, the Public Accounts Committee (PAC)/Committee on Public Undertakings (COPU) directed that the Departments concerned should furnish remedial Action Taken Notes (ATNs) on the recommendations of PAC/COPU, relating to the Paragraphs contained in the Audit Reports, within six months. We reviewed the outstanding ATNs as on

31 March 2017, on the Paragraphs included in the Reports of the Comptroller and Auditor General of India relating to the Departments of Economic Sector, Government of Tamil Nadu and found that the Departments did not submit ATNs for 717 and 69 recommendations pertaining to the Audit Paragraphs discussed by PAC and COPU respectively. The delay in submission of ATNs ranged between six months and five years.

1.6.3 Outstanding replies to Inspection Reports

On behalf of the Comptroller and Auditor General of India (CAG), the Accountant General (E&RSA), Tamil Nadu conducts periodical inspections of the Government Departments to test check transactions and verify maintenance of important accounts and other records as prescribed in the rules and procedures. These inspections are followed up with issue of IRs, incorporating irregularities detected during the inspection and not settled on the spot, which are issued to the Heads of the offices inspected with copies to the next higher authorities for taking prompt corrective action. The Heads of the offices/Government are required to promptly comply with the observations contained in the IRs, rectify the defects and omissions and report compliance through replies. Serious financial irregularities are brought to the notice of the Heads of the Departments and the Government.

Inspection Reports issued upto 31 March 2017 were reviewed and found that 3,273 Paragraphs relating to 1,066 IRs remained outstanding at the end of September 2017 (**Annexure - 1**).

This large pendency of IRs, due to lack of corrective action or non-receipt of replies, was indicative of the fact that Heads of the offices and Heads of the Departments did not take appropriate action to rectify the defects, omissions and irregularities pointed out in the IRs.

1.7 Significant Audit Observations

1.7.1 Performance Audit of Tamil Nadu Biodiversity Conservation and Greening Project was conducted during April to September 2017. Significant audit observations are given below:

- Department failed to complete the preparatory work of preparation of action plans, surveys, baseline geo coded data of land distribution and local specific flora for conservation of biodiversity indicating inadequate planning.
- Failure of the Government to sanction the agreed funds, non-utilisation of State share of ₹ 87.18 crore towards establishment charges, parking of Government funds of ₹ 49.35 crore outside the Government account indicated imprudent financial management.
- Absence of sanction for removal of invasive species in the identified areas and its partial removal, inadequate collection and hatching of eggs, non-supply of turtle excluder device and non-monitoring of climate change indicated ineffective biodiversity conservation. Selection of plantations based on beneficiary preference instead of field investigation for tree cultivation in private lands and failure to ensure survival of the planted saplings resulted in

non-achievement of the green cover to an extent of 19,044 ha. Department did not ensure adequate community development and income generation activities for tribal people in implementing eco-developmental activities.

- Absence of adequate manpower, shortcomings in the web based monitoring and internal control impacted the objective of strengthening biodiversity conservation and enhancing green cover in the State.

1.7.2 Compliance Audit

1.7.2.1 Medical Services by Animal Husbandry Department

Audit of Medical Services by Animal Husbandry Department brought out the following observations:

- Department did not establish adequate number of Animal Disease Intelligence Units (ADIUs) to develop disease surveillance system.
- Implementation of Emergency Mobile Veterinary Service to 27 districts was delayed due to change of Implementing Agencies.
- GoTN could not avail GOI grant of ₹ 3.70 crore as unspent GOI funds were not refunded and Utilisation Certificates not furnished.
- An amount of ₹ 15.53 crore was blocked and parked without utilisation for disease prevention.
- Absence of periodical upgradation of institutions based on number of cases treated, delay in adoption of Good Laboratory and Manufacturing Practices for vaccines despite release of funds resulted in ineffective disease diagnosis and control. Department failed to ensure supply of indented quantity of medicine resulting in either accumulation of medicines or non-availability of indented categories of medicine for effective treatment.
- Acute shortage of qualified veterinarians and absence of adequate infrastructure impacted the delivery of medical service to the livestock and poultry.
- There were shortcomings in monitoring framework for delivery of services.

1.7.2.2 Deficiencies in sand quarry operation

- Department failed to verify the correctness of the geo co-ordinates available in the mining plan or Environmental Clearance at the time of approval. Licences for operation of sand quarries were issued by District Collectors based on these incorrect geo co-ordinates.
- The Department failed to comply with the instructions of Government regarding judicious use of the poclains and to ensure removal of sand in the approved area of quarry resulting in excess utilisation of poclains and removal of additional quantity of sand as observed from UAV technology resulted in loss of revenue of ₹ 21.02 crore calculated at PWD rates.

- Major deficiencies in issue of transport permits and sale slips, non-ensuring authenticity of vehicles and end users, increase in recurrence of illicit quarrying as evidenced by seizure of vehicles/sand, deficient supervision, absence of monitoring hampered the objectives of elimination of indiscriminate and unscientific quarrying.
- This also led to non-achievement of the objective of supply of sand to consumers at affordable prices and prevention of degradation of ecology.

1.7.2.3 Information Technology Audit on Agri Reporting System

- Development of ARS software was finalised without adopting the User Requirement Specification, System Requirement Specification and User Acceptance Testing.
- A comparison of the data available in the ARS software and the reports generated therefrom with the manual records of the Department indicated incorrect and incomplete data capturing of physical and financial progress of the schemes implemented by the Department and were not useful for effective monitoring and decision making.
- The ARS application lacked adequate input controls, validation checks and process controls resulting in reports generated becoming unreliable for decision making by the Management and continued dependence on manual records.
- The objective of effective management of schemes by reducing the time required for data consolidation and reporting of schemes at all levels remained largely unachieved due to deficiencies in the application software.

1.7.2.4 Audit of transactions of various Departments of Government and field offices revealed unfruitful expenditure, avoidable expenditure and blocking of funds as summarised below:

- Absence of inter-departmental co-ordination in pursuance of application of aggrieved land owners, inordinate delay and failure to adhere to the prescribed provisions resulted in dismissal of appeal and additional interest burden of ₹ 3.66 crore to the State exchequer.

(Paragraph No.3.4)

- Failure to renew the lease period, non-enhancement of lease rent resulted in short collection of lease rent of ₹ 3.29 crore besides non-eviction of encroachment from Government land.

(Paragraph No.3.5)

- Incorrect preparation of estimates by suppressing the Benkelman Beam Deflection test results and incorrect inclusion of seasonal variation factor, in violation to Indian Road Congress specifications, resulted in additional work and avoidable extra expenditure of ₹ 8.75 crore.

(Paragraph No.3.6)

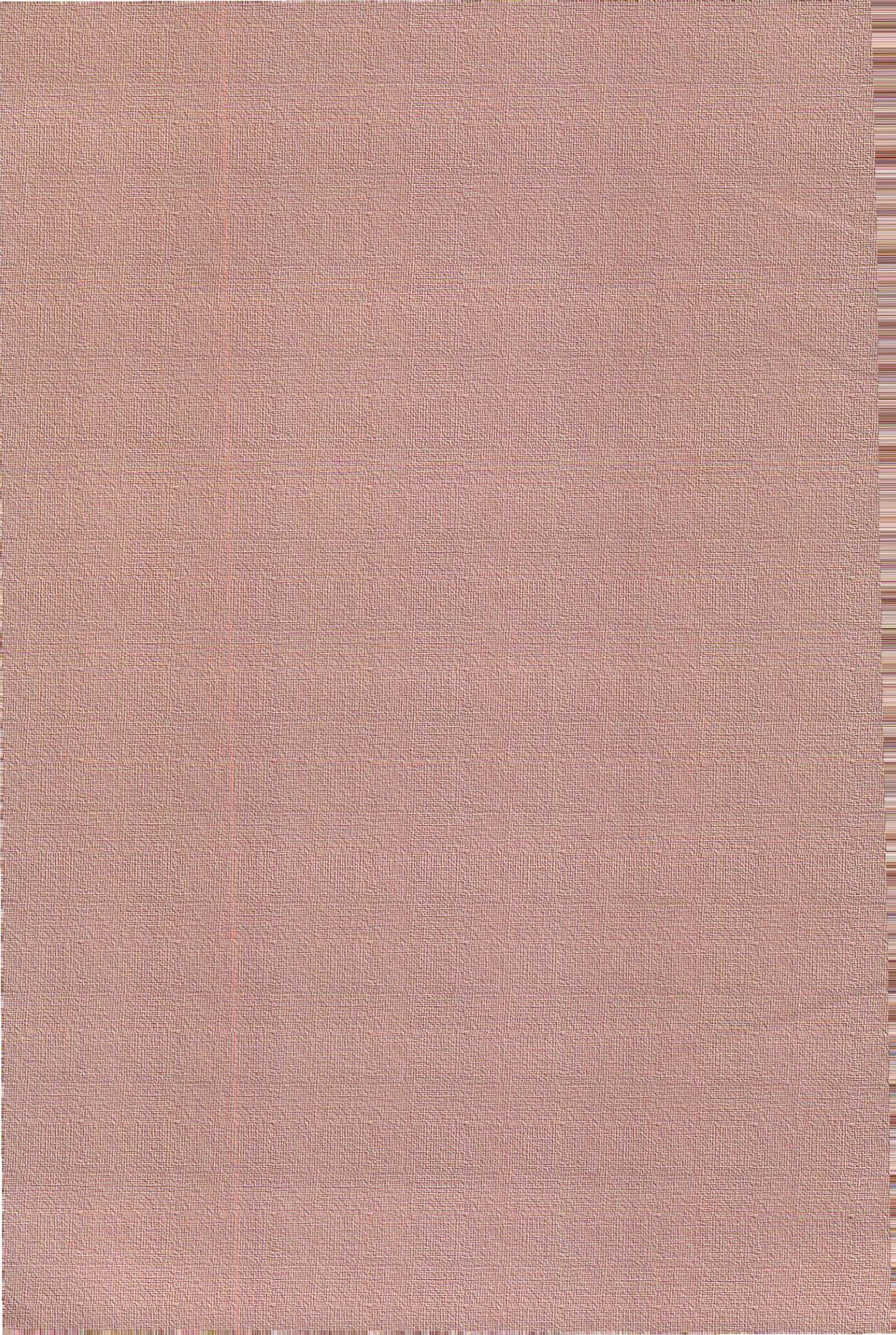
- Violation of Manual provisions and absence of effective pursuance resulted in short collection of consultation fee of ₹ 2.18 crore, avoidable interest burden of ₹ 1.31 crore and non-realisation of lease rent of ₹ 2.36 crore for four years.

(Paragraph No.3.8)

- Lack of monitoring the progress of work and delayed furnishing of Utilisation Certificates by State Government for development of tourism infrastructure resulted in non-availing of Government of India grant of ₹ 17.40 crore.

(Paragraph No.3.11)

CHAPTER II



CHAPTER II PERFORMANCE AUDIT

ENVIRONMENT AND FORESTS DEPARTMENT

2 Tamil Nadu Biodiversity Conservation and Greening Project

Executive Summary

Introduction

Tamil Nadu Biodiversity Conservation and Greening Project is being implemented by the Government of Tamil Nadu with loan assistance of ₹ 469.60 crore from Japan International Co-operation Agency, on reimbursement basis, commencing from 2011-12 for a period of eight years. The objectives of the project were strengthening Biodiversity Conservation by improving ecosystem and the management capacity; undertaking tree plantation outside the forest areas in the private lands to attain adequate green cover besides bridging the gap between supply and demand of wood and contributing to environmental conservation and harmonised socio-economic development of Tamil Nadu.

Planning

Department failed to complete the preparatory phase work of preparation of action plans, surveys, baseline geo coded data of land distribution and local specific flora for conservation of biodiversity indicating inadequate planning.

Financial Management

Failure of the Government to sanction the agreed funds, non-utilisation of State share of ₹ 87.18 crore towards establishment charges, parking of Government funds of ₹ 49.35 crore outside the Government account indicated imprudent financial management.

Programme Management

Absence of sanction for removal of invasive alien species in the identified areas and its partial removal, inadequate collection and hatching of eggs, non-supply of turtle excluder device and non-monitoring of climate change indicated ineffective biodiversity conservation. Selection of plantations based on beneficiary preference instead of field investigation for tree cultivation in private lands and failure to ensure survival of the planted saplings resulted in non-achievement of the green cover to an extent of 19,044 ha. Department did not ensure adequate community development and income generation activities for tribal people in implementing eco-developmental activities.

Monitoring

Absence of adequate manpower, shortcomings in web based monitoring and internal control impacted the objective of strengthening biodiversity conservation and enhancing green cover in the State.

2.1 Introduction

Tamil Nadu Biodiversity Conservation and Greening Project (TBGP) is being implemented by the Government of Tamil Nadu (GoTN) with loan assistance of ₹ 469.60 crore from Japan International Co-operation Agency (JICA), on reimbursement basis, commencing from 2011-12 for a period of eight years. The objectives of project were strengthening Biodiversity Conservation by improving ecosystem and the management capacity; undertaking tree plantation outside the forest areas in the private lands to attain adequate green cover besides bridging the gap between supply and demand of wood and contributing to environmental conservation and harmonised socio-economic development of Tamil Nadu. The implementation and funding pattern of the project components were finalised (October 2010) by the Environment and Forests Department, GoTN and JICA and the agreement was executed in February 2011.

2.2 Organisational setup

Principal Secretary to Government is the administrative head of the Environment and Forests Department at Government level. The project was implemented by Project Management Unit (PMU), an autonomous society, headed by Chief Project Director (CPD) with the funds released by GoTN through budget and subsequently reimbursed from JICA. PMU finalised the annual plan and consolidated project proposals and placed them before the High Level Empowered Committee⁵ (HLEC) for approval. The project is implemented in the districts by Divisional Management Units (DMUs) which are headed by the Divisional Forest Officers and Field Management Units (FMUs) headed by Forest Range Officers.

2.3 Audit Objectives

Performance Audit was conducted to assess whether:

- Planning for strengthening Biodiversity conservation and enhancement of green cover was effective and was in accordance with the guidelines of the project;
- Financial Management ensured adequate and timely availability of funds and their effective and economic utilisation;
- Project was implemented economically, efficiently and effectively as envisaged in the guidelines besides achievement of the intended objectives; and
- Internal control, monitoring and evaluation was adequate.

⁵ The Committee functioned with Chief Secretary to Government as Chairperson; Chief Project Director as Member Secretary besides eight members representing Environment and Forests, Finance, Planning and Development, Revenue, Rural Development and Panchayat Raj and Tribal Welfare Departments besides Principal Chief Conservators of Forests.

2.4 Audit Criteria

Audit criteria were sourced from:

- The Biological Diversity Act, 2002 and Rules thereunder issued by GOI;
- Five Year Plan documents for the period from 2012-13 to 2016-17;
- Annual Plan of Operations approved by HLEC;
- Terms and Conditions of the loan agreement with the funding agency;
- Operational manual for the project approved by the Government of Tamil Nadu;
- Consultants' Reports and Field Manuals on the components of the project;
- State/District Micro Plan Manuals and Village Micro Plans; and
- State General Financial and Accounting Rules/Procedures and Tamil Nadu Forest Code/procedure.

2.5 Scope and Methodology of Audit

The implementation of TBGP involved execution of four major components⁶ in 32 districts covering all the seven Agro Climatic Zones⁷ of the State. Performance Audit was conducted from April to September 2017 and covered test check of eight⁸ out of 32 districts for the period 2012-13 to 2016-17. These districts were selected on the basis of stratified sampling method⁹ to cover 33 *per cent* of the total expenditure. The audit process included scrutiny of records at Government Secretariat, Head of Forest Department and the Office of the Chief Project Director. In order to assess the field level implementation, 33 *per cent* of the expenditure of the selected Ranges (34 out of 139 Ranges) were test checked. The National Parks, Bird and Wild Life Sanctuaries and Conservation reserves available in the selected districts were also covered. Audit scope, coverage and methodology were discussed in the Entry Conference with the Principal Secretary to Government, Environment and Forests Department held on 25 April 2017. Audit findings were also discussed with Principal Secretary to Government, Environment and Forests Department in the Exit Conference held on 20 October 2017 and their views were considered while finalising the report. We acknowledge the co-operation extended by Office of the Chief Project Director and other field offices in providing necessary records and information.

⁶ Biodiversity conservation, increasing the Natural Resource Base, Capacity development and Consulting services.

⁷ Agro Climatic Zones *viz.*, Cauvery Delta, High Rainfall, Hilly, North Eastern, North Western, Southern and Western Zones were classified based on soil characteristics, rainfall distribution, irrigation pattern and cropping pattern.

⁸ Coimbatore, Cuddalore, Dharmapuri, Dindigul, Kanyakumari, Nagapattinam, Nilgiris and Tirunelveli.

⁹ The stratification was made on the basis of expenditure incurred by the districts to the total expenditure besides covering all the seven Agro Climatic Zones.

Audit Findings

2.6 Planning

2.6.1 Absence of State Forest Policy

The National Forest Commission recommended (March 2006) framing of State Forest Policy in line with National Forest Policy, 1988 for sustainable management of forest and wildlife resources. A comment was made in the CAG's Audit Report for the year ending March 2015 about the delay in finalisation of the draft Forest Policy prepared in December 2014. Even after lapse of three years, the draft Forest Policy was not finalised till date (December 2017).

Failure to evolve State Forest Policy resulted in inadequate planning in enhancement of green cover and protection of forest lands against encroachments as discussed in the subsequent paragraphs.

Government replied (November 2017) that the draft Forest Policy was being consulted with the stakeholders and would be finalised shortly. The fact however, remains that the policy is pending finalisation for three years despite commented upon in the earlier Audit Report.

2.6.2 Delay in preparation of Annual Plan of Operation

The project envisaged that the preparatory phase was fundamental to implementation phase to ensure maximum impact of the project intervention. It was emphasised to form Project Management Unit and to identify its members by January 2011 as the delay in its formation would affect the implementation of the project. Operational Manual of the project contemplated preparation of the Annual Plan of Operation and budgetary allocations by the Executive Body under the charge of Chief Project Director for approval by the HLEC for release of funds by GoTN.

The Project Management Unit was formed in July 2011, after a delay of six months leading to consequential delay in formation of Executive Body (July 2011).

The details of preparation of the Annual Plan, approval by HLEC and sanction of funds by GoTN were as detailed in **Table No. 2.1**.

Table No. 2.1: Details of plan approvals and funds sanction

Year	Date of approval by Governing Body	Date of approval by HLEC	GoTN sanction	Date receipt of funds by CPD
2012-13	16.04.2012	17.05.2012	27.07.2012	31.08.2012
2013-14	14.05.2013	08.06.2013	17.07.2013	04.09.2013
2014-15	13.05.2014	26.06.2014	27.08.2014	25.09.2014
2015-16	19.05.2015	09.06.2015	11.08.2015	25.09.2015
2016-17	11.05.2016	19.07.2016	20.09.2016	28.10.2016

(Source: Details furnished by PMU)

As may be seen from the above, the Annual Plans finalised by Governing Body were approved with a delay ranging from one to two months by HLEC leading to consequential delay in sanction and release of funds by GoTN for implementation of the project components. Non-utilisation of the released funds during the financial years is commented in **Paragraph No. 2.7.1** and this led to payment of commitment charges to the JICA as discussed in **Paragraph No. 2.7.2**.

Government replied (November 2017) that there was no abnormal delay and the Government orders were issued every year in August/September. It was also stated that important and time bound works were carried out in anticipation of the Government orders. The reply is not acceptable as there was delay of five to six months for release of funds and commencement of work in anticipation of the Government orders which was not authorised.

2.6.3 Delay in preparation of strategies and conservation action plans

The project emphasised the need for preparation of necessary guidelines, manuals, handbooks, assessments of biodiversity conservation during the preparatory phase (2011-12 and 2012-13) to enable early commencement of the implementation of the project. The implementation schedule of developing of Water Management Strategy and Action Plan, Development of Species Conservation Plan and Wetland Participatory Management Planning was to be completed by the year 2012-13.

We observed that funds were sanctioned (May 2013) for preparation of Wetland Participatory Management Planning for eight DMUs and Development of Water Management Strategy and Action Plan for 17 Protected Areas/ Reserve Forest Areas. The preparation of the Strategy and Action Plans commenced during 2013-14 and were completed belatedly from 2013-14 to 2014-15. Delay in preparation of action plans and management strategies resulted in delayed implementation of the project related to conservation of biodiversity in some cases as discussed in **Paragraph No. 2.8.1.3**.

Government replied (November 2017) that the delay was due to administrative reasons in identification and selection of Resource Organisations. The reply is not acceptable as the Department failed to complete the preparatory work as envisaged in the project.

2.6.4 Absence of baseline geo-coded data

The Forest Survey of India releases the forest density data once in two years. In order to capture forest density data on real time basis, it was envisaged to develop State Level Geographical Information System (GIS) database at the initial stages (September 2013) of the project to ascertain the spatial distribution of area under crop, current fallow lands¹⁰, other fallow lands and fallow lands exceeding five years and identifying potential villages for the implementation of the Tree Cultivation in Private Lands (TCPL). It was also envisaged to collect location specific geo-spatial database of endemic flora and fauna for conserving the Biodiversity of the State.

¹⁰ The lands which were not utilised for cultivation for one year.

It was seen that the Department did not develop State Level GIS database of land distribution and location specific database of endemic flora and fauna indicating inadequate planning in implementation of TCPL resulting in incorrect selection of villages for its implementation as detailed in **Paragraph No.2.8.2.**

Government accepted and stated (November 2017) that Geomatic Centre did not prepare or maintain any State Level GIS database of land distribution.

2.6.5 Non-adoption of Development Goal Indicator

Government of India was one of the signatories to the Sustainable Development Goals adopted in September 2015 by the United Nations and came into force from January 2016, envisaging 17 goals with 169 targets to be achieved by each Nation before 2020. Goal No 15, envisaged protection, restoration and promotion of sustainable use of terrestrial ecosystems, sustainable management of forests, combating desertification and halting and reversing land degradation as also biodiversity loss. TBGP project is being implemented in the State during the period from 2011-12 to 2018-19. Despite the requirement for implementation of the project for a further period of three years (2016-17 to 2018-19) from the date of enforcement of the Goal, PMU failed to propose mid-term revision for adoption of goals like enhancement of forest area as a proportion of total area, trafficking of protected species of flora and fauna, reduce the impact of invasive species on land and water ecosystems, etc. till date (December 2017).

Government replied (November 2017) that adoption of the Goal Indicator would be considered for future projects. The fact, however, remains that no efforts were made to revise the project in accordance with the international obligation.

2.6.6 Notification of Eco-Sensitive Zones

Based on the provisions of the Environment (Protection) Act, 1986 and Rules made thereunder, Government of India issued guidelines (2002) for notification of lands falling within 10 km of the boundaries of National Parks and Sanctuaries as Eco sensitive Zone (ESZ) for acting as a shock absorber to the Protected Areas and also as a transition zone. Considering the constraints expressed by the States, GOI modified the guidelines and notified (May 2005) the State Governments to consider the proposals of regulation based on the specific needs of the site. Hon'ble Supreme Court of India directed (December 2006) the States to comply with the modified guidelines and forward proposals to the Ministry within four weeks.

We observed from the scrutiny of records that GoTN notified only four Protected Areas in the State and forwarded proposals in respect of 12 Protected Areas to GOI during July and August 2017. The proposal for declaration of ESZ in respect of 21 Protected Areas which included seven test checked Protected Areas were yet to be prepared for submission to GoTN even after 15 years from the issue of guidelines (August 2017) indicating ineffective pursuance in conserving the biodiversity of the State despite directions from the Hon'ble Supreme Court of India.

Government accepted and stated (November 2017) that the proposals would be sent to GOI shortly.

2.7 Financial Management

Tamil Nadu Biodiversity and Greening Project was being implemented by GoTN with the total project cost of ₹ 686.28 crore. Out of the total project cost, ₹ 469.60 crore (68 *per cent*) was loan assistance of JICA received on reimbursement basis and ₹ 216.68 crore (32 *per cent*) was share of the State Government towards establishment charges of the field personnel in DMUs and FMUs. The period of loan assistance was eight years from 2011-12 to 2018-19 and the loan agreement envisaged payment of commitment charges by the State Government for unutilised sanctions. The funds required for implementation of the project were sanctioned by GoTN and disbursed to PMU for transfer to field offices. The establishment charges were borne directly through treasury system¹¹.

The details of funds available for implementation, funds sanctioned and expenditure incurred during the period 2011-12 to 2016-17 is detailed in **Table No. 2.2**.

Table No 2.2: Details of sanction and expenditure

(₹ in crore)

Year	Funds Available as per agreement			Amount sanctioned and released by GoTN			Cumulative expenditure as of March 2017			Savings		
	P	E	Total	P	E	Total	P	E	Total	P	E	Total
2011-12	36.68	5.23	41.91	21.06	0.91	21.97	15.91	0.08	15.99	5.15	0.83	5.98
2012-13	60.24	5.90	66.14	65.38	2.96	68.34	59.62	1.52	61.14	5.76	1.44	7.20
2013-14	74.92	32.51	107.43	70.24	26.57	96.81	69.75	7.40	77.15	0.49	19.17	19.66
2014-15	97.54	33.62	131.16	82.78	32.18	114.96	68.58	12.77	81.35	14.20	19.41	33.61
2015-16	92.38	34.23	126.61	80.10	34.45	114.55	71.33	12.57	83.90	8.77	21.88	30.65
2016-17	54.55	34.31	88.86	63.44	36.93	100.37	48.46	12.48	60.94	14.98	24.45	39.43
Total	416.31	145.80	562.11	383.00	134.00	517.00	333.65	46.82	380.47	49.35	87.18	136.53

(Source: Details furnished by PMU)

(P: Project and E: Establishment)

From the above, we observed as under:

- GoTN failed to sanction ₹ 45.11 crore (eight *per cent* of the total project cost) during 2011-12 to 2016-17 despite agreement with JICA. This included ₹ 33.31 crore of loan assistance from JICA not utilised for the intended objectives of the project.
- Of the GoTN sanctioned amount of ₹ 517 crore, ₹ 380.47 crore (73 *per cent*) was utilised towards the project components and establishment charges and balance amount of ₹ 136.53 crore (26 *per cent*) was not utilised as of March 2017.
- The funds sanctioned by GoTN representing the loan assistance for the project was ₹ 383 crore. Of the same, PMU utilised ₹ 333.65 crore on the project during 2011-12 to 2016-17, leaving an unspent balance of ₹ 49.35 crore (13 *per cent*) which was parked outside the Government account, in the Nationalised Bank.

¹¹ The funds were to be borne by the Government of Tamil Nadu and the same would not pass through the accounts of the PMU.

- The project cost included establishment charges to be borne by GoTN towards deployment of 532 sanctioned staff and officers. Of the sanctioned strength, 205 posts (39 per cent) were operated and 327 posts were kept vacant. This resulted in utilisation of ₹ 46.82 crore during 2011-12 to 2016-17 towards establishment charges as against the sanctioned amount of ₹ 134 crore resulting in non-utilisation of ₹ 87.18 crore (65 per cent) sanctioned towards establishment charges issued by GoTN.

Government replied (November 2017) that the unutilised balances were kept in short term fixed deposits for utilisation in the subsequent years for seasonal works and acted as a buffer fund. It was also replied that the Department was successfully implementing the activities with the available staff. The reply is not acceptable as the short term deposits enhanced from ₹ 4.00 crore in 2013-14 to ₹ 34.95 crore in 2016-17 indicating that the released funds were not utilised in subsequent years also. Further, the implementation of the scheme without sufficient manpower impacted implementation of some components of project as detailed in **Paragraph Nos. 2.8.1.3 and 2.8.2.4.**

2.7.1 Parking of funds

PMU utilised ₹ 333.65 crore towards project cost out of the released amount of ₹ 383 crore during 2011-12 to 2016-17 resulting in parking of funds of ₹ 49.35 crore outside the Government account, as of March 2017. A few instances of sanction of funds in advance resulting in parking of funds were illustrated as below:

- As per TBGP guidelines, the beneficiaries planting saplings in their private lands under TCPL component were eligible for incentive in the third financial year after planting, calculated on basis of the number of plants survived. However, PMU proposed to release funds for the entire saplings planted without considering the survival rate and the same was approved by GoTN. We observed from the scrutiny of records that out of ₹ 18.06 crore sanctioned during 2014-15 to 2016-17, PMU could utilise ₹ 9.62 crore towards payment of incentive to the farmers and the balance amount of ₹ 8.44 crore (47 per cent) remained unutilised in the accounts of PMU. This included an amount ₹ 5.47 crore for the plantations which did not survive during 2014-15 and 2015-16 and ₹ 2.97 crore for 2016-17 which was pending settlement due to non-completion of survey.
- Based on the claim of PMU, GoTN released ₹ 20.72 crore towards contractual staff during 2011-12 to 2016-17. However, we observed that PMU did not utilise the released funds towards engagement of the contractual staff and an amount of ₹ 6.61 crore was kept outside the Government account.
- Similarly, GoTN released ₹ 3.79 crore during 2012-13 to 2016-17 towards overseas training under the Capacity Building component. However, an amount of ₹ 0.12 crore was only utilised during 2012-13 and the balance ₹ 3.67 crore was kept unutilized outside the Government account.

- PMU invested unspent sanctioned amount in fixed deposit and earned interest of ₹ 4.55 crore as on 31 May 2017, which was re-invested in the fixed deposits. GoTN did not issue any instructions for refund of unutilised amount or interest earned which remained outside the Government account.

Government accepted (November 2017) that the survival rate was not assessed in the proposal stage and the unspent amount was adjusted against cost over-run under TCPL component. It was also stated that the amounts were drawn initially as it could not be claimed at a later date. The reply confirms the fact that the Government failed to ensure the actual requirement of funds prior to its release.

2.7.2 Payment of commitment charges

The Agreement for loan assistance from JICA for implementation of the project envisaged utilisation of funds during the years planned and delay in utilisation of funds would attract commitment charges¹² on the total unused balances during the financial year and payable semi-annually. We observed from the scrutiny of records that GoTN failed to sanction and release the entire funds as per agreement and PMU failed to spend the released amount due to partial/non-implementation of components *viz.*, payment of incentives for TCPL, International training to departmental officials and engagement of contractual staff resulting in non-utilisation of the agreed amount of ₹ 82.66 crore which resulted in payment of ₹ 2.34 crore¹³ towards commitment charges to JICA till March 2017. It was also seen from the claim status report of the project that a reimbursement claim of ₹ 36.79 lakh was rejected by JICA for reasons not on record.

Government replied (November 2017) that the payment of commitment charges to JICA would arise after completion of the project. The reply is not acceptable as the details collected from the Finance Department of the Government indicated payment of commitment charges before the completion of the project.

2.7.3 Incorrect utilisation of loan assistance

Operational Manual of TBGP envisaged that payment of advances to the supplier for procurement of goods was not allowed as those were not expenditure for reimbursement.

Scrutiny of records revealed that an amount of ₹ 9.32 crore was paid to Electronics Corporation of Tamil Nadu (ELCOT) as advance for procurement of computers and Personal Digital Assistants¹⁴ during 2011-12 to 2015-16 for the project and the same was reimbursed in contravention of manual

¹² Payable after 120 days from the date of loan agreement for the unused balance of loan amount committed by JICA, on pro-rated daily basis at the rate 0.1 *per cent.*

¹³ 2011-12- ₹ 36.46 lakh; 2012-13 - ₹ 54.80 lakh; 2013-14 - ₹ 49.44 lakh; 2014-15 - ₹ 36.60 lakh; 2015-16 - ₹ 30.98 lakh and 2016-17 - ₹ 26.21 lakh = ₹ 234.49 lakh.

¹⁴ Personal Digital Assistant is a device with GPS and camera from which data of GPS co-ordinates of a location besides picture attributes of the location can be obtained.

provisions. It was also seen that the advance amount of ₹ 69.35 lakh¹⁵ was pending adjustment with ELCOT for two years and the goods intended were also not supplied resulting in non-achievement of the envisaged objective.

Government replied (November 2017) that the payment of advances to private contractors were strictly not allowed and the advances were given to ELCOT as it was a Government agency. The reply is not acceptable because advance payment was treated as expenditure in violation of provisions and reimbursement of expenditure claimed from JICA, without the receipt of goods was irregular.

2.8 Programme Management

The details of component-wise project cost, sanction and expenditure of the project were as indicated in Table No. 2.3.

Table No. 2.3: Details of component-wise project cost, sanction and expenditure

(₹ in crore)					
Name of the component	Total project cost as per agreement 2011-12 to 2018-19	Percentage to the project cost	Amount allocated for project during 2011-12 to 2016-17	Sanction by GoTN	Amount utilised by PMU
Biodiversity	92.01	13.41	81.73	90.35	77.45
Increasing natural resource base	179.39	26.14	163.84	188.40	172.12
Institutional capacity development	191.91	27.96	164.45	100.40	80.53
Consulting services	6.29	0.92	6.29	3.85	3.55
Establishment charges (Borne by GoTN)	216.68	31.57	145.80	134.00	46.82
Total	686.28	100	562.11	517	380.47

(Source: Details furnished by PMU)

As seen from the table, we observed the following:

- Though the project envisaged strengthening Biodiversity Conservation and enhancement of green cover, the funds allotted for the components Biodiversity conservation and increasing natural base was 39.55 per cent of the project cost. However, 59.53 per cent of the total project cost was allocated for institutional capacity development and establishment cost, which included construction of PMU, field office buildings, purchase of vehicles, office equipment and employment of contractual staff.

¹⁵ Procurement of Personal Digital Assistance - ₹ 40.57 lakh; supply of Computer and accessories - ₹ 28.78 lakh.

2.8.1 Biodiversity Conservation

Under the component Biodiversity Conservation, 16 sub-components¹⁶ were implemented. The sub-component-wise observations made on detailed scrutiny of files and records are as under:

2.8.1.1 Removal of Invasive species for improving terrestrial habitats

Forest biological diversity refers to all life forms found within forest areas which includes trees, landscapes, plant and animal populations and micro-organisms that inhabit forest areas. Invasive species are plants and micro-organisms from one part of the world that are transported beyond their natural range and become established in a new area. They are sometimes referred as exotic, introduced, non-native or alien species.

Controlling and managing invasive species under TBGP envisaged survey, monitoring and reporting of invasive species and its removal in four Protected Areas and 10 Forest Divisions. Though Department estimated the area of occupation of invasive species in the State as around one lakh ha, GoTN contemplated trial removal of three invasive species viz., Lantana, Prosopis and Wattle in an area of 3,000 ha only.

The component included uprooting the invasive species, turning the soil and immediate replanting with grasses and shrubs as appropriate. It was also envisaged for conduct of the baseline survey of the critical areas prior to removal and preparation of strategy and management manual during 2012-13 followed by the removal of species during 2013-14 to 2015-16. It was emphasised that the implementation of the component would be effective if the species were removed to contiguous areas without exception and were removed from the forest area. Further, regeneration of invasive species expected after a few years of removal, activities in the areas should be continued for the succeeding two to four years. The Governing Body of TBGP resolved (May 2014) that the removal of invasive species had to be executed in one of the identified Range of each Divisional Management Unit (DMU).

As against the target of 2,700 ha fixed for the period 2012-2013 to 2016-17, the invasive species of Lantana, Prosopis and Wattle was removed in 2,684 ha from 2013-14 to 2016-17 by incurring the expenditure of ₹ 5.51 crore. We observed that 1,700 ha of Lantana, Prosopis and Wattle was removed as against the target of 1,725 ha in the eight test checked DMUs.

¹⁶ 1. Strengthen wetland planning and management; 2. Improve critical habitat by removing invasive and exotic species; 3. Conserve critically endangered species; 4. Improve management of water, habitat and herbivores in Guindy National park; 5. Improve management of water, habitat and herbivores in Vallanadu Black buck sanctuary; 6. Improve management of water in PAs and RFs; 7. Monitor impacts of climate change on biodiversity; 8. Strengthen monitoring incidence of fire, poaching and encroachment in PAs and RFs; 9. Consolidation of forest boundaries by construction of RF Cairns; 10. Identify and manage traditional migratory routes; 11. Establish Elephant proof trench; 12. Establish solar powered fencing; 13. Socio-economic and forest dependency surveys of village communities; 14. Eco-development activities; 15. Ecologically sustainable development of tribal; and 16. Community based eco tourism.

Scrutiny of records relating to the implementation of the component revealed the following:

- PMU prepared the field manual on management of the three identified invasive species, viz., Lantana, Prosopis and Wattle. The field manual on management of Prosopis indicated 11 sites in the forest area invaded by Prosopis in 14 Ranges in five Divisions and six Protected Areas.
- Of these 11 sites, four sites were test checked by audit. It was seen that one site with three Ranges (Tirunelveli Division) was identified for removal of prosopis and funds were sanctioned. However, two sites involving four Ranges (Dindigul and Coimbatore Divisions) were not identified for removal of prosopis. In the Dharmapuri Division, three out of four Ranges identified were not considered for removal.
- Removal of wattle was undertaken in Kodaikanal DMU during 2015-16. However, the wattle trees were not removed till roots (**Figure No. 2.1**) due to which eradication of invasive species was not completed properly.

Figure No. 2.1: Partial removal of wattle at Kodaikanal



- Removal of Lantana was done in an isolated patches of 1.5 to 10 ha in different Ranges and partially in Nilgiris North DMU during 2015-16 in deviation of the manual instructions.
- Removal of Prosopis was sanctioned and executed in the Sivagiri Range in Tirunelveli DMU to an extent of 15 to 50 ha (total 85 ha) in the three year period of 2013-14 to 2015-16 indicating non-removal of invasive species in the same location of the Range at the same time.
- In two DMUs¹⁷, invasive species of 6,869 cum of cut wattle wood and 59.95 MT of wattle bark though removed under the project were stacked (**Figure No. 2.2**) inside the forest area resulting in non-adherence to the norms and possibility of regeneration of invasive species.

¹⁷ Nilgiris (North) and Nilgiris (South).

Figure No. 2.2: Stacking of cut wattle wood in forest area

Thus, absence of sanction for removal of prosopis in the identified areas of the field study, partial removal of the trees of invasive species in a location and non-selection of the entire area occupied by the invasive species at the same year indicated inadequate conservation of biodiversity activities despite incurring an expenditure of ₹ 5.51 crore for removal of invasive species of Lantana, Prosopis and Wattle under TBGP.

Government replied (November 2017) that removal of invasive species had been carried out in the identified divisions on pilot basis and the selection of areas were determined by the respective officers taking into account the physical targets and the field need. The reply is not acceptable as the field officers failed to consider the sites identified and the procedure prescribed in the approved field manual which was finalised based on baseline survey resulting in partial achievement of the objective.

2.8.1.2 Failure to monitor impacts of climate change on biodiversity

India, as a signatory to the Convention on Biological Diversity¹⁸ is obliged to essentially identify and monitor the components of biological diversity for its conservation and sustainable use. The obligation requires extensive field surveys to perform an inventory of species and the ecosystems. The surveys and repeat surveys provide the means of monitoring changes in biological diversity, assessing its conservation status for information on management.

TBGP envisaged establishment of long term programme to monitor impacts of climate change on Biodiversity, which included establishment of network of monitoring stations, development of methodology in the first year (2011-12), preparation of field manual, completion of base line survey within three years (before 2013-14) and for a second survey after five years, within the life of the project.

¹⁸ India ratified the Convention on Biological Diversity in 1994.

We observed that GoTN sanctioned funds for monitoring impact of climate change on Biodiversity during 2012-13 and 2013-14. Department failed to identify an agency for conduct of field study and baseline survey till January 2014. Department also proposed (January 2014) for enhancement of the budget allocation for the project from ₹ 25 lakh to ₹ 46.78 lakh. JICA suggested that the study was to be reconsidered as the period of the implementation exceeded the project period. Tamil Nadu Forest Department, without reconsidering the same, recommended for dropping which was approved (June 2014) by the HLEC.

Thus, failure of the Department to adhere to the time schedule of the project besides delay in identifying the appropriate agency led to dropping of this component despite availability of fund to undertake study to monitor impact of climate on Biodiversity.

Government admitted (November 2017) the facts and stated that the component was dropped as the implementation exceeded project period. The fact, however, remains that the objective of monitoring impact of climate change remains unachieved.

2.8.1.3 Conserve critically endangered species

Sea turtles are protected under Schedule I of the Indian Wild Life Protection Act. They are listed as critically endangered on the World Conservation Union Red list. Though many reasons were attributed for their death, main cause was entanglement and subsequent drowning in various nets viz., trawl nets, ray nets and gill nets used by fishermen.

TBGP proposed for development of species conservation plans for sea turtles in seven coastal districts¹⁹ of the State for a period of five years. The action plan for conservation of sea turtle included provision of Turtle Excluder Devices to the fishermen, establishment of hatcheries to protect the sea turtle eggs from poaching and for increased hatchings. It also prescribed for adoption of both *in-situ* and *ex-situ* hatcheries.

Scrutiny of records revealed the following:

- PMU finalised the Sea turtle model hatchery guidelines belatedly in July 2015 after implementation of the scheme for more than two years.
- Department commenced conservation of the sea turtles by establishing *ex-situ* hatcheries and did not undertake *in-situ* hatcheries due to insufficient staff to protect their natural nests despite instructions in the management handbook.
- We observed from the four test checked DMUs that the sea turtle eggs collected by the Department for hatching was 25,257, 23,524, 17,721 during the years 2013-14 to 2015-16 respectively which improved to the eggs collection of 53,153 during 2016-17.
- Similarly, the percentage of survival of the collected eggs ranged between 32 and 92 during 2013-14 to 2015-16 as compared to 80 and

¹⁹ Chennai, Cuddalore, Kancheepuram, Kanyakumari, Nagapattinam, Ramanathapuram and Thoothukudi.

97 in the four DMUs during 2016-17. Delay in finalisation of hatchery guidelines resulted in reduced sea turtle egg collection for hatchings in the years and inadequate conservation of sea turtles.

Sea Turtle Devices

Government sanctioned (July 2013) provision of 500 Turtle Excluder Devices (TEDs) for conservation of sea turtles. Department supplied 20 TEDs to fishermen in Chennai and Nagapattinam Divisions in 2014-15. Wild Life Warden, Chennai issued a work order (December 2015) for fabrication and supply of 231 TEDs made of stainless steel for supply to eight districts for a value of ₹ 15.66 lakh to a contractor and were supplied to eight districts.

We observed from the scrutiny of records that 231 TEDs were issued to the implementing Divisions. Of the 231, 117 TEDs were issued to the four²⁰ test checked districts. Out of the same only 51 TEDs were issued to fishermen in Cuddalore district and the balance remained with the implementing Divisions. Ineffective pursuance to procure the entire quantity of TEDs sanctioned and to distribute the procured quantity in full resulted in non-achievement of the objective of preserving the endangered sea turtles.

It was also observed that the survey conducted by Students' Sea Turtle Conservation Network revealed that 288 turtles were washed ashore dead in Chennai coast during the 45 days survey period conducted in January and February 2015.

Thus, inadequate collection and hatching of eggs due to delay in finalisation of model sea turtle guidelines, partial procurement of TEDs and non-supply of procured TEDs resulted in ineffective conservation of critically endangered sea turtle under TBGP.

Government stated (November 2017) that the possibility of adopting scientific approach for increasing the survival rate would be explored in the coming years. It was also stated that the manufactured TEDs were not supplied due to objections raised in adoption of approved design and action had been initiated for supplying the balance TEDs to the fishermen during 2017-18. The reply is not acceptable as the Department failed to provide appropriate details of the objections to the approved design and the same resulted in partial achievement of objective of conservation of sea turtles.

2.8.2 Increasing the Natural Resource Base

The National Forest Policy, 1988 and 11th Five Year Plan document envisaged bringing 33 *per cent* of geographical area under forest and tree cover by the year 2023. The State has 18 *per cent* forest cover and four *per cent* tree cover. Considering the availability of 18.5 *per cent* of the total geographical area as fallow lands in the State, plantation activities outside the recorded forest area was proposed to increase the green cover as envisaged in the National Forest Policy.

The component of TCPL under TBGP planned to supply three crore short rotation seedlings to cover 3,000 ha (10,000 seedlings per ha) and seven crore

²⁰ Cuddalore, Nagapattinam, Kanyakumari and Tirunelveli.

long rotation seedlings to cover 1.40 lakh ha (500 seedlings per ha) during 2012-13 to 2016-17. PMU made a mid-term correction (January 2014) that short rotation plants were not contributing to the objective and hence decided to supply long rotation seedlings without compromising the target area and also extended the period upto 2018-19.

The physical target and achievement of seedlings supplied and area covered under TCPL during the period 2012-13 to 2016-17 is detailed in **Table No. 2.4.**

Table No. 2.4: Details of target, achievement and area covered under TCPL

Year	Target (seedlings number in lakh)			Achievement (seedlings number in lakh)		
	Short rotation	Long rotation	Area covered in ha	Short rotation	Long rotation	Area covered in ha
2012-13	28.14	71.86	14,653	28.14	71.86	14,653
2013-14	50.41	131.48	26,791	49.52	131.48	26,791
2014-15	0	102.00	20,400	0	102.00	20,400
2015-16	0	102.00	20,412	0	102.00	20,412
2016-17	0	96.92	19,384	0	96.92	19,384
Total	78.55	504.26	1,01,640	77.66	504.26	1,01,640

(Source: Details furnished by PMU)

Scrutiny of records revealed that as against the target of 281.89 lakh seedlings during the plantation years 2012-13 and 2013-14 for supply of short and long term seedlings, the department reported achievement of 281 lakh seedlings. However, cross verification of the statement of incentive payments made to the beneficiaries for the period 2012-13 and 2013-14 revealed that the actual number of short and long term seedlings planted during these two years is 275.89 lakh seedlings. The variation in the number of seedlings planted indicated that the Department overstated the number of plantation of seedlings by 5.11 lakh, which was valued at ₹ 1.00 crore, during 2012-13 and 2013-14.

Government stated (November 2017) that the variations were due to carrying out the spill over works in the subsequent year of operation. The reply is not acceptable, as the plantations made in the subsequent years cannot be considered as planted in earlier years for incentive payments.

2.8.2.1 Incorrect selection of plantations

The project guidelines envisaged that no pure casuarina plantations would be undertaken by a single farmer under TCPL. We observed from the test check of records of four²¹ out of nine DMUs that 45,920 numbers of casuarina seedlings valued at ₹ 6.20 lakh were supplied as a single plantation during the period 2012-13 to 2013-14 under TCPL component, in violation of the project guidelines.

2.8.2.2 Village Level Micro Plan

The project envisaged the preparation of Village Level Micro Plan (VLMP) by non-government organisation to assess the availability and suitability of the land for different tree species, plantation models in each identified village and

²¹ Dindigul Forestry Extension, Dindigul, Dharmapuri Forestry Extension and Sirumali.

to ascertain the preference of plantation of the farmers. VLMP contained farmer-wise data and the preference of beneficiaries for planting different tree species.

We observed from the scrutiny of records that

- The VLMP indicated the matrix ranking for the different tree species after considering their growth, economic value, green cover, biodiversity conservation and its usefulness. VLMP did not analyse the matrix ranking of the trees considering the type of soil, moisture, rainfall condition, agro climatic zone, etc., for different areas of village. This resulted in selection of plantation on the basis of the preference of the beneficiaries instead of suitability of the area or the objective of the component for enhancing the green cover. We observed that silver oak seedlings were supplied for plantation to the beneficiaries based on their preference despite the least matrix ranking accorded to the silver oak trees considering its capacity of green cover and biodiversity conservation in five²² DMUs.
- In two selected DMUs, 161 villages were identified for implementation of TCPL during 2012-17. We observed that the scheme was not implemented in 25 identified villages due to unwillingness of the beneficiaries whereas it was implemented in 29 villages for which micro plan was not prepared. It was seen that the beneficiaries in 19 out of 29 villages were supplied silver oak seedlings which was with least matrix rankings for green cover.
- In two²³ out of nine DMUs test checked, 70,975 number of seedlings of short/long rotation valuing ₹ 20.16 lakh were issued to 64 beneficiaries who were not selected as beneficiary under the approved VLMP as they were not provided with adequate information and training about the programme.

Thus, VLMP did not rank the plantations suitable for the identified villages but suggested plantations based on the preference of the beneficiaries and the beneficiaries were selected without proper field investigation resulting in inadequate planning in implementation of Tree Cover in Private Lands.

Government accepted (November 2017) that silver oak seedlings under shade cover was in contravention to the project guidelines and stated that the plantations were considered as inter-crop plantations. It was also stated that detailed replies would be obtained from the field DMUs. The fact, however, remains that plantation of trees as inter-crop would not add any fresh green cover.

2.8.2.3 Supply of seedlings

The project envisaged plantation of 500 numbers of long rotation seedling per ha considering the espacement of 5m x 4m. We observed from the records of two²⁴ DMUs that 89,092 seedlings were supplied to cover 103.05 ha without

²² Dindigul, Dindigul Forestry Extension, Harur, Nilgiris (North) and Nilgiris (South).

²³ Dindigul Forestry Extension and Dindigul.

²⁴ Dindigul and Sirumalai.

considering the norms for spacing between the plantations. This resulted in non-adherence to norms and excess supply of 37,557 seedlings besides avoidable expenditure of ₹ 9.94 lakh²⁵. This also resulted in excess recording of area of 75 ha as achievement under tree plantation component due to the fact that the area of coverage was calculated on the basis of number of seedlings issued.

Government stated (November 2017) that detailed reply would be furnished on receipt of reports from the concerned DMUs.

2.8.2.4 Survival of plantations

The project envisaged for making payment of incentive to the farmers on the basis of survived plantations after conducting physical inspection of the plantations in the third financial year after planting. The guidelines stipulated preparation of data on survival of plantations in the first quarter of the fiscal year and average survival rate of 70 per cent of trees planted outside the forest area for the purpose of monitoring and evaluation.

Scrutiny of records revealed that Department conducted survival assessment studies during 2014-15 and 2015-16 for the plantations made during 2012-13 and 2013-14 respectively. The data on survival of trees planted during 2014-15 was not finalised during 2016-17.

The details of survival of long and short rotation plantation raised under TCPL are as detailed in **Table No. 2.5**.

Table No. 2.5: Details of survival of plantations

Year	No. of trees planted	Long Rotation		Short Rotation		
		No. of trees survived	Percentage of survival	No. of trees planted	No. of trees survived	Percentage of survival
2012-13	69.73	40.44	57.98	26.96	12.52	46.44
2013-14	128.89	75.22	58.36	50.30	30.14	59.92

(Source: Details furnished by PMU)

It may be seen from the above that the percentage of survival of plantations ranged between 46 per cent and 60 per cent during 2012-13 and 2013-14 which was below the survival rate of 70 per cent fixed. This resulted in absence of green cover in an area of 16,938 ha²⁶. Department also did not propose and implement supply of seedlings to the farmers to supplement the mortality of the plantations for achieving the desired green cover.

We also observed that 10.53 lakh seedlings planted under long rotation category in 18 DMUs during the years 2012-13 to 2013-14 were reported as zero per cent survival resulting in non-achievement of objective of creating green cover in an area of 2,106 ha. The expenditure of ₹ 2.14 crore incurred for raising of nursery and plantation cost became infructuous.

²⁵ (2012-13: 9,523 seedling x ₹ 15.80 = ₹ 1.50 lakh) (2013-14: 8,842 seedling x ₹ 24.53 = ₹ 2.17 lakh) (2014-15: 2,298 seedling x ₹ 31.75 = ₹ 0.73 lakh) (2015-16: 16,894 seedling x ₹ 32.80 = ₹ 5.54 lakh) = ₹ 9.94 lakh.

²⁶ Long rotation: 16,592 ha (Not survived - 82.96 lakh seedlings/500 per ha) and short rotation: 346 ha (Not survived - 34.60 lakh seedlings/10,000/ha).

Thus, Department did not ensure survival of the planted seedlings resulting in non-achievement of the green cover to an extent of 19,044 ha of private lands.

Government stated (November 2017) that the survival percentage was low due to initial years of the project and would be higher in the subsequent years. The reply is not acceptable as the Department did not complete the collection of data for the subsequent years to substantiate their claim.

2.8.3 Ecologically Sustainable Development

In order to focus on mainstreaming village community centric development initiative aiming at biodiversity conservation and Ecologically Sustainable Development was envisaged under the project. The 12th Five Year Plan document also envisaged to ensure the welfare of the tribal and forest fringe villagers to ensure economic prosperity and ecological stability.

This component consists of sub-components *viz.*, Eco-development activities in villages abutting PAs or Elephant Reserves (ER) (30 villages²⁷) in six DMUs²⁸ with an expenditure of ₹ 4.93 core during 2012-13 to 2015-16 and Ecologically sustainable development (ESD) in 33 villages²⁹ for orienting the local community in ecological sustainable development. The sub-components were implemented by the village council, in which the Forest Range Officer functioned as the Member Secretary, on the basis of recommendations in the village micro plan prepared for Community development activities and Income generation activities.

Scrutiny of records in 25 out of 63 test checked villages revealed the following deviations from VLMP:

2.8.3.1 Community development activities

- Village micro plan of three villages³⁰ in two DMUs³¹ envisaged levelling the agriculture land, construction of overhead water tank, drinking water and toilet facilities in middle school. DMUs released (November 2013 to February 2016) ₹ 16.75 lakh towards these community development activities to the Village Forest Council (VFC) through FMU. It was seen that the VFCs incurred ₹ 12.39 lakh for activities beneficial to individuals instead of community development as proposed in the micro plan *viz.*, supply of gas cylinders, sewing machines, water purifier, agriculture implements, dining table and chairs to the members. The balance amount of ₹ 4.36 lakh was kept unutilised in the savings bank account.

²⁷ Situated either on the fringes of wild life sanctuaries at Sathyamangalam, Kanyakumari and Srivilliputhur or within five km radius of boundary of a RF forming part of an Elephant Reserve.

²⁸ Dharmapuri, Dindigul, Kanyakumari, Kodaikanal, Sathyamangalam and Srivilliputhur.

²⁹ Located around RFs that are part of Nilgiris eastern ghat Elephant Reserve and Nilambur-Silent valley-Coimbatore Elephant Reserve, Kallakurichi and Vellore.

³⁰ Aranmanaipallam, Booliyammanur and Echampallam villages.

³¹ Dharmapuri and Dindigul.

- Forest Range Officers functioning as the Member Secretary of the village councils also failed to adhere to the micro plans, resulting in non-utilisation of the sanctioned funds for community development.

2.8.3.2 Income generation activities

Ecologically sustainable development was implemented in 33 tribal villages with the view to reduce the dependency on forest for their livelihood and to increase their income through alternative sources.

- A sum of ₹ 2.18 crore was released by five³² DMUs to 19 village councils for income generation activities during 2012-13 to 2015-16. Of the same, the village councils released only ₹ 86.74 lakh (39.79 per cent) to the tribals and villagers for income generation activities. Of the disbursed loan of ₹ 86.74 lakh, ₹ 30.65 lakh was pending recovery after due date and the delay in recovery ranged from two to 16 months as on 31 March 2017. It was also seen that ₹ 36.01 lakh recovered from the loanee was also not utilised for making further loans.
- It was seen that DMU, Coimbatore, released ₹ 50 lakh out of the unspent amount of ₹ 1.31 crore, to five³³ village councils for the benefit of tribal population during 2012-13 to 2015-16. Of the same, ₹ 42 lakh was diverted (June and December 2016) by the Conservator of Forests for activity in a village which was not covered under TBGP. Thus, the unspent amount of ₹ 1.31 crore was parked in bank accounts for a period ranging from 12 to 48 months without utilisation of the same for the envisaged objective of the project.

Thus, Department failed to ensure adherence to the VLMP recommendations in implementing the project and utilised the funds for activities other than community development of tribals. Partial utilisation of released project funds for income generation activities resulted in parking of funds of ₹ 1.31 crore.

Government replied (November 2017) that the deviations from the micro plan was on the basis of the field necessity and executed with the approval of the EDC village committee. It was also replied that efforts were made to recover the dues from the members and the balance loans would be released in subsequent years. The reply is not accepted as the micro plans were approved by DMU and deviations were not approved by DMU.

2.8.4 Improved management of water in Protected Areas/Reserve Forests

Water is considered to be a limiting factor during the dry season for wild life in Protected Areas (PA) and other sites forcing animals to visit human habitat with resultant human-animal conflict. Further, shortage of water for wild life reflects degradation of the habitats adversely impacting the biodiversity. A comment was also made in the CAG's Audit Report for the year ended March 2015 about the absence of adequate water facilities inside the forests which forced the movement of wild animals outside the forest area thereby resulting in human-animal conflict.

³² Coimbatore, Dharmapuri, Dindigul, Kodaikanal and Nilgiris (North).

³³ Kadamankombai, Manar, Sithugani, Thondai and Veppamaruthur.

The component comprises of Water Management Strategy and Action Plan, improving water retention capacity by creating permanent water holes to improve water storage and supply. Project guidelines emphasised that the strategy and plan developed should take into account elephant movements and existing corridors by hiring knowledgeable experts. The department hired experts and developed the Water Management Strategy and Action Plan for each DMUs. The plan and strategy was finalised belatedly in 2014 in respect of four test checked DMUs.

The details of water structure created during 2013-14 to 2016-17 under TBGP are indicated in **Table No. 2.6**.

Table No. 2.6: Details of target and achievement on water structure

Name of the work	(In numbers)									
	2013-14		2014-15		2015-16		2016-17		Total	
	T	A	T	A	T	A	T	A	T	A
Creation of water storage facilities	12	10	12	10	12	10	11	9	47	39
Creation of permanent water hole	17	17	8	7	8	7	8	7	41	38

(Source: Details furnished by PMU)

(T: Target and A: Achievement)

From the above, we observed as under:

- Despite hiring of experts and development of Water Management Strategy and Action Plan for each DMU in 2014, the creation of water facilities inside the Reserved Forest (RF) area was executed upto 2016-17 based on the proposals finalised during 2012-13. Mid-course correction, to identify additional areas requiring water facilities, was not identified by the Department based on inputs from Action Plan.
- Of 47 water storage works planned during 2013-14 to 2016-17, 39 works were completed. We observed that eight works sanctioned for DMU, Hosur and Wild life warden, Srivilliputhur were not created (August 2017) for four years despite sanction of works every year and availability of ₹ 18.19 lakh.
- Of 41 works sanctioned for creation of permanent water holes, Wild life warden, Nagapattinam did not create (August 2017) these structures despite the availability of funds of ₹ 35.13 lakh.

Thus, inadequate implementation of the strategy and plans finalised with the assistance of the expert, failure to create water storage systems and permanent water holes by the field officers of Hosur, Srivilliputtur and Nagapattinam DMUs despite availability of funds of ₹ 53.32 lakh resulted in non-achievement of the objective of availability of water for wild life to prevent human-animal conflict.

2.8.4.1 Creation of water facility

Scrutiny of records of improvement in management of water facilities in the Protected Areas created in the test checked DMUs revealed the following:

- The water management strategy and action plan (June 2014) of DMU, Coimbatore recommended for construction of 34 check dams, five

percolation ponds and water troughs in the elephant corridor of Bolampatty, Mettupalayam and Karamadai ranges. However, only three water troughs were created at Coimbatore and Periyayanayakanpalayam range which was not recommended in the action plan. We further observed that an elephant was reported to have died (March 2016) due to dehydration in Karamadai range.

- The water management strategy and action plan (March 2014) of DMU, Dharmapuri recommended for construction of 21 check dams, 13 percolation ponds and water troughs in elephant corridor of Pennagaram and Hogenakkal ranges. However, only one check dam, one water hole and one percolation pond were created at Palacode which was not recommended in the action plan. An elephant was reported to have died (December 2016) due to dehydration in Pennagaram range.
- The water management strategy and action plan (August 2014) of DMU, Nilgiris (North) recommended for construction of 202 check dams and 66 percolation ponds considering the human-animal conflict. However, three check dams were sanctioned and constructed (March 2017).

Thus, failure of the PMU to sanction adequate number of percolation ponds, water troughs and check dams for improved management of water in Protected Areas/Reserve Forests based on the water management strategy and action plan resulted in lesser availability of water to the animals.

Government replied (November 2017) that the mid-term correction was not required as the targets for the project were achieved. The reply is not acceptable as the water facilities recommended in the Action Plan prepared under the project was not considered for execution by the Department.

2.8.5 Non-eviction of encroachment in Forest area

Section 68 A of the Tamil Nadu Forest Act, 1882, stipulated that any person occupying any land in reserved forest or any land at the disposal of Government without any authority may be summarily evicted by an officer of the Forest Department after 15 days notice. Further, GOI instructed (May 2002) all States to frame a time bound programme for eviction of the encroachment in the Reserve forest. The details of encroachment of forest area are indicated in **Table No. 2.7**.

Table No. 2.7: Details of encroachment in forest area

Year	Encroachment at the end of the year (in ha)
2012	15,194.556
2013	15,139.770
2014	15,263.753
2015	14,821.225
2016	15,108.484

(Source: Details furnished by the Forest Department)

From the above, we observed as under:

- Despite stipulations in the Act and instructions from GOI, eviction of encroachments during the period from 2012 to 2016 was not

encouraging as the net eviction was only 86.072 ha in 2016 as compared to the encroachments during 2012.

- Though the department could evict encroachments to an extent of 54.786 ha and 442.528 ha during 2013 and 2015 respectively, there was no concrete action to continue the trend as new encroachment was allowed to an extent of 123.98 ha and 287.259 ha during 2014 and 2016 respectively.

From the scrutiny of records at the test checked DMUs we observed as under:

- The Hon'ble High Court of Madras had delivered (October 2013) judgement in favour of Forest Department for eviction of forest land to an extent of 1,939 ha. However, efforts were not made to evict encroacher from encroached forest land till May 2017, even after a lapse of more than three years from the judgement. On this being pointed out, it was replied that the matter was pending due to non-formation of a high level committee by the District Collector. Thus, the Department failed to co-ordinate with the Revenue Department for eviction of encroacher despite directions from the Court.
- We also observed that 40 shops/stalls encroached in the RF area in the Kodaikanal Wild Life Sanctuary Division for more than eight years. Despite a mention of the same in the Forest Working Plan of the Division, no efforts were made to evict the encroacher.

2.8.5.1 Urbanisation in Elephant reserve

In order to develop the hills into ecologically acceptable and environmentally desirable areas, GoTN constituted (April 1990) Hill Area Conservation Authority (HACA). GoTN directed³⁴ (March 2003) that all activities of construction of building having more than two families, construction of commercial and office building of more than 300 sq m area and buildings developed in Booluvapatti village to consult the HACA in respect of all development programmes undertaken.

The ISHA foundation, Coimbatore, (Foundation) had constructed (1994 to 2008) various buildings in an area of 32,856 sq ft in Booluvapatti village with permission from Booluvapatti Village Panchayat. The Foundation requested (October 2011) Forest Department to issue No Objection Certificate (NOC) and ex-post facto approval from HACA for the already constructed buildings in an area of 69,193 sq m, proposed construction in an area of 52,393 sq m and an area of 3,34,331 sq m for vehicle parking, roads, playground etc. District Forest Officer, Coimbatore conducted (February 2012) field inspection and observed that earlier constructions of buildings in an area of 11,973 sq m undertaken from 2005 to 2008 was permitted by Village Panchayat without consulting HACA.

The field assessment report stated (August 2012) that the Foundation continued construction in the area despite issue of notice by Forest Department (February 2012 and April 2012) on the plea that the buildings were in the protected area of Booluvapatti reserve forest range, known for

³⁴ G.O Ms.49, Housing and Urban Development Department dated 24 March 2003.

elephant habitat/corridor. The request for NOC was returned (February 2013) by Forest Department and thereafter, no follow up action was initiated to stop further construction.

The Foundation re-approached (March 2017) the Department stating that NOC was obtained from Tahsildar, Revenue Department and requested NOC of Forest Department for approaching HACA. DFO, Coimbatore, forwarded the request to Principal Chief Conservators of Forest with recommendation for grant of HACA permission citing reasons *viz.*, buildings had already been constructed, used by the public for religious purpose, applicant sought *ex-post facto* approval despite the fact that it was within 100 m from Reserve Forest boundary and Writ Petitions were filed by an individual for demolition of unapproved buildings constructed in HACA notified areas by the Foundation in the High Court of Madras. The proposal also incorporated specific mitigation measures³⁵ to prevent disturbances caused to wildlife and creation of water troughs for the benefit of wildlife. The approval of HACA was pending (July 2017).

Forest Department failed to act on the notices issued in 2012 during construction of the buildings. The Department did not insist for completion of mitigation measures and creation of water troughs prior to recommending the case to HACA. This resulted in non-ensuring the ecologically acceptable and environmental safeguarding of biodiversity of hills.

Government replied (November 2017) that the encroachments did not fall under the purview of the TBGP. The reply is not tenable as the project included strengthening resource protection with geo referencing location boundary markers using Global Positioning System (GPS) for monitoring encroachments and the same was implemented in Booluvapatti village which was a part of Coimbatore DMU.

2.8.6 Capacity Development

The project envisaged that 532 Government staff was required to ensure the smooth and timely implementation, monitoring works and reporting of the progress of works during the project period and the expenditure was to be borne by the State Government.

The details of sanctioned strength and actual persons-in-position of the category of Government staff required for implementation and monitoring the activities of the project as of March 2017 are indicated in **Table No.2.8**.

³⁵ Shifting of road running parallel to the forest road from south to north by 100 meters away from RF; Construction of adequate fencing and elephant proof trenches; and Removal of i) Kalari shed situated at a distance of 16 m from RF ii) Water tank with swimming pool situated at a distance of 6 m from RF and iii) Temporary shed situated on the western side are the mitigation measures.

Table No. 2.8: Details of sanctioned strength and persons-in-position

(In numbers)				
Sl. No	Name of the Post	Sanctioned Strength	Persons-in-position	Vacancy
1	Conservator of Forest	2	0	2 (100)*
2	Deputy Conservator of Forest	4	2	2 (50)
3	Driver	28	12	16 (57)
4	Forest Range Officer	68	30	38(56)
5	Statistical Inspector	17	2	15 (88)
6	Forester	226	78	148 (65)
	Total	345	124	221 (64)

(Source: Details furnished by Department)

(*Figures in bracket indicate percentage)

From the above, we observed that 30 out of 68 posts (56 per cent) of Forest Range Officers and 148 out of 226 posts of Foresters (65 per cent) created exclusively for the implementation of the TBGP remained vacant resulting in absence of adequate manpower for implementation of the scheme in the State besides non-utilisation of the State share of the project cost.

Thus, the Department failed to ensure availability of adequate manpower for effective implementation of the scheme in the State.

Government replied (November 2017) that the activities were maintained with the available staff and the issue of non-availability of staff had been addressed to the appropriate forum. The reply is not acceptable as we observed delay in implementation of the project without sufficient manpower and some project components such as *in-situ* hatchery activities for conservation of endangered species and survey of planted trees under TCPL as discussed in **Paragraph Nos. 2.8.1.3 and 2.8.2.4.**

2.9 Internal Control

The project emphasised that a system would be evolved to monitor and evaluate the progress of project activities in a timely manner and also assess their performance to estimate the project impacts and results. The deficiencies noticed in the internal control mechanism are discussed below:

2.9.1 Web enabled management information system

The project envisaged development of web enabled management information system within 18 months to effectively implement the project during crucial stages of the intervention. Further, HLEC instructed (May 2012) for digitalisation of the achievements for the component by utilising the service of existing Geomatic Information Centre of the Forest Department, to avoid duplication of areas and to reduce the expenditure. Department procured GPS hand-held receivers for this purpose and new software was developed for processing and storing the field data at a cost of ₹ 1.09 crore as part of web based management.

We observed that the field offices collected GPS co-ordinates of the area of implementation of project components *viz.*, TCPL, consolidation of forest boundary by constructing cairns (concrete boundary pillars), etc., and were

forwarded to PMU as soft copy for preparation of Resource Protection Reports. These GPS co-ordinates were not uploaded into the server for undertaking web based monitoring. The data available in the Geomatic Centre was obtained (September 2017) and cross verified with the achievement of these project components which revealed the following:

- As against the target of construction of 80,000 cairns to protect the reserve forest area, Department completed (2016-17) 60,848 cairns. However, GPS co-ordinate details for only 9,442 cairns (15.52 per cent) constructed were available.
- The component TCPL covered 1.02 lakh ha of trees planted outside the forest area upto 2016-17. However, GPS co-ordinate details were available only in respect of 10,971 ha (10.76 per cent).

Thus, web based monitoring of the project was not implemented effectively by collating the complete details of area of implementation of the project components with geo co-ordinates, to ensure effective monitoring.

Government replied (November 2017) that subordinate officers were instructed to upload all the details in the software and the server of the Geomatic centre was crashed in March 2017. It was also assured that the work would be finished immediately on installation of new server. The reply is not acceptable as the data available with the Department prior to server crash indicated incomplete data capturing.

2.9.2 Computerised Financial Management and Accounting system

The project envisaged development of computerised Financial Management and Accounting System (FMAS) for the efficient management of funds and generating statement of expenditure at all operational levels. The module was developed incurring an expenditure of ₹ 1.85 crore. The training of personnel to use the modules and the data entry were pending implementation (August 2017), which resulted in non-achievement of the objective besides non-monitoring of utilisation of accumulated funds with various implementing agencies as discussed in **Paragraph No. 2.7.1.**

Government replied (November 2017) that the server had crashed and replacement was awaited. It was also stated that FMAS training and data entry would commence after the installation of the new server. The fact however remains that the Department failed to provide necessary training to the officials immediately after the development of the module.

2.9.3 Inadequate convening of meetings

The Operational Manual of the project envisaged that HLEC should convene meetings at least once in six months to consider and approve the proposals including fund allocation thereof and monitor the progress of implementation. It was further stipulated that the Governing Body, constituted to assist HLEC, should meet at least once in three months to examine and recommend the proposals and review the progress of projects. It was, however, observed that while the Governing Body met 13 times as against the required 24 and HLEC meetings were held only on six occasions as against the required 12 during 2012-13 to 2016-17.

Absence of regular meetings of Executive Body and HLEC delayed the approval of Annual Plan of Operation and periodical monitoring of the progress of the project components.

Government replied (November 2017) that the non-conduct of meetings was due to administrative reasons and stated that the project work was not hindered due to absence of meetings. The reply is not acceptable as the delay in approval of Annual Plan of Operations consequently delayed release of funds every year leading to non-completion of project during the year of sanction and accumulation of funds in the accounts of PMU.

2.10 Conclusion

Implementation of Tamil Nadu Biodiversity Project in the State revealed that the Department failed to complete the preparatory phase of action plans, surveys, baseline geo coded data of land distribution and local specific flora for conservation of biodiversity indicating inadequate planning. Failure of the Government to sanction the agreed funds, non-utilisation of State share of ₹ 87.18 crore towards establishment charges, parking of Government funds of ₹ 49.35 crore outside the Government account indicated imprudent financial management. Absence of sanction for removal of invasive species in the identified areas and its partial removal, inadequate collection and hatching of eggs, inadequate supply of turtle excluder device and non-monitoring of climate change indicated ineffective biodiversity conservation. Selection of plantations based on beneficiary preference instead of field investigation for tree cultivation in private lands and failure to ensure survival of the planted saplings resulted in non-achievement of the green cover to an extent of 19,044 ha. Department did not ensure adequate community development and income generation activities for tribal people in implementing eco-developmental activities. Absence of adequate manpower, shortcomings in the web based monitoring and internal control impacted the objective of strengthening biodiversity conservation and enhancing green cover in the State.

2.11 Recommendations

State Government may

- Ensure creation of database of geo coded data on land distribution and local specific flora and finalise proposals for declaration of eco sensitive zones for conservation of biodiversity and enhancing green cover.
- Strengthen the system of financial control to ensure complete and timely utilisation of funds for the intended objectives and avoid parking of funds.
- Formulate a mechanism for effective implementation of the components of the project on the basis of baseline surveys, field studies, village plans and action plans for achieving the objective of biodiversity conservation and enhancement of green cover.

- Ensure conduct of periodic meetings of High Level Empowered Committee and Executive Committee to effectively monitor the implementation of the project components. Internal monitoring through Web enabled management system may also be ensured.

CHAPTER III

CHAPTER III COMPLIANCE AUDIT

ANIMAL HUSBANDRY, DAIRYING AND FISHERIES DEPARTMENT

3.1 Medical Services by Animal Husbandry Department

3.1.1 Introduction

The Policy Note (2015-16) of the Government of Tamil Nadu (GoTN) contemplated that Animal Husbandry Department (AHD) played a major role in implementing various programmes effectively and providing veterinary assistance, health care to the livestock and poultry population of the State. Medical services were provided by qualified veterinarians through wide network of Veterinary Institutions and Sub-centres located in all the districts. The medical services provided in these institutions include disease prevention, diagnosis and control through vaccination, testing and medical treatment.

Principal Secretary to Government is administrative head of Animal Husbandry, Fisheries and Dairy Development Department at Government level. Director of Animal Husbandry and Veterinary Services (DAH) is the head of the Animal Husbandry Department. The veterinary services in the State, were provided through six Poly Clinics, 22 Veterinary Clinician Centres (VCC), 139 Veterinary Hospitals, 2,581 Veterinary Dispensaries, 56 Veterinary mobile units and 775 Sub-centres, as on 31 March 2017. In addition, 22 Animal Disease Intelligence Units (ADIU), two Poultry Disease Diagnostic Laboratories (PDDL), Institute of Veterinary Preventive Medicines (IVPM) and Central Referral Laboratory were also functioning in the State. AHD procured medicines, equipment, etc. through Tamil Nadu Medical Services Corporation (TNMSC), established under Companies Act, 1956.

Audit was conducted between April 2017 and August 2017 covering the period 2014-15 to 2016-17 to assess the effectiveness of delivery of medical services to the livestock and poultry population with reference to 12th Plan documents (2012-17) and scheme guidelines issued by Government of India (GOI) and GoTN. We test checked the records of the Offices of DAH, Regional Joint Directors of Animal Husbandry (RJDAH) and veterinary institutions in 10 districts³⁶, which were selected on the basis of expenditure incurred for medical services including infrastructure through stratified sampling method. 46 Veterinary institutions³⁷ in these 10 districts were also selected for detailed scrutiny by adopting simple random sampling with replacement method.

Audit objectives, criteria, scope and methodology were discussed in the Entry Conference held with the DAH on 15 June 2017. Audit findings were also discussed with Principal Secretary to Government, Animal Husbandry, Fisheries and Dairy Development Department in the Exit Conference held on

³⁶ Coimbatore, Erode, Madurai, Pudukottai, Theni, Tirunelveli, Tiruppur, Tiruvarur, Vellore and Villupuram.

³⁷ Seven ADIUs, Three Poly Clinics, Five VCCs (50 per cent), 12 Veterinary Hospitals (20 per cent) and 19 Veterinary Dispensaries (two per cent).

25 October 2017 and their views were considered while finalising the report. We acknowledge the co-operation extended by Directorate of Animal Husbandry and other field offices in providing necessary records and information.

3.1.2. Planning

3.1.2.1 Diagnostic services

Twelfth Plan (2012-17) document envisaged that disease control and monitoring mechanism needs to be strengthened by establishing one Animal Disease Intelligence Unit (ADIU) in each district. It also envisaged upgrading the existing ADIUs and PDDLs to adopt Good Laboratories Practices (GLP) for effective disease control and to minimise the losses due to mortality of livestock.

The total number of ADIUs available in the State as on 1 April 2012 was 20 which was increased to 22 in December 2014 and 24 in January 2017. Though the Department stated that ADIUs played a key role in providing early warning signals of outbreaks of animal diseases, the same was not available in all the districts during the 12th Plan period and 10 districts remained without ADIUs. We observed that two ADIUs created in January 2017 were not operational and 14 out of 32 districts functioned with exclusive ADIUs and the balance 18 districts were managed by eight ADIUs.

It was seen from the eight test checked ADIUs that four³⁸ districts were having exclusive ADIUs with the sanctioned and effective manpower strength³⁹ of 22 and 13 respectively. The balance four ADIUs catered to eight districts with the sanctioned and effective manpower strength of 21 and 13 respectively. This resulted in functioning of four ADIUs rendering services to eight districts with inadequate manpower.

We observed that the targets for diagnostic services were fixed on the basis of ADIUs irrespective of the number of districts to which they catered to. For instance, Erode district with 4.28 lakh cattle units and Coimbatore and Tiruppur Districts with 6.91 lakh cattle units were catered by one ADIU each. This resulted in short delivery of diagnostic services to the animal population of the districts which did not have exclusive ADIUs.

We also observed that the Department did not propose for upgradation of existing, 22 ADIUs and two PDDLs, for adoption of GLP standards.

Thus, Department did not establish adequate number of ADIUs as envisaged in the 12th Plan document to develop disease surveillance system.

Government replied (November 2017) that efforts would be initiated for establishing exclusive ADIUs in the balance districts.

³⁸ Erode, Pudukottai, Vellore and Villupuram.

³⁹ Manpower in the cadre of Assistant Director, Veterinary Assistant Surgeon and Laboratory / Animal Health Assistant.

3.1.2.2 Emergency Mobile Veterinary Service

State Planning Commission during the plan formulation of the 12th Five Year Plan (2012-17) recommended for introduction of veterinary emergency services at the door steps and also to transfer the critically ill animals to the nearby veterinary institutions for specialised treatment.

Tamil Nadu Veterinary and Animal Sciences University (TANUVAS) proposed (2015-16) for introduction of emergency service in five districts⁴⁰. During discussion of the project proposals in the State Level Sanctioning Committee meeting, it was recommended for execution of the project by TANUVAS as the required infrastructure and separate centre was available. It was also recommended for maintenance of the project as a permanent facility. The project was sanctioned (2015-16) by GoTN at a cost of ₹ 6.34 crore under Centrally Sponsored Scheme, National Agriculture Development Programme with 40 *per cent* State share, and implemented in five districts by TANUVAS during 2016-17 and provided emergency services to 892 animals upto March 2017.

The proposal of TANUVAS for extension of the scheme in the remaining 27 districts of the State at a cost of ₹ 37.88 crore, was discussed by the State Level Sanctioning Committee and approved (February 2016) for execution by AHD. GoTN accorded (September 2016) sanction for implementation of the project within one year by creating central unit of Call Emergency and procurement of 54 ambulances. The project was yet to be implemented due to non-finalisation of service provider (August 2017).

Thus, the project of providing emergency treatment to animals though commenced and operational in five districts with creation of permanent facility in TANUVAS was not extended to the remaining districts despite sanction of funds. Implementation of Emergency Mobile Veterinary Service to 27 districts was delayed due to change of Implementing Agencies.

Government replied (November 2017) that procurement of 22 vehicles was completed and fabrication of them as ambulances would be undertaken in due course. The fact, however, remains that the Department failed to finalise the service provider even after one year from the sanction.

3.1.3 Financial Management

The total expenditure of the Department and the expenditure pertaining to veterinary medical services and creation of medical infrastructure during the period from 2014-15 to 2016-17 is indicated in **Table No. 3.1**.

⁴⁰ Kancheepuram, Madurai, Namakkal, Thanjavur and Tiruchirappalli.

Table No. 3.1: Details of total expenditure and expenditure for medical services

Year	Total expenditure of the Department			Expenditure incurred towards veterinary medical services			(₹ in crore)
	Non-Plan	Plan	Total	Medicines and Equipment	Infrastructure	Total	Percentage of expenditure on medical services and infrastructure to the total expenditure
2014-15	404.03	453.53	857.56	31.17	73.92	105.09	12.25
2015-16	818.68	28.33	847.01	32.24	92.06	124.30	14.68
2016-17	442.58	246.24	688.82	32.62	44.54	77.16	11.20
Total	1,665.29	728.10	2,393.39	96.03	210.52	306.55	

(Source: Details furnished by the Department)

It may be seen from the above:

- The expenditure incurred towards medicines and infrastructure was in the range between 11.20 and 14.68 *per cent* of the total expenditure of the Department.
- The expenditure on creation of infrastructure for the veterinary institutions was reduced from ₹ 92.06 crore during 2015-16 to ₹ 44.54 crore (52 *per cent*) during 2016-17.
- Though the total expenditure of the department was reduced from ₹ 847.01 crore in 2015-16 to ₹ 688.82 crore (19 *per cent*) during 2016-17, the expenditure towards medicines and infrastructure reduced from ₹ 124.30 crore to ₹ 77.16 crore (38 *per cent*) indicating insufficient budgetary support towards provision of medical services for the animal population of the State.

Government stated (November 2017) that the allotment of funds for medicines was static during three year period and proposal for enhancement of budget estimates was under consideration of the Government. It was also stated that the sanction of funds for infrastructure was increased to ₹ 62 crore and ₹ 75 crore during 2015-16 and 2016-17 respectively. The reply is not tenable as the actual expenditure for infrastructure decreased from ₹ 92.06 crore in 2015-16 to ₹ 44.54 crore in 2016-17.

3.1.3.1 Non-availing of Government of India funds

GoTN implemented various Centrally Sponsored Schemes under Livestock Health and Disease control programme. GOI periodically released funds for the programme with a stipulation to refund the unspent balance while furnishing the utilisation certificate (UC).

The details of year-wise release of funds by GOI for the two programmes, the expenditure incurred by the Department, the unutilised balance and the fund not released are detailed in **Table No. 3.2**.

Table No. 3.2: Details of release and expenditure of GOI funds

(₹ in lakh)

Year	Programme - National control programme of Pestedes Petits Ruminants				
	Fund released by GOI	Fund utilised by GoTN	Balance unspent with GoTN	Amount not-released	
				GOI share	Matching share of GoTN
2010-11	383.20	--	--	--	--
2011-12	--	321.40	61.80	--	--
2012-13	150.00	--	--	--	--
2013-14	--	128.61	21.39	--	--
2014-15	--	--	--	100.13	--
2015-16	--	--	--	50.06	50.06
2016-17	--	--	--	60.00	40.00
Total	533.20	450.01	83.19	210.19	90.06
Programme - Brucellosis Control Programme					
2011-12	92.00	64.20	27.80	--	--
2014-15	--	--	--	51.49	--
2015-16	--	--	--	49.37	49.37
2016-17	--	--	--	59.31	39.54
Total	92.00	64.20	27.80	160.17	88.91
Grand Total	625.90	514.21	110.99	370.36	178.97

(Source – Details furnished by the Department)

As may be seen from the above:

- Out of ₹ 533.20 lakh released for implementation of National control programme of Pestedes Petits Ruminants⁴¹, GoTN utilised ₹ 450.01 lakh and failed to utilise ₹ 83.19 lakh. The unutilised fund was not refunded to GOI despite reminders (May 2011 and October 2015) from GOI. Due to non-refund of unutilised fund, GOI did not release funds of ₹ 210.19 lakh during 2014-15 to 2016-17 and matching State share of ₹ 90.06 lakh was also not released.
- GoTN utilised ₹ 64.20 lakh out of GOI fund of ₹ 92 lakh in 2011-12 for implementation of Brucellosis Control Programme and ₹ 27.80 lakh remained unutilised. The unutilised fund was not refunded to GOI despite reminders (July 2015 and December 2016) resulting in non-release of GOI funds of ₹ 160.17 lakh during 2014-15 to 2016-17 and matching State share of ₹ 88.91 lakh was also not released.
- Though GoTN provided a token allotment in the Budget towards matching share for the schemes, the same were withdrawn in the Revised Estimates indicating absence of efforts to implement the programme and to avail the GOI funds.

Thus, failure to refund the unspent GOI funds along with UC resulted in non-availing of GOI fund of ₹ 370.36 lakh and non-release of matching State share of ₹ 178.97 lakh during 2014-15 to 2016-17 in respect of two programmes, resulting in non-vaccination of animals against the acute diseases, which were discussed in **Paragraph Nos. 3.1.6.2 and 3.1.6.3.**

⁴¹ Vaccination to control acute viral disease in sheep and goats.

3.1.3.2 Blocking and Parking of funds

GOI approved (November 2013) ₹ 2.15 crore and released (November 2013) ₹ 1.61 crore (75 per cent) for procurement of a freeze drier⁴² under Assistance to States for Control of Animal Diseases. GoTN released (August 2014) ₹ 2.15 crore to AHD which was transferred (June 2015) to TNMSC for procurement of freeze drier. The tenders invited (March 2016) by TNMSC, for procurement, was cancelled due to change of specification by AHD. No tenders were invited thereafter and the funds of ₹ 2.15 crore was blocked with TNMSC for the last three years.

Similarly, GoTN accorded (August 2012) approval of ₹ 11.31 crore for establishment of a new Anthrax Spore Vaccine Production Laboratory at IVPM, Ranipet and ₹ 2.62 crore for establishment of PDDL at Palladam through TNMSC. DAH transferred (April 2013) ₹ 13.74 crore out of ₹13.93 crore to TNMSC. GoTN changed the implementing agency as TANUVAS. TNMSC transferred (September 2015 and January 2016) ₹ 13.38 crore (after adjusting the preliminary expenses) to TANUVAS and funds were parked in the savings bank account of TANUVAS. The work of establishment of both the laboratories was yet to commence (June 2017) leading to non-achievement of the objective as discussed in **Paragraph Nos. 3.1.5.2 and 3.1.6.1.**

Thus, GOI and GoTN funds of ₹ 15.53 crore was blocked and parked for more than one year without utilisation for disease prevention.

Department accepted and stated (November 2017) that finalisation of drawings and procurement process of equipment in IVPM and PDDL were under progress.

3.1.3.3 Non-reconciliation with TNMSC

AHD procured medicines and equipment through TNMSC based on annual indents. DAH released ₹ 93.97 crore to TNMSC for the same during the years 2014-15 to 2016-17. As against the release of ₹ 93.97 crore, TNMSC supplied medicines for a value of ₹ 77.98 crore as on 31 March 2017 leaving a difference of ₹ 15.99 crore. A cross check of UCs furnished by TNMSC indicated that balance amount available towards non-supply of indented medicines as on 31 March 2017 was ₹ 4.12 crore. Department did not undertake periodical reconciliation of funds transferred and value of medicine supplied by TNMSC. This indicated absence of financial control over the Government funds and non-reconciliation of the actual expenditure.

Department replied (August 2017) that reconciliation would be undertaken at an early date.

3.1.4 Programme Management

The livestock and poultry census were taken once in five years through a project sanctioned by GOI. The 18th census was taken during 2007 and 19th

⁴² Freeze drier is used to convert liquid product into solid pellets in the manufacture of vaccines.

census in 2012. A comparison of these two census reports in respect of Cattle, Buffalo, Sheep and Goat is as detailed in **Table No. 3.3**.

Table No. 3.3: Comparison of census

(Numbers in lakh)

Name of the animal	As per 2007 census	As per 2012 census	Percentage of growth over previous census
Cattle	111.89	88.14	- 21
Buffalo	20.09	7.80	- 61
Sheep	79.91	47.87	- 40
Goat	92.75	81.43	- 12

(Source: Livestock Census Report)

As may be seen from the above that the animal population in the State did not show an encouraging trend as the number of livestock and poultry registered a negative growth rate. The livestock population reduced between 12 and 61 *per cent* during 2012 as compared to 2007.

Taking this into consideration, the effectiveness of delivery of medical services in the State was analysed and audit observations in this regard are detailed in the subsequent paragraphs:

3.1.4.1 Non-upgradation of Veterinary institutions

The National Commission of Agriculture recommended (1976) that the Veterinary Dispensaries were required to treat atleast 30 cases per day and those treating more than 40 cases per day were eligible for upgradation as Veterinary Hospital. Institutions treating more than 60 cases per day were eligible for upgradation as VCC and those treating more than 80 cases per day were eligible for upgradation as Veterinary Poly Clinic.

The average number of cases treated per day by the Veterinary Dispensaries, Veterinary Hospital and VCC during 2014-15 to 2016-17 in 10 test checked districts are detailed in **Annexure -2**.

We observed the following:

- Of the 955 Veterinary Dispensaries, 539 dispensaries treated cases less than the norms fixed (30 cases), 125 dispensaries (13.09 *per cent*) treated more than 40 cases per day were eligible for upgradation as Veterinary Hospital for providing additional medical facilities like inpatient treatment, availability of veterinary surgeon, etc. However, they continued to function as Veterinary Dispensary without upgradation.
- Sixty four out of 955 dispensaries (6.70 *per cent*) had treated more than 60 cases per day during 2014-15 to 2016-17 and were eligible for upgradation as VCC or Poly Clinic for providing advanced medical facilities like diagnostic facilities, clinical laboratory and round the clock service. Despite the same, they were functioning as Veterinary Dispensary without upgradation.
- Of the total 72 Veterinary Hospital and VCCs available, 33 Hospitals and VCC (45.83 *per cent*) treated more than 60 and 80 cases,

respectively, per day during 2014-15 to 2016-17, but there was no proposal for upgradation.

Thus, Department failed to analyse the animal population-wise requirement of medical services and no efforts were made to upgrade the facilities.

Principal Secretary to Government replied in the Exit Conference that the establishment and upgradation of veterinary institutions was being done in a phased manner depending on availability of funds. However, fact remains that the veterinary institutions should have been upgraded in accordance with the recommended norms.

3.1.4.2 Existence of Veterinary Institutions

The National Commission of Agriculture recommended (1976) the need for one Graduate Veterinary Institution⁴³ for every 5,000 cattle units⁴⁴ in a locality.

The total number of veterinary institutions available in the State as on 1 April 2014 was 2,523 besides 850 sub-centres. During 2014-15 to 2016-17, 225 sub-centres were upgraded as Veterinary Dispensaries and 150 new sub-centres were established.

The number of cattle units catered by the individual veterinary institutions of 25 districts was analysed and the following observations are made:

- There were 2,022 institutions in these 25 districts. Of the same, 580 dispensaries (28.68 *per cent*) catered to more than 5,000 cattle units. The cattle units covered by these veterinary institutions ranged between 5,100 and 21,382 per institution.

Thus, Department did not make adequate efforts to establish additional veterinary institutions in the State in order to adhere to the recommended norms of National Commission of Agriculture.

3.1.4.3 Conduct of Surgeries

Veterinary Dispensaries (VDs) which were managed by Veterinary Assistant Surgeons provided outpatient treatment to animals. These centres were not provided with inpatient facilities.

We observed from the scrutiny of records that these institutions performed surgeries during 2014-17 despite absence of essential facilities like surgery theatre, clinical lab, x-ray unit and Veterinary Surgeons. The details of surgery conducted in Veterinary Dispensaries in test checked districts are as given in **Table No. 3.4**.

⁴³ Veterinary institutions headed by qualified veterinary specialists like Assistant Surgeon or Surgeon.

⁴⁴ One cattle or one buffalo or one equine is equal to one cattle unit; one sheep or one goat is equal to 0.1 cattle unit; one pig is equal to 0.2 cattle unit and one bird is equal to 0.01 cattle unit.

Table No. 3.4: Details of surgery conducted in Veterinary Dispensaries

(Figures in numbers)

District	No. of VDs	No. of VDs conducted surgeries	No of surgeries conducted during 2014-15 to 2016-17
Coimbatore	90	14	41,146
Erode	95	3	3,745
Madurai	89	57	40,382
Pudukottai	92	92	51,815
Theni	52	4	4,765
Tirunelveli	107	0	0
Tiruvarur	68	31	6,534
Tiruppur	97	5	3,344
Vellore	117	32	15,734
Villupuram	148	0	0
Total	955	238	1,67,465

(Source: Details furnished by the Department)

We observed from the above that out of 955 dispensaries headed by Veterinary Assistant Surgeon in the test checked districts 238 dispensaries (24.92 per cent) conducted 1.67 lakh surgeries during 2014-15 to 2016-17 despite absence of basic facilities.

Thus, the field institutions headed by Veterinary Assistant Surgeons conducted surgeries without adequate facilities resulting in inadequate medical facilities to the livestock population.

Government stated (November 2017) that Assistant Surgeons working in the dispensaries were qualified and they were bound to perform minor surgical procedures and major surgeries in case of emergency. The reply is not acceptable as the dispensaries lacked essential infrastructure like surgery theatre and x-ray facilities to conduct surgical procedure and major surgeries in aseptic condition.

3.1.5 Infrastructure

A comment was made about the absence of proper infrastructure in veterinary institutions in the CAG Audit Report (Civil) for the year 2004-05 (Para 3.2.10). The Public Accounts Committee (PAC) recommended that since the veterinary institutions played a very crucial role in maintaining the cattle wealth and more importantly for adequate health cover of the cattle, the Department should ensure that funds provided be utilised in full and in time towards provision of infrastructure for effective functioning of the institutions.

The deficiencies in creating adequate infrastructure are discussed in succeeding paragraphs.

3.1.5.1 Facilities at Veterinary institutions.

The National Commission of Agriculture recommended (1976) that for the establishment of dispensaries the availability of at least 20 cents of land for future construction of permanent building was to be ensured. The Commission also recommended for availability of testing Lab facilities and diagnostic with X Ray facilities at the VCC and Poly Clinic.

The position of land availability and diagnostic facilities in the dispensaries as of March 2017 is detailed in **Table No. 3.5**.

Table No. 3.5: Details of land availability and diagnostic facilities

(Figures in numbers)

District	Total No. of institutions			No of VDs with less than 20 cent of land	VDs upgraded during 2014-15 to 2016-17	PC or VCC without Lab facilities	Status of X Ray unit in PC or VCC
	VD	VCC	PC				
Coimbatore	90	1	1	39	5	--	--
Erode	95	2	-	40	1	1	-
Madurai	89	-	1	14	17	1	--
Pudukottai	92	1	-	13	15	1	Not working
Theni	52	-	-	23	7	--	-
Tirunelveli	107	-	1	46	9	1	Not working
Tiruvarur	68	1	-	31	8	1	Not put to use
Tiruppur	97	-	-	27	8	--	--
Vellore	117	1	-	34	9	1	-
Villupuram	148	1	-	32	7	1	Not available
Total	955	7	3	299	86	7	

(Source: Details furnished by Department)

It is seen from the above that

- Out of 955 dispensaries in 10 test checked districts, 299 dispensaries (31 per cent) did not possess the recommended land availability of 20 cents to ensure future expansion. Of these 299 dispensaries, 86 Sub-centres were upgraded as dispensaries during 2014-15 to 2016-17 for which land was not available for future expansion.
- Out of 10 VCCs/ Poly Clinics in the eight test checked districts seven VCCs/ Poly Clinics (70 per cent) were not provided with mandated laboratory facility and four VCCs/Poly Clinics did not provide X-Ray diagnostic services to the animal population due to non-availability/ faulty machines.

Government replied (November 2017) that few dispensaries were constructed without adequate area based on demand. The reply is not acceptable as it was against the recommended norms and the area was inadequate for its future expansion.

3.1.5.2 Delay in establishment of Poultry Disease Diagnostic Laboratory at Palladam

DAH proposed for establishment of Poultry Disease Diagnostic Laboratory with Bio-Safety and Good Laboratory Practice⁴⁵ at Palladam to monitor the incidence of bacterial and viral diseases in birds and to provide immediate disease diagnostic aid under the Centrally Sponsored Scheme NADP. The proposals also indicated that the independent broiler production units were expanding at Palladam. GoTN sanctioned (August 2012) the execution of project at ₹ 2.62 crore through Public Works Department for completion within 17 months. The project was entrusted (August 2012) to TNMSC. The

⁴⁵ Biosafety Level II facility prescribed by GOI is essential to prevent contamination and to ensure safe working for conducting hazardous experiments in controlled manner; GLP was made mandatory by GOI from November 2010.

funds of ₹ 2.44 crore were released (April 2013) and deposited with TNMSC. TNMSC invited (February 2014) tender for establishment of Poultry Disease Diagnostic Laboratory in two cover system. TNMSC finalised (August 2014) the technical bid and recommended (January 2015) for selection of the lowest bidder who quoted ₹ 9.15 crore. However, the bid was not accepted (March 2015) by GoTN citing that the cost was high. The project was reviewed (July 2015) by DAH and GoTN (August 2015) decided for execution by TANUVAS with technical advice from National Dairy Development Board and funds were transferred to TANUVAS. After protracted deliberations on alternative proposals right from drawing and design to funding options, it was decided (March 2016) to execute the PDDL project with the funds of ₹ 4.34 crore. The project cost was again revised as ₹ 6.90 crore and a tripartite agreement was executed only in March 2017. The work was not commenced (July 2017).

Thus, failure of the Department to identify proper implementing agency and inadequate project cost resulted in non-commencement of the project even after four years which was envisaged to monitor viral and bacterial diseases among birds. This also resulted in continued testing of the collected samples by the existing two PDDLs which were not established with Good Laboratory Practice standards.

Government replied (November 2017) that finalisation of project drawings and other related works were under progress. However, the fact, remains that the objective of the project was not achieved even after a lapse of five years from the sanction.

3.1.6 Vaccination

3.1.6.1 Non-adoption of Good Manufacturing Practice for vaccine manufacturing unit

Based on the stipulations in the Drugs control and Licensing Act for adoption of Good Manufacturing Practice (GMP) Standards⁴⁶ in the Veterinary Biological manufacturing units, DAH proposed (March 2012) for establishment of Anthrax Spore Vaccine⁴⁷ production with GMP standards at IVPM, Ranipet under Centrally Sponsored Scheme of NADP. DAH stated that renewal of manufacturing Licence of the unit was pending from 2002-03 due to non-availability of GMP standards. Accordingly, GoTN sanctioned (August 2012) ₹ 11.31 crore for the project aiming at adoption of GMP standards through PWD, which was to be completed within three years.

DAH constituted (August 2012) High Level Committee and requested (December 2012) GoTN to consider involving TNMSC instead of PWD as the works involved High-tech Civil structure. DAH drew (April 2013) ₹ 11.30 crore and deposited with TNMSC. The Committee referred (October 2015) the project to National Dairy Development Board (NDDB) for technical opinion. NDDB re-engineered the project with revised estimates of ₹ 90.00 crore.

⁴⁶ A standard to get the Manufacturing License extended for Anthrax Spore Vaccine as per amendment in the Drugs and Cosmetics Act, 1940.

⁴⁷ To control Infectious and Bacterial Diseases of livestock and to eradicate Anthrax in endemic areas.

GoTN (March 2015) suggested to combine the project with the other sanctioned project of Good Laboratory Practice (GLP) implemented by TANUVAS. TANUVAS mobilised (February and March 2016) the funds available in various projects⁴⁸ and finalised the proposal in October 2016. A tripartite agreement for the project was executed (March 2017) between AHD, TANUVAS and NDDDB and the funds were transferred to TANUVAS. The work was pending commencement (July 2017).

Thus, delay in commencement of the project for more than five years from sanction and release of funds due to incorrect selection of implementing agency resulted in non-adoption of Good Manufacturing Practice Standards. This also led to non-renewal of manufacturing licence of the units under Drugs and Cosmetics Act, 1940, for the last 15 years.

Government replied (November 2017) that finalisation and approval of drawings and equipment was under progress. The reply is not acceptable as non-commencement of the project despite release of funds resulted in non-adoption of GMP and manufacture of vaccines without valid drug licence.

3.1.6.2 National Control Programme of Peste des Petits Ruminants

The Peste des Petits Ruminants (PPR) is a viral disease in sheep and goats characterised by high fever and inflammation of gastro-intestinal tract leading to complications and mortality. The programme involved vaccination of all susceptible goats and sheep and their three subsequent generations.

Department procured 57 lakh vaccines utilising the GOI sanction of ₹ 1.50 crore during 2013-14 and completed the vaccination for 57 lakh⁴⁹ goats and sheep. As the Department failed to refund the unspent grant of earlier years, as discussed in **Paragraph No. 3.1.3.1**, GOI funds for the programme were not released during 2014-15 to 2016-17. Hence, Department did not get matching funds from the GoTN and consequently failed to undertake vaccination during 2015-16 to 2016-17.

Thus, Department failed to provide vaccination to sheep and goats under the National Control Programme for PPR disease which resulted in inadequate efforts in the eradication of disease from the country.

Government accepted and stated (November 2017) that the vaccination was not undertaken due to non-release of funds by GOI and vaccination utilising State funds was made to goats and sheep supplied under Free Distribution of Sheep and Goat scheme. The reply, however, does not address the issue of non-refund of earlier years unspent balances, due to which the subsequent GOI funds were not released.

3.1.6.3 National Control Programme on Brucellosis programme

Brucellosis is a reproductive disease affecting the livestock. The disease can be prevented over a period of time by one time vaccination to all eligible female calves. The technical guidelines of GOI on Brucellosis envisaged

⁴⁸ Quality Control lab project - ₹ 19.92 crore; NABARD fund ₹ 14.67 crore.

⁴⁹ 10 lakh vials procured and vaccinated in 2013-14 and 47 lakh vials procured and vaccinated in 2014-15.

adulthood vaccination by covering all un-vaccinated adult female bovines in a phased manner during 12th Plan period.

Department conducted extensive surveillance of 22 districts to assess the incidence of Brucellosis during 2012-13 and identified 101 villages in six districts⁵⁰ with positive cases for the disease. Based on the incidence of positivity reported, Department administered 2.60 lakh doses of Brucellosis vaccination to female calves in the age group of four to eight months during 2014-15 through loan from Tamil Nadu Livestock Development Agency.

We observed the following from the scrutiny of records:

- Though Department identified 101 villages in six districts during 2012-13, no efforts were made to vaccinate the female calves in the age group of four to eight months during 2012-13 and 2013-14 and the new born calves during 2015-16 and 2016-17 resulting in deprival of immunisation, against the reproductive ailments due to Brucellosis disease, in the absence of vaccination.
- Department did not undertake any fresh surveillance of the new born calves in the remaining districts of the State to identify positive cases for administering vaccination during 2015-16 and 2016-17.

Thus, Department failed to provide necessary vaccination to the female calves in six districts immediately after identification of positive cases for the disease and to conduct fresh surveillance in the remaining districts to prevent spreading of the reproductive disease in the animal population of the State.

Government accepted and stated (November 2017) that surveillance and vaccination of female calves against Brucellosis was not carried out due to non-release of GOI funds. The reply is not acceptable as GoTN failed to ensure vaccination to the animal population of the State with State funds.

3.1.7 Medicine and equipment

3.1.7.1 Receipt and issue of medicines

Para 323 (5) of AHD manual stipulated that veterinary institutions should prepare annual indents for veterinary medicines and appliances required for the animals under their jurisdiction and forward to Director through Regional Joint Director of Animal Husbandry (RJDAH).

RJDAH prepared the indents of medicines and consolidated indent was forwarded to TNMSC for procurement of medicines and vaccines from Institute of Veterinary Preventive Medicine, Ranipet. The procured medicines and vaccines were distributed to the field institutions through RJDAH.

We observed from the scrutiny of records that:

- The annual indents were prepared by RJDAHs without indents from the field institutions based on actual animal population and demand. Department did not ensure that the indented quantity was supplied by TNMSC in that year.

⁵⁰ Cuddalore, Kancheepuram, Karur, Tiruvarur, Tiruvannamalai and Villupuram.

- A test check of indents and supplies revealed that TNMSC supplied medicines in excess (60 categories) or lesser than (47 categories) the indents during the three year period. The quantity of excess supply of medicines ranged between 0.52 lakh and 83.63 lakh. The short supply ranged between 0.20 lakh and 32.61 lakh.
- It was also observed that AHD indented for 81 lakh doses of Anthrax vaccine during 2014-15 to 2016-17 from IVP, Ranipet. As against the same, IVP supplied 108.37 lakh doses. However, the Department administered vaccines to an extent of 83.10 lakh during the three year period and the excess supplied quantity of 25.27 lakh doses of Anthrax vaccine valuing ₹ 1.26 crore, was utilised during the next year.

Thus, there was shortcomings in determination of requirement of medicines based on inputs from the field veterinary institutions inadequate monitoring in receipt of indented quantity of medicines. This also indicated that the delivery of medical services was managed with the available stock and not on need basis.

3.1.7.2 Issue of expired medicines

The field veterinary institutions maintained the manual stock register for issue of medicines to the treated animals. A scrutiny of the stock registers in the test checked Veterinary Dispensaries, VCC and Veterinary Hospitals revealed that six⁵¹ Veterinary Dispensary/Veterinary Hospitals did not indicate the expiry date of the medicines in their registers, three⁵² Veterinary Dispensary/Veterinary Hospitals indicated the expiry date of the latest batch of medicines received and not batch wise expiry date. The field officials did not indicate the expiry date of few medicines alone in three Veterinary Dispensary/Clinician Centre/Poly Clinic due to which the expiry date of medicines could not be checked in audit.

We also observed that 13 categories of expired medicines were issued to animals for treatment during the period 2014-15 to 2016-17, in three Veterinary Dispensaries/Veterinary Hospitals, resulting in ineffective treatment to the animals in the State. (**Annexure - 3**).

Government accepted and stated (November 2017) that necessary instructions would be issued to the field offices to dispose of the expired medicines.

3.1.7.3 Non-procurement of alternative medicines

With a view to sustain and promote indigenous alternate medicines, GoTN decided (January 2016) to purchase Siddha and Ayurveda medicines⁵³. Accordingly, GoTN issued instructions to procure alternative medicine and sanctioned (2015-16 and 2016-17) ₹ 2.76 crore. The amount was disbursed to Tamil Nadu Livestock Development Agency (TNLDA) for procurement of

⁵¹ Veterinary Dispensaries at Alathur, Arakkonam, Kodurilarpatti, Senthamangalam and Veterinary Hospital at Bodinayakanur and Vellore.

⁵² Madathur Veterinary Dispensary, Pollachi VCC and Coimbatore Poly Clinic.

⁵³ A list of 11 items on Siddha – Ayurvedha standard preparations for common ailments of livestock was recommended by TANUVAS and accepted by GoTN.

alternative medicines only in July 2017. In the absence of indent from DAH and pending identification of medicines the objective of promoting indigenous alternative medicines remained unachieved till date.

Government accepted and stated (November 2017) that the procurement process was entrusted to TNLDA and indents were placed in October 2017.

3.1.8 Adequacy of manpower

The qualified veterinary service providers play a pivotal role in determining the effectiveness of medical service provided to the animal population of the State. State Planning Commission in their evaluation report highlighted that the primary reason for increased waiting time at the veterinary institutions for receiving treatment was mainly due to inadequate number of service providers. It was also highlighted that in many cases, the veterinarians looked after the duties of ministerial staff like registration, disposal of the case and maintaining the sanitation in the vicinity of the centre.

The details of sanctioned strength versus the actual persons-in-position for the years 2014-15 to 2016-17 in respect of qualified veterinary service providers are indicated in **Table No. 3.6**.

Table No. 3.6: Sanctioned strength and actuals

(Figures in numbers)

Post	2014-15				2015-16				2016-17			
	S	PIP	V	P	S	PIP	V	P	S	PIP	V	P
Surgeon	139	137	2	01	139	135	4	03	201	201	--	-
Veterinary Assistant Surgeon	2,635	2,177	458	17	2,764	2,069	695	25	2,806	1,958	848	30
Livestock Inspector	2,926	1,774	1,152	39	3,026	2,171	855	28	2,492	1,478	1,014	41
Animal Husbandry Assistant	4,521	3,190	1,331	29	4,621	3,049	1,572	34	4,746	2,796	1,950	41
Radio grapher	4	1	3	75	28	2	26	93	28	2	26	93

(Source: Detailed furnished by Department)

(S – Sanctioned strength; PIP – Persons-in-position; V – vacancy and P – percentage of vacancy)

As may be seen from the above:

- The vacancy position of Veterinary Assistant Surgeon (VAS) increased from 17 per cent in 2014-15 to 30 per cent in 2016-17. As the Veterinary Dispensaries in the State were managed by VAS, availability of 1,958 VAS in 2016-17 indicated that 623 out of the total 2,581 Veterinary Dispensaries was not provided with a full time VAS. This would also hamper the services in other 623 Veterinary Dispensaries who were provided with additional charge to these institutions resulting in absence of full time service provider in 1,246 Veterinary Dispensaries (48 per cent).
- The technical assistants like livestock inspectors and Animal Husbandry Assistants were required for vaccination of animals besides helping the veterinarians in providing other allied services. The vacancies in these

categories ranged between 28 and 41 *per cent* during the three year period resulting in overburdening the veterinarians with other routine work relating to the centre as highlighted by the State Planning Commission.

Government replied (November 2017) that action would be taken to fill up the vacant posts. However, non-filling of vacancies over the period of three years resulted in insufficient availability of medical services.

3.1.9 Non-adherence to the norms on Bio-waste management

Bio-Medical Waste (Management and Handling) Rules, 1998, stipulated that the treatment and disposal options⁵⁴ for Bio-medical wastes classified into 10 categories and Schedule II thereof stipulated colour coding and type of container to be used for disposal of each prescribed category of waste.

The veterinary institutions in the State conducted 50.16 lakh minor surgeries, 5.52 lakh major surgeries and 101.43 lakh number of Obstetrics and Gynaecology surgeries during 2014-15 to 2016-17, thereby generating at least three categories of bio wastes *viz.*, animal⁵⁵, Microbiology and Biotechnology⁵⁶ requiring disposal by incineration/deep burial and waste sharps⁵⁷ requiring disposal by autoclaving, chemical treatment and destruction.

We observed from the test checked districts that Department did not formulate any system for proper disposal of bio-waste and the waste sharps generated in surgeries were disposed of by throwing in to the dustbins of local bodies, violating the norms. Non-adherence of the prescribed norms by the veterinary institutions in identifying, categorising and disposal of bio-medical wastes would cause damages to the environment, physically or biologically.

Department stated (November 2017) that the bio-waste management was not implemented due to high capital investment and requirement of separate dedicated trained skilled manpower and infrastructure development for proper operation and maintenance. It was also assured that bio-medical waste management would be taken up in all veterinary institutions.

3.1.10 Internal Control and Monitoring

The National Animal Disease Reporting System (NADRS), an online system evolved by GOI for collecting and maintaining information related on the animal diseases on real time basis in the field level *viz.*, Block, District and State. The information collected would be helpful in monitoring outbreaks and to arrest spreading to other areas. The programme commenced in February 2014 was not continued after April 2015 due to inadequate

⁵⁴ Category-wise disposal like incineration, deep burial, autoclaving, microwaving, mutilation, disinfection by chemical treatment, etc.

⁵⁵ Includes animal tissues, organs, body parts, carcasses, bleeding parts, fluid and animal blood.

⁵⁶ Wastes from laboratory cultures, stocks or specimen of micro-organism, infectious agents from research and industrial laboratories and devices used for transfer of cultures.

⁵⁷ Comprise of needles, syringes, scalpels, blades, glass etc. that may cause puncture and cuts.

manpower and absence of internet connectivity. This resulted in absence of monitoring of animal diseases on real time basis despite sanction of funds from GOI.

Government replied (November 2017) that due to inadequate manpower and frequent breaks in internet connectivity, the disease outbreak was reported whenever they occurred. The reply is not acceptable as the objective of real time monitoring of animal outbreaks was not achieved.

3.1.10.1 Management Information System

AHD proposed for development of application software and integration of dash board with the objective of creation of website along with content management system, farmer information system and to integrate the application with bovine breeding and web based Management Information System (MIS) through Electronics Corporation of Tamil Nadu, a Government company. Based on the suggestion of ELCOT, vendor for software development was identified in February 2016. Based on the proforma invoice the department released ₹ 48.96 lakh to ELCOT towards development of application. Department noticed certain defects in the developed MIS software and addressed (September 2016) the vendor through ELCOT and defects were pending rectification (November 2017).

Government replied (November 2017) that defects would be rectified early. The fact, however, remains that the objective of web based MIS system to monitor the services remained unachieved.

3.1.10.2 Quality of medicines supplied

Department procured the medicines through TNMSC and the medicines supplied by the contractors were tested for quality by the laboratories empanelled by TNMSC. In order to ensure the independent testing of the quality of drugs, GoTN directed (April 2014) for constitution of a Quality Assuring Committee headed by an Additional Director. However, no Committee was constituted by DAH even after three years (till July 2017) from date of orders indicating absence of independent verification of the quality of medicines and drugs supplied by TNMSC.

3.1.11 Conclusion

The prime objective of Animal Husbandry Department was to provide efficient medical services through veterinary institutions which include disease prevention, diagnosis and control. Department did not establish adequate number of Animal Disease Intelligence Units to develop disease surveillance system. Implementation of Emergency Mobile Veterinary Service to 27 districts was delayed due to change of Implementing Agencies. Government of Tamil Nadu could not avail Government of India grant of ₹ 3.70 crore as unspent Government of India funds were not refunded and Utilisation Certificates not furnished. An amount of ₹ 15.53 crore was blocked and parked without utilisation for disease prevention. Absence of periodical upgradation of institutions based on number of cases treated, delay in adoption of Good Laboratory and Manufacturing Practices for vaccines despite release

of funds resulted in ineffective disease diagnosis and control. Department failed to ensure supply of indented quantity of medicine resulting in either accumulation of medicines or non-availability of indented categories of medicine for effective treatment. Acute shortage of qualified veterinarians and absence of adequate infrastructure impacted the delivery of medical service to the livestock and poultry. There were shortcomings in monitoring framework for delivery of services.

PUBLIC WORKS DEPARTMENT

3.2 Deficiencies in the operation of sand quarries

3.2.1 Introduction

Based on the recommendations of the High Level Committee⁵⁸, Government of Tamil Nadu (GoTN) amended (October 2003)⁵⁹ the Tamil Nadu Minor Mineral Concession Rules, 1959 (TNMMCR) with the stipulation that the quarrying of sand in the State by the private agencies would be stopped. GoTN undertook the quarry operations to ensure:

- elimination of indiscriminate and unscientific sand quarrying;
- un-interrupted availability and supply of sand in an orderly manner to the common public;
- availability of the sand at affordable prices to common public thereby reducing the cost of construction; and
- augmentation of State Government revenue.

GoTN empowered⁶⁰ the Water Resources Department of Public Works Department, (PWD) for carrying out sand quarry operations in the State. GoTN prescribed (July 2006)⁶¹ transportation of two units (5.66 cum) of sand per lorry trip besides ensuring prevention of water table depletion and preventing hazards to ecology/environment near river. GoTN subsequently permitted (May 2008) transportation of three units (8.49 cum) of sand per lorry.

GoTN constituted (November 2009) Taluk Level Task Force (TLTF) and District Level Task Force (DLTF) comprising of officials from Departments of Revenue, Geology and Mining (G&M), Police, Transport, PWD and Forests to make frequent/surprise checks in the mining/quarrying field, and on vehicles transporting minerals so as to arrest illicit quarrying/ mining/ transportation of minerals.

GoTN prescribed (February 2011)⁶² the detailed procedure for storage and transportation of sand through stockyards. GoTN authorised (September

⁵⁸ High Level Committee constituted in G.O.2D No.46, Industries Department dated 25 September 2002. Committee consisted of Geologists, Environmentalists and Scientists.

⁵⁹ G.O. Ms No.95, Industries Department dated 1 October 2003.

⁶⁰ G.O. Ms. No. 451, Public Works Department dated 3 October 2003.

⁶¹ G.O. Ms. No.110, Public Works Department dated 6 July 2006.

⁶² Rule 38 C inserted vide G.O.Ms.No.32, Industries Department dated 11 February 2011.

2012)⁶³ Assistant Engineer or Assistant Executive Engineer of PWD to authenticate transport permits issued for transportation of sand from quarry and sale slip issued by stockyard licencees, for the sale of sand.

It was observed that 16,178 vehicles were seized for transporting sand without valid documents during the years 2014-15 to 2016-17 involving a quantity of 36.11 lakh lorry loads which was valued at ₹ 302.55 crore.

3.2.2 Scope and Methodology

There were 62 sand quarries functioning in the three Regions⁶⁴ of the State as on 31 May 2016. Of these 62 quarries, 11 quarries were in possession of operational licence in the three years period (2014-15 to 2016-17) and others less than three years. Four⁶⁵ out of 11 quarries in Chennai Region and Mayanur quarry in Tiruchirappalli Region, where sand was transported in lorries, were selected for detailed scrutiny. The sales made by the Kodikalam stockyard in Chennai Region was also selected for detailed scrutiny. The transport permits issued by PWD from five quarries and sale slips issued by the Kodikalam stockyard was collected and a database created. Besides the data, the records of the PWD and G&M Departments, Google Earth Maps, Vehicle Registration Data of State Transport Department and Ministry of Road Transport and Highways (MoRTH) were also analysed with reference to the TNMMCR, Government orders, Environmental Clearance by State Level Environment Impact Assessment Authority (SEIAA), Tamil Nadu Pollution Control Board (TNPCB), instructions issued by GoTN and approved Mining Plans. We also engaged an external consultant, Centre for Aerospace Research, Madras Institute of Technology, Chennai for quantifying the extent of area and volume of mining of sand in Neyvasal quarry using Unmanned Aerial Vehicle based mapping technology. The audit findings were discussed with the Principal Secretary to Government, Public Works Department in the Exit Conferences held on 04 October 2017. We acknowledge the co-operation extended by the Department in providing us the necessary records and information.

3.2.3 Planning

Government of India, Ministry of Environment notified (September 2006) that projects and activities relating to mining of minerals with lease area of less than 50 ha required prior Environmental Clearance from SEIAA and for mining in lease area exceeding 50 ha by Ministry of Environment and Forests, Government of India (MoEF). Rule 41 of TNMMCR stipulated the requisite conditions for obtaining mining licence from the District Collector *viz.*, preparation of Mining Plans by the recognised and qualified persons, approval of Mining Plan by G&M Department, grant of Environmental Clearance from the SEIAA, etc.

The licences for four new quarries in Cuddalore District and one new quarry in Karur District were granted by the respective District Collectors between

⁶³ G.O. Ms.No.158, Industries Department dated 4 September 2012.

⁶⁴ Chennai (31), Madurai (2) and Tiruchirappalli (29).

⁶⁵ (i) Neyvasal - 19 ha (ii) Edaicheruvai - 6.31.80 ha (iii) Pennadam - 9.87.40 ha and (iv) Vasistapuram - 5.39.30 ha.

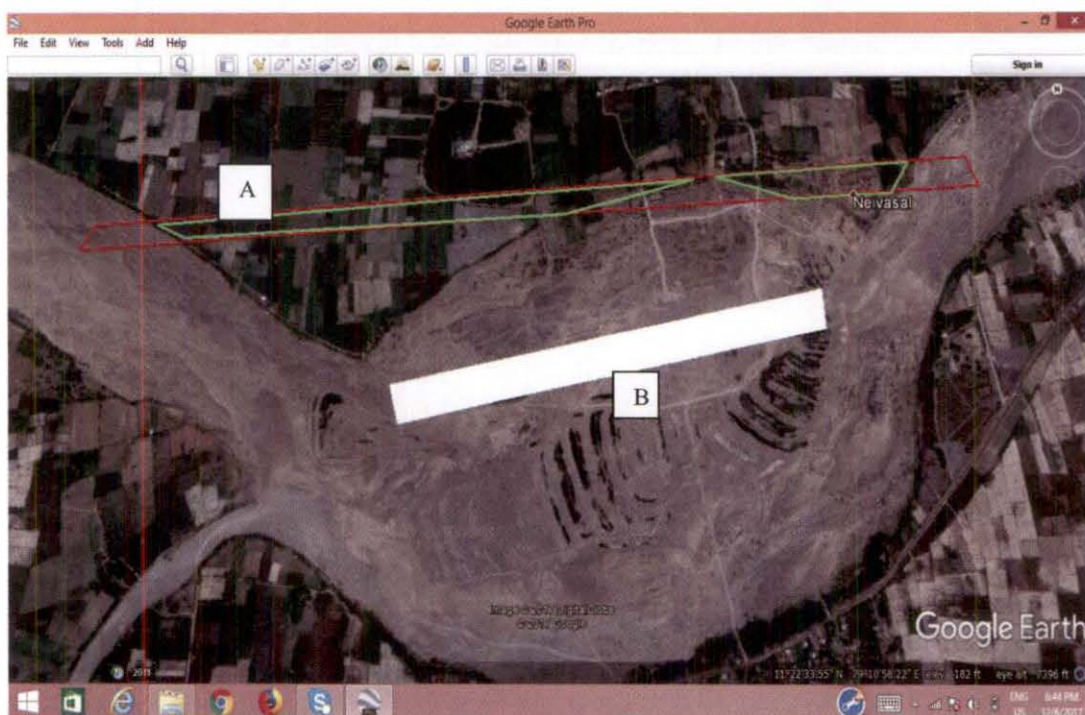
March 2014 and June 2015⁶⁶ based on the approved Mining Plans and Environmental Clearances.

The proposed area of mining with reference to the geographical co-ordinates of latitude and longitude was detailed in the Environmental Clearances and the approved Mining Plans of these five quarries. The correctness of the approved geo co-ordinates was verified with reference to the Google Earth map and the same revealed the following:

3.2.3.1 Correctness of the approved geo co-ordinates

SEIAA issued (February 2014) Environmental Clearance for mining in an area of 19 ha in Neyvasal quarry. We plotted the latitude and longitudinal co-ordinates shown in the approved mining plan on the Google Earth map as shown in **Figure No. 3.1**.

Figure No. 3.1: Mining area as per mining plan and actuals



**A –The area arrived as per the geo co-ordinates of the approved mining plan.
B - The area as per drawing in the approved mining plan.**

As may be seen from the above:

- The actual area of mining differed from the area arrived on the basis of geo co-ordinates furnished in the approved mining plan.
- The measurement of area of geo co-ordinates represented in the approved mining plan worked out to 15 ha as against the area of 19 ha approved for the sand quarry in the Mining Plan and Environmental Clearance.

⁶⁶ Neyvasal and other quarries were approved in March 2014 and Mayanur quarry in June 2015.

- A cross verification of the geo co-ordinates available in the mining plan with the google earth map also revealed that 10.77 out of 15 ha were not in the river bed. The area as per geo co-ordinates represented private patta lands and only 4.23 ha was in the river bed.

Similarly, MoEF issued (May 2015) Environmental Clearance for mining in an area of 452.31 ha for Mayanur cluster quarry⁶⁷. The area calculated on the basis on the geo co-ordinates represented in the Environmental Clearance worked out to 403 ha only.

Further, SEIAA issued (February 2014) Environmental Clearance for mining in an area of 5.39 ha in Vasistapuram quarry. The geo co-ordinates indicated in the approved mining plan and the Environmental Clearance of SEIAA for the Vasistapuram quarry were different as shown in **Figure No. 3.2**.

Figure No. 3.2: Geo co-ordinates in mining plan and Environmental Clearance



- A- Blue polygon indicated area for quarrying as per geo co-ordinates in mining plan**
B- Green and Red polygon indicated area of quarrying as per geo co-ordinates in the Environmental Clearance.

It may be seen from the above that the area approved for quarrying of sand as per the Environmental Clearance did not fall in the river bed but in private patta lands.

Thus, the correctness of the geo co-ordinates referred to in the mining plan or Environmental Clearance were not verified by G&M Department or SEIAA at the time of approval of the mining plan or Environmental Clearance respectively. Based on these plans with incorrect geo co-ordinates, licence for operation of sand quarry was issued by District Collector resulted in failure of

⁶⁷ Mayanur cluster quarry included Mayanur, Sriramasamudram and silaipillaiyaputtur quarries with the total area of 452.31 ha.

system to ensure the same area of operation of sand quarry, as area of mining differed in approvals of various Authorities.

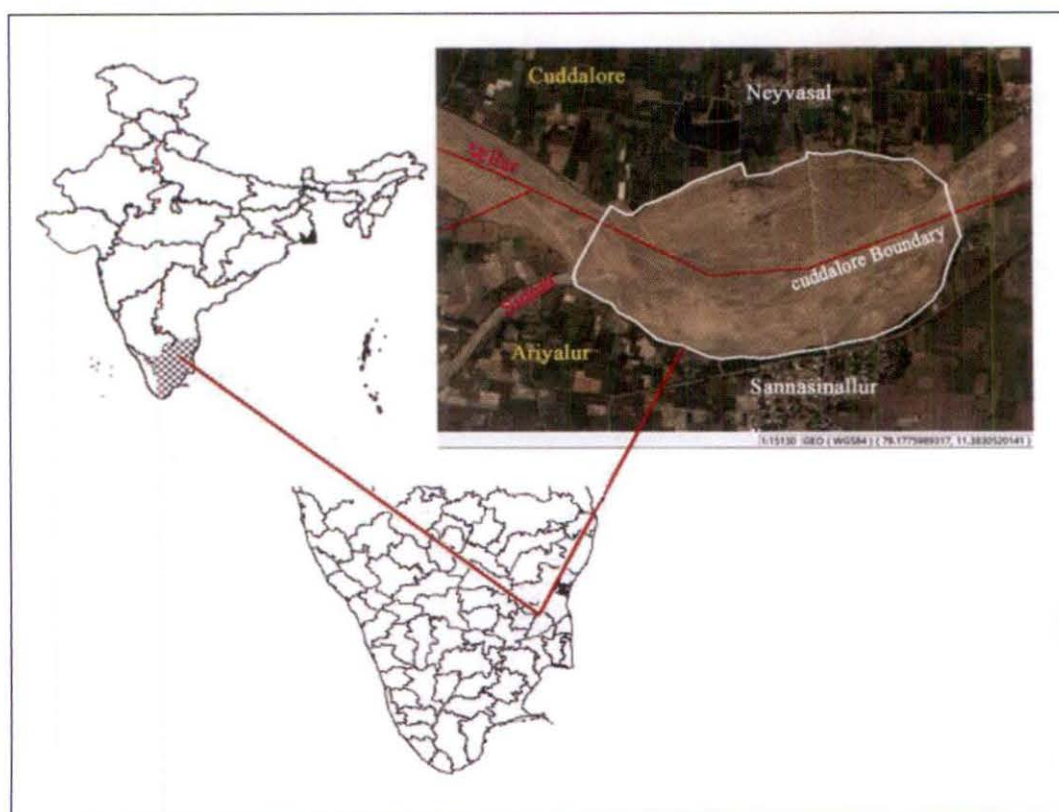
Superintending Engineer (SE), PWD, Vellar Basin Circle stated (September 2017) that the quarry coordinates were recorded manually based on physical measurement of the area using chain links. The reply is not acceptable as the Department failed to verify the correctness of the geo co-ordinates represented in the approved mining plan and Environmental Clearance to ensure mining operations in the permitted area.

3.2.3.2 Sand quarrying in Neyvasal

GoTN permitted (January 2011)⁶⁸ District Collectors for restricted and judicious use of not more than two poclains in each of the quarry sites in the State and instructed that poclains should not be used between 7 p m and 6 a m. Rule 38 C of the Tamil Nadu Minor Mineral Concession Rules, 1959 envisaged that Assistant Engineer or Assistant Executive Engineer of PWD were empowered to authenticate transport permits and sale slips used for transportation of the sand from quarries and stockyards respectively. District Collector instructed (November 2013) that the quarry operations should be undertaken in the presence of Assistant Engineer, PWD or higher authorities.

The Vellar river flowed through Neyvasal village of Cuddalore District and Sannasinallur village of Ariyalur District as depicted in **Figure No. 3.3**. The sand quarry licence for the Neyvasal quarry was approved (March 2014) by the District Collector for an area of 19 ha for excavation of sand not more than

Figure No. 3.3: Vellar river in Cuddalore and Ariyalur district



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G.O.D.No.7, Industries Department dated 11 January 2011.

one metre from the bed level. District Collector also permitted for utilisation of two poclains in the quarry and for transportation of sand through lorries as against bullock carts approved initially.

A Joint Inspection of Neyvasal quarry was conducted in August 2017 with the officials of the PWD, G&M and Revenue Department, which revealed extensive mining in additional areas and excessive depth. Considering the same, a consultant was appointed to ascertain the extent of mining in the Neyvasal quarry area of Vellar river using Unmanned Aerial Vehicle (UAV) technology. The consultant obtained the village maps with survey numbers, collected Ground control points from the Survey of India Department, geo referenced latitude and longitude co-ordinates of the area. The actual area of sand mining including the depth of mining in the Vellar river of Neyvasal sand quarry and adjacent areas was observed by the consultant through UAV images. The data received from the UAV images was processed and the actual volume of sand mined from the area was calculated by the consultant using different software modules like Global Mapper, Virtual Surveyor, Bentley Context Capture and Digital Terrain Model.

It was seen from the details available in the Google Earth Map that four to seven poclains were used (February 2015 to February 2017)⁶⁹ for sand quarry operations on atleast three occasions in Neyvasal quarry in deviation of the orders of the District Collector and GoTN as indicated in **Figure No. 3.4**.

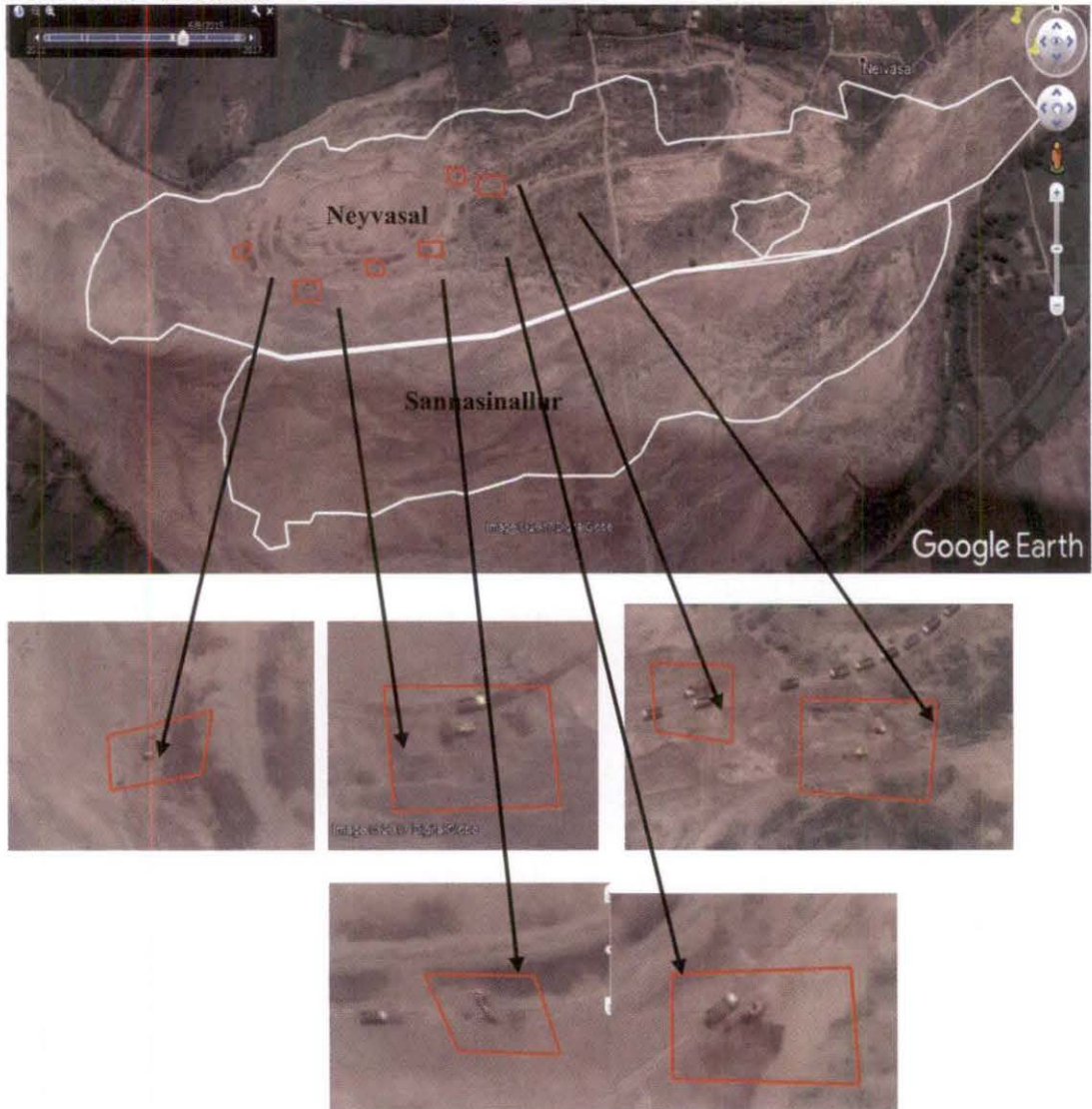
The operation of the poclains was also undertaken at 5 a m at Neyvasal quarry well before the permitted time. This indicated inadequate monitoring in the sand quarrying operations by the PWD and the District Collectors.

This was also substantiated from the site inspection report of Neyvasal quarry carried out by the Tamil Nadu Pollution Control Board during July 2015 which reported usage of eight poclains at the quarry site.

⁶⁹ Five poclains were deployed on 18 February 2015; seven poclains were deployed on 8 June 2015 at 5 a m; and four poclains were deployed on 23 February 2017 at 5 a m.

Figure No. 3.4: Operation of poclains in Neyvasal quarry

8 June 2015 -7 Poclains



Excess quarrying of sand

The report of the consultant detailed that the quarrying operation at Neyvasal quarry extended beyond the Cuddalore district and undertaken in the adjacent Sannasinallur village of Ariyalur district. The extent of mining and the volume of sand mined in the quarry were as detailed below:

- As against the approved area of 19 ha, mining was undertaken in the area admeasuring 42.37 ha in Neyvasal and 26.44 ha in adjacent Sannasinallur village in the Vellar River. We also observed that no sand quarrying operation was permitted by PWD or District Collector after 2011 in Sannasinallur village.
- The google map of the Sannasinallur village in Vellar River as on 25 March 2014 and the UAV mapping of the area during November 2017 are shown in **Figure Nos. 3.5 and 3.6** respectively. These images substantiated that sand mining was carried out in areas of Sannasinallur village without approved mining permit.

Figure No. 3.5: Google image View as on – 25 March 2014

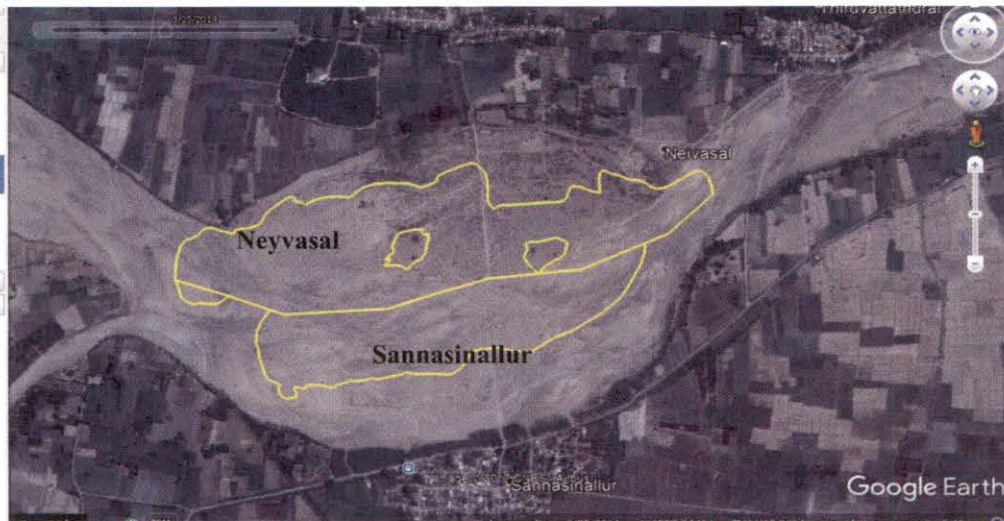


Figure No. 3.6 UAV Ortho Image as on – 03 November 2017



- It was reported by the consultant that the depth of sand quarrying undertaken was more than the permitted depth of 1.00 m. It was reported that the actual depth of quarrying ranged to a maximum of 6.5 m (Figure Nos. 3.7 and 3.8) with reference to the river bed level.

Figure No. 3.7: 3D image showing height difference 5.90 m

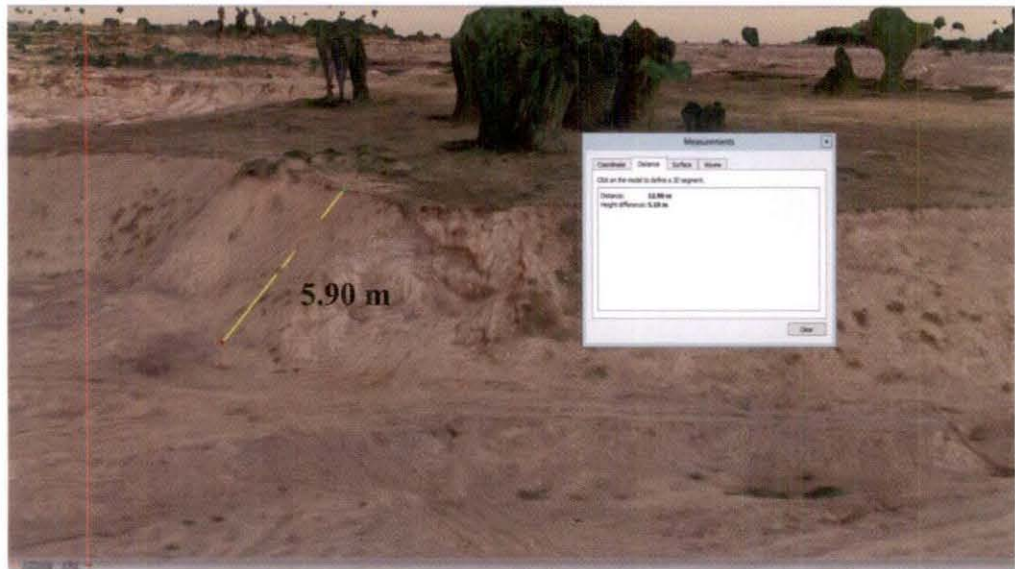
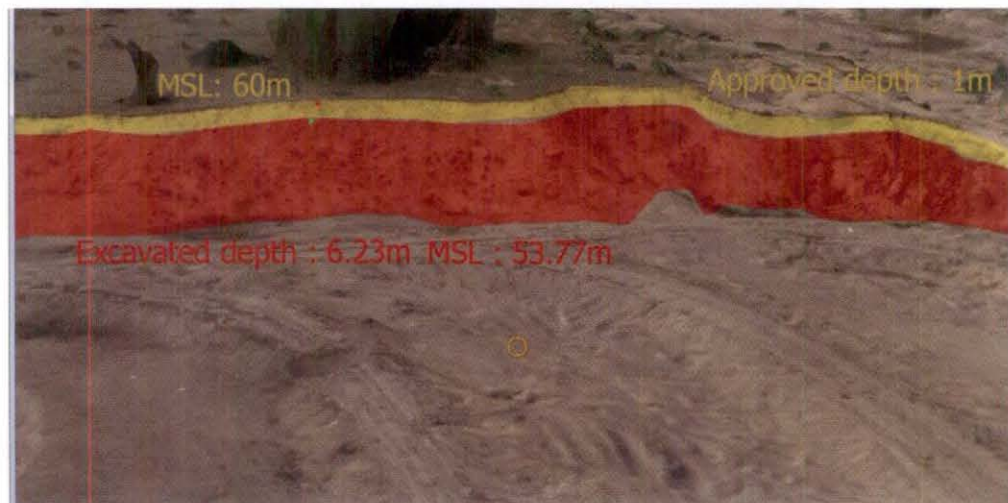


Figure No. 3.8: 3D image showing height difference 6.23 m



- The consultant reported the volume of sand excavated from the site using the data processed based on actual depth of the individual pockets of mine. The volume of sand mined was reported after analysing the data with reference to the four models adopted. We relied on the volume of sand calculated on the basis of the Bentley Context Capture Method using the UAV data as it was the lowest. The total volume of sand excavated in Neyvasal and its adjacent Sannasinallur village worked out to 13.34 lakh cum as against the permitted quantity of 1.90 lakh cum. The additional volume of sand mined was 11.44 lakh cum valued at ₹ 21.02 crore adopting the PWD ex-quarry rates of ₹ 1,040 for 5.66 cum of sand. The value of additional quantity of 11.44 lakh cum of sand worked out on the basis of stockyard rate of ₹ 3,100 for 5.66 cum was ₹ 62.66 crore.
- Tamil Nadu Minor Mineral Concession Rules provides for levy of penalty for transportation of sand without valid transport permits at the rate of ₹ 25,000 per lorry load. The additional quantity of 11.44 lakh

cum of sand reported as excavated at the quarry site worked out to 2,02,120 lorry loads (5.66 cum per lorry load with two unit capacity). The penalty leviable for transportation of the additional quantity of sand without valid transport permits worked out to ₹ 505.30 crore⁷⁰.

- Incidentally it was observed from the test check of records of Cuddalore District that the total value of sand seized by the enforcement authorities during 2014-15 to 2016-17 was meagre ₹ 3.11 lakh and the penalty collected was ₹ 1.75 crore.
- The consultant also observed that excess excavation of sand resulted in topographical changes in the river bed of Vellar river leading to ground water changes and degradation of ecology.

Thus, the District collector and PWD failed to comply with the GoTN instructions of using the poclains judiciously and to ensure removal of sand in the approved area of quarry resulting in excess utilisation of poclains and removal of additional quantity of sand as observed from UAV technology besides loss of revenue of ₹ 21.02 crore calculated at PWD rates.

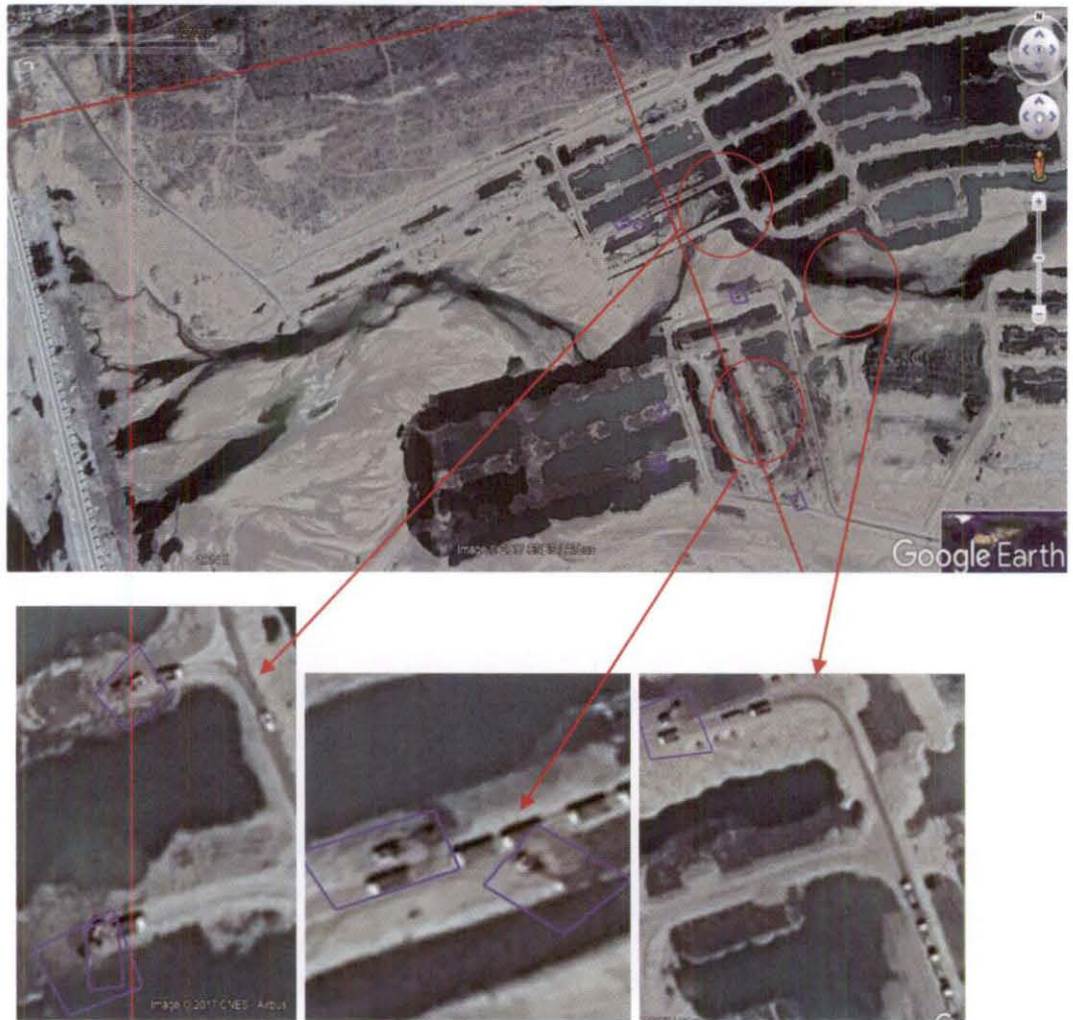
Government agreed (September 2017) in the Exit Conference that more poclains might have been used for levelling purpose. The reply is not tenable as the directions of Government prohibited use of more than two poclains in the sand quarry site. Government did not furnish reply regarding additional area of sand mining and excess removal of sand.

Sand quarrying in Mayanur

District Collector, Karur District permitted (June 2015) operation of sand quarry at Mayanur village based on the approved mining plan and Environmental Clearance from MoEF. We also observed that six to 11 poclains were used in the Mayanur sand quarry on three occasions during February 2016 to April 2017 as observed from the Google Earth map and illustrated in **Figure No. 3.9**.

⁷⁰ 2,02,120 lorry loads x penalty of ₹ 25,000 per lorry load = ₹ 505.30 crore.

Figure No. 3.9: Operation of poclains in Mayanur



3.2.4. Operation of sand quarries

Rule 38 C of the Tamil Nadu Minor Mineral Concession Rules, 1959 envisaged that Assistant Engineer or Assistant Executive Engineer of PWD were empowered to authenticate Transport Permits and sale slips used for transportation of the sand from quarry and stockyard respectively. District Collector instructed (November 2013) that the quarry operation need to be in the presence of Assistant Engineer, PWD or higher authorities.

The details of transport permits issued by the Department for the five test checked sand quarries from December 2014 to March 2017 are indicated in **Table No. 3.7.**

Table No. 3.7: Details of transport permits issued by the Department

(Figures in numbers)

Name of the quarry	Transport permits analysed	Permits signed by sub-ordinates	Permits without any signature	No. of days of quarry operation	No. of working days during which permits were signed by sub-ordinates	Per centage
Neyvasal	32,901	31,706	114	628	571	90.92
Pennadam	9,743	9,243	-	53	49	92.45
Edaicheruvoi	7,069	3,402	1	30	19	63.33
Vasistapuram	5,772	3,590	-	41	16	39.02
Mayanur	49,673	-	-	369	--	--
Total	1,05,158	47,941	115			

(Source: Details furnished by the Department)

As seen from the above:

- We observed that 55,485 transport permits were issued in four test checked quarries⁷¹. Of the same, only 7,429 permits were authenticated by Assistant Engineers in charge and the 47,941 permits were issued by sub-ordinates of Assistant Engineers indicating deficient authentication.
- The authentication by the sub-ordinate officers on 571 days of quarry operations indicated that the authorised officer was not available to ensure removal of correct quantity of sand from the quarries.
- We also observed that only one Assistant Engineer was in charge of three sand quarries⁷².
- It was seen from the office copy that 114 permits were issued without the signature of any official of PWD in Neyvasal quarry indicating movement of sand outside the quarry area without valid permits.

Government accepted and stated (November 2017) that the authorised officers were assigned additional responsibilities of supervision of other quarries and works. It was also stated that exclusive offices to monitor the mining were formed. The fact, however, remains that absence of the authorised officer in the sand quarry was in violation to the licence conditions and led to removal of quantity of sand from the Neyvasal quarry as detailed in **Paragraph No 3.2.3.2.**

⁷¹ Neyvasal (32,901), Pennadam (9,743), Edaicheruvoi (7,069) and Vasistapuram (5,772).

⁷² Neyvasal, Edaicheruvoi and Vasistapuram.

3.2.4.1 Transportation of sand

Rule 38 of TNMMCR envisaged utilisation of non-transferrable transport permits printed in the prescribed format containing the requisite details viz., quarry, quarry permit, vehicle number, time of issue, name of the consignee, destination, validity period of permit, etc.

The verification of the transport permits issued for the movement of sand in test checked five quarries revealed the following:

- The transport permits were printed in the prescribed format in respect of Mayanur quarry and the other four quarries adopted different formats. The formats used by other quarries did not have the required details viz., name of the consignee and validity period of the permit.
- It was seen that 1,05,158 permits were issued in five test checked quarries during December 2014 to March 2017 and these permits were utilised for transportation of the sand in 19,021 vehicles. The registration details of 7,906 out of 19,021 vehicles were cross verified with the database of State Transport Department and MORTH. The verification revealed that 3,381 out of 7,906 vehicles numbers (42.76 per cent) were not registered as transport lorries but as two wheelers, auto rickshaws, cars, etc. and PWD issued 8,714 transport permits to these 3,381 lorries for transportation of sand. The registration numbers of 445 out of 7,906 vehicles were not available in the database of the State Transport Department or MoRTH indicating possible movement of sand through lorries with fictitious registration numbers for which 2,625 transport permits were issued.
- It was seen that the time required to reach the declared destination was recorded in the transport permits issued to the consignees. We observed that 135 transport permits were issued to vehicles bearing the same registration numbers either at the same time (30 numbers) or within a time gap of one to ten minutes (105 numbers) even though the permits indicated the time required for the declared destination as one to three hours.
- Similarly, a cross verification of the registration details of the vehicles transporting sand through sale slips from Kodikalam stockyard with the database of State Transport Department or MoRTH revealed that out of 1,500 vehicles, 164 vehicles were found to be motor cycle, cars etc.

Government agreed (September 2017) that there was no mechanism to verify the genuineness of the vehicle registration number at quarry site. It was also stated that the re-entry of the vehicles in short gap could not be scrutinised at site with limited manpower. The fact, however, remains that these system deficiencies resulted in partial supervision of removal of sand from the approved sand quarries leading to possible removal of sand without valid documents.

3.2.4.2 Non-compliance of instructions

In order to curb illegal mining/transportation of minerals, GOI issued (January 2010) instructions for affixing holograms on the permits issued to the transport vehicles by the State Governments. Accordingly, Commissioner of Geology and Mines issued instructions (November 2010)⁷³ to affix holograms on the Transport Permits issued by the PWD for transportation of sand for curbing illegal mining and transportation of minerals in the State.

We observed that PWD did not initiate action to procure holograms from the Government press to affix on the transport permits despite issue of 1,05,158 permits for transportation of sand in the test checked five quarries during the year 2014-15 and 2016-17.

Government accepted (November 2017) that usage of holograms was not implemented in any of the sand quarries in the State. The fact, however, remains that GoTN did not undertake adequate steps for curbing illegal mining and transportation of minerals despite instructions from GOI.

3.2.4.3 Loading of sand in lorries

GoTN permitted (May 2008)⁷⁴ loading and transportation of sand upto three units (8.49 cum) based on the provisions of Motor Vehicle Act, 1988. High Level Committee recommended (September 2008) for encouraging the sale of sand as three units to rule out the possibility of loading excess units but charging for lesser units. GoTN instructed (September 2008) the field officers to load the sand to the maximum capacity of the lorry subject to the relevant provisions of Motor Vehicle Act, 1988.

We obtained the carrying capacity of 4,080 lorries used for transportation of sand from the State Transport Department and MoRTH. An analysis of the data revealed that 597 out of 4,080 lorries were issued transport permits for transporting two units (19,220 permits) though the carrying capacity of these vehicles exceeded two units.

Incidentally, it was observed that 49,673 transport permits were issued by Mayanur quarry for transportation of sand for three units (8.49 cum) and the permits were also authenticated by the Assistant Engineer of the quarry.

Thus, absence of authorised officer at the quarry site also resulted in non-monitoring of the actual quantity of sand loaded in the vehicles with higher carrying capacity as instructed by the Government.

Government replied (November 2017) that the loading of sand in the vehicle was based on the quantity for which paid and also the carrying capacity of the vehicles. The reply is not acceptable as the carrying capacity of the vehicles indicated by audit was more than two units as against the charges received for two units, besides, it was in violation of the instructions of the Government.

⁷³ Commissioner of G&M Department Proceedings dated 12 November 2010.

⁷⁴ G.O.Ms.No.178, Public Works Department dated 31 May 2008.

3.2.4.4 Non-achievement of the objective

Based on the recommendations of the High Level Committee, GoTN banned the quarrying of sand in the State by the private agencies. Sand quarrying was undertaken by PWD to ensure un-interrupted availability and supply of sand at affordable prices to common public thereby reducing the cost of construction.

In this regard, we observed the following:

- In deviation to the objective, GoTN permitted operation of stockyard by private persons from February 2011. It was seen that 32,901 transport permits issued (December 2014 to March 2017) from Neyvasal quarry comprising of 65,802 units of sand was transported to the Kodikalam stockyard for sale to the ultimate consumers. There was no direct sale of sand to the ultimate consumer from sand quarry during the period.
- Sale slips issued in the Kodikalam stockyard contained the vehicle number and the name of the driver and it also did not reveal the details of the ultimate consumers to ascertain the genuineness of the transaction.
- The sale slip did not indicate the sale price of sand to ensure the sale of sand at affordable prices to the common public.

An analysis of 32,901 transport permits and the sale slips issued from the stockyard revealed the following:

- The value of 35,051 units of sand purchased by Kodikalam stockyard from the PWD quarries at the rate of ₹ 520 per unit was ₹ 1.82 crore. The sand was sold to the consumers at a price of ₹ 1,550 and 1,650 per unit of sand during the month of December 2016 and January 2017 respectively as observed by DLTF. A cross verification of the sales details of the stockyard with the Tax returns filed with the Commercial Taxes Department for the period from January 2015 to May 2016 revealed that sale value of sand made was reported as ₹ 8.09 crore.

Thus, the abnormal variation in the value of sand purchased from the PWD and the sale value reported to the Commercial Taxes Department by the stockyard operator indicated non-achievement of the objective of the Government to supply sand to the common public at affordable prices.

Government replied (November 2017) that PWD did not have control over operation of stockyard. The reply is not acceptable as GoTN instructed (June 2015) for inspection of sand stockyards by PWD authorities on fortnightly basis.

3.2.5 Monitoring

GoTN constituted (November 2009)⁷⁵ Taluk and District Level Task Force besides State Level Appellate Forum (SLAF) (February 2015)⁷⁶ to conduct surprise checks for prevention of illegal sand mining/sand transportation.

⁷⁵ G.O.No.135, Industries Department dated 13 November 2009.

⁷⁶ G.O.No. 27, Industries Department dated 17 February 2015.

District Level Task Force need to meet once in a month to discuss illegal quarrying/mining/transportation, damages caused to the environment and send a report to SLAF once in two months. SEIAA mandated submission of replenishment Report, Mine Closure Plan after the closure of the quarry and digital processing of the entire quarry site using remote sensing technique for monitoring the change of river course.

We observed that no action was taken to prepare Annual Replenishment Report, Mine Closure Plan and digital processing through remote sensing technique for the four selected quarries resulting in inadequate monitoring despite directions of SEIAA.

It was seen that the State Level Appellate Forum met four times as against the requirement of 12 meetings for the years 2015-16 and 2016-17. Absence of periodical meetings indicated partial monitoring of the work executed by the District Level Task Force.

3.2.5.1 Non-submission of Compliance Report by PWD

Clause 10 of Environment Impact Assessment Notification September 2006 stipulated submission of half-yearly compliance report by the project management to the SEIAA every year as post environment clearance monitoring. It was also envisaged that the compliance reports submitted by the project management were public documents and to be displayed in the website of the Regulatory authority, SEIAA. It was, however, observed that PWD failed to submit half-yearly compliance reports to SEIAA to ensure post environment clearance monitoring.

3.2.6 Conclusion

The sand quarry operations in the State revealed that the Department failed to verify the correctness of the geo co-ordinates available in the mining plan or Environmental Clearance at the time of approval of the mining plan or Environmental Clearance. It was also seen that the licences for operation of sand quarries were issued by District Collectors based on these incorrect geo co-ordinates. The Department failed to comply with the instructions of Government regarding judicious use of the poclains and to ensure removal of sand in the approved area of quarry resulting in excess utilisation of poclains and removal of additional quantity of sand as observed from UAV technology resulted in loss of revenue of ₹ 21.02 crore calculated at PWD rates. Major deficiencies in issue of transport permits and sale slips, non-ensuring authenticity of vehicles and end users, increase in recurrence of illicit quarrying as evidenced by seizure of vehicles/sand, deficient supervision, absence of monitoring hampered the objectives of elimination of indiscriminate and unscientific quarrying. This also led to non-achievement of the objective of supply of sand to consumers at affordable prices and prevention of degradation of ecology.

3.2.7 Recommendation

Government may ensure compliance of Rules/procedures framed for the purpose in mining activities, to ensure adoption of modern technology and better supervision and monitoring to achieve its intended objectives.

AGRICULTURE DEPARTMENT

3.3 Information Technology Audit on Agri Reporting System

3.3.1 Introduction

National e-Governance Plan for Agriculture (NeGP-A) formulated (2014-15) by Government of India (GOI) envisaged effective management of schemes for Agriculture Department through process redesign for effective monitoring, reducing the time required for data consolidation and reporting at all levels through Information and Communication Technology (ICT). ICT played significant role in improving speedy implementation of activities and seamless access to information on cultivation. Accordingly, Government of Tamil Nadu (GoTN) decided (2016-17) to develop new software application for effective and speedy delivery of extension service to farmers.

Agriculture Department implemented (September 2016) Agri Reporting System (ARS) as a holistic web portal to monitor all activities of the Department of Agriculture viz., State Seed Farms, Coconut Nurseries, Testing laboratories for soil, pesticide and fertiliser. ARS also monitored implementation of GOI and GoTN schemes, involving 273 components, on fortnightly basis, in 385 Blocks of 31 Districts in the State.

3.3.2 Scope and Methodology

Information Technology Audit on ARS software of Agriculture Department was conducted, from April to July 2017, to ascertain whether (i) the system was designed and developed in line with the business processes and user requirements (ii) Testing for program, system and user acceptance was adequate; (iii) Proper input, validation and process controls existed to ensure the authenticity, completeness and accuracy of the data and (iv) the database provided sufficient, complete, reliable and authorised information for management action and security controls besides achieving the intended objectives. Policy Notes, Information Technology Act 2000, e-Security Policy 2010, NeGP-A Guidelines, Government Orders and Manuals of GoTN were referred as Audit criteria.

The ARS data for the period from 2016-17 was examined using CAATs⁷⁷ to check its adequacy and reliability. The provisions and controls available in the application software were examined using data entry screens and reports of the software with reference to the manual records of six test checked districts⁷⁸ and Directorate.

⁷⁷ Interactive Data Extraction and Analysis (IDEA) software.

⁷⁸ Coimbatore, Kancheepuram, Thanjavur, Tirunelveli, Tiruvallur and Vellore selected by random sampling method.

Scope, methodology and audit findings were discussed in the Entry and Exit Conferences held with the Agriculture Production Commissioner and Principal Secretary to Government (APC) and the Head of Agriculture Department on 14 June 2017 and 23 October 2017 respectively and their views were considered. We acknowledge the co-operation extended by the Department in production of necessary records and information.

Audit Findings

3.3.3. General controls

General controls relate to the environment within which the development and implementation of Information Technology systems are carried out. The objectives of the controls are to ensure effective development, implementation and maintenance of the systems. An assessment of these controls in the ARS software revealed the following deficiencies:

3.3.3.1 Planning of the system design and development

Department did not have any User Requirement Specification (URS) documentation and the requirements of the Department were ascertained based only on discussions with limited officials instead of actual users.

Application was developed in-house by the engineers appointed through NeGP-A without documented System Requirement Specification (SRS), System design and implemented without Program testing, System testing and User acceptance testing. This resulted in various deficiencies as pointed out in **Paragraph Nos. 3.3.7 and 3.3.8.**

Government while accepting the non-availability of documented procedures, stated (October 2017) that the system was designed after discussion with the selected officials and user acceptance test was carried. However, the fact remains that the software was modified subsequently based on the inputs from the field indicating inadequate user acceptance testing of the software.

3.3.3.2 Implementation of the application

Department implemented (September 2016) the application for all the monitoring activities⁷⁹ in 385 blocks of 31 districts. Department consolidated and fed the manual data of all the activities for the period from April to August 2016 in the software for the purpose of Annual Reporting. Scrutiny of records and data of ARS reports revealed that 35 out of 44 reports was incomplete and Department depended on the manual reports for Budget reporting of Central/State schemes.

Thus, the prime objective of reducing the time required for data consolidation and reporting of schemes at all levels could not be achieved.

⁷⁹ Namely State Seed Farms, Coconut Nurseries, Soil Testing Laboratories, Pesticide Testing Laboratories, Fertiliser Testing Laboratories.

3.3.4. Financial and physical achievement of schemes

Scheme module⁸⁰ of ARS was developed with an objective to monitor district-wise financial and physical progress of schemes on real time basis by generating 29 output reports. In addition to monitoring by the Department, the scheme-wise progress was also disseminated in AGRISNET portal for the benefit of farmers and general public. Audit analysis of the ARS data revealed the following:

- There were variations in the data related to scheme progress in 210 out of 273 components, in the output reports generated on fortnightly basis as of March 2017.
- In order to depict the factual position, scheme progress made during the period of reporting need to be reported and shown only against the actual fortnight during which the progress was made. However, it was observed that the subsequent period achievements made, cumulated with the existing figure of the last fortnight of previous year. This resulted in incorrect exhibition and reporting of scheme progress of the last fortnight of the previous year.

A comparison of the ARS data furnished to audit for the year ended March 2017 with the final consolidated manual reports of the Directorate relating to the expenditure incurred for 24 out of 29 schemes indicated the following:

- The expenditure incurred was reported as ₹ 274.80 crore in 23 schemes and ₹ 0.07 crore in respect of one scheme whereas the reports of the ARS showed the expenditure details as ₹ 141.11 crore and ₹ 1.15 crore respectively. Thus, an expenditure of ₹ 133.69 crore (49 *per cent*) was not captured in the ARS.
- The physical achievement in ARS data of the 131 out of 134 components relating to 20 schemes was reported lesser than that of the manual reports of the Directorate.

Thus, the reports generated through the ARS software did not provide correct and complete data for reviewing the performance and achievements of the components of the schemes due to the absence of well documented application development.

Government accepted and stated (October 2017) that suitable instructions were issued to the field officials for capturing correct data in the system. The fact, however, remains that the Department failed to prepare proper documentation for enabling the field official to capture the correct data.

3.3.5 Area Coverage Reporting System

The Area Coverage Reporting System module of ARS was developed for village level monitoring of crop-wise area coverage of paddy, pulses, millets and oil seeds. Area coverage under different crops was being collected by Assistant Agriculture Officers of the respective blocks and updated weekly in ARS. Further, area coverage under different crops was obtained monthly by

⁸⁰ Consisting of 273 components.

the District Offices during Crop Area Reconciliation Meeting with the Department of Economics and Statistics and Department of Revenue. The weekly data collected and the monthly data obtained from other Departments was compared and reconciled by Agriculture Department. We observed that there was no provision in the ARS software to capture the reconciled figures which necessitated the manual intervention in final report.

The area coverage of the paddy crop in the selected six districts, as per the manual records after reconciliation with Revenue Department and data available in the ARS for the year 2016-17 is given in **Table No. 3.8**.

Table No. 3.8: Achievement of the area coverage of paddy

Name of the district	Area covered (in ha)	
	District data after reconciliation	ARS data
Thanjavur	1,49,212	1,24,179
Tiruvallur	96,967	47,016
Kancheepuram	69,369	47,881
Vellore	51,597	17,323
Tirunelveli	28,896	10,936
Coimbatore	1,189	96
Total	3,97,230	2,47,431

(Source: Details furnished by Department)

It may be seen from the above that non-capturing of 1,49,799 ha of area covered under paddy cultivation in the ARS software was due to absence of provision to capture reconciled figures.

3.3.5.1 State Seed Farms

ARS software included SSF module to monitor the progress of activities⁸¹ of State Seed Farms. Comparison of SSF data in ARS with the test checked districts and Directorate manual data revealed incompleteness of the data captured in the system, as indicated in **Table No. 3.9**.

Table No. 3.9: Achievement of area covered and seed produced in Seed Farms

Crop	Area covered (in acre)			Seed produced (in MT)		
	Directorate Data	District Data	ARS Data	Directorate Data	District Data	ARS Data
Paddy	190.00	157.62	176.00	169.47	189.73	169.09
Pulses	93.00	79.00	45.00	14.66	9.45	6.07
Oilseeds	91.13	91.00	20.00	29.12	15.86	2.00
Millets	19.00	20.00	11.00	12.36	4.00	2.32

(Source: Details furnished by Department)

As may be seen from the above it was evident that the field offices failed to capture the progress of the schemes in ARS and the same was also not monitored by the higher authorities, as the information from these incomplete

⁸¹ Crop wise area programmed, covered and harvested under different seasons, breeder / foundation seeds utilised for covered and harvested area, production of foundation seeds, seed multiplication ratio and yield obtained.

output reports generated by utilising ARS data was not helpful to aid policy decisions of the Department.

- Apart from the above, it was observed that though the data captured and reports were generated for the State as a whole on fortnightly basis, the software did not have provision to generate reports at District level and periodical reports⁸² by the District heads and at higher levels to monitor the progress.

An analysis of the reason for such data variation and non-reliability of report generated through ARS, revealed that

- Uniform method was not adopted for data entry as the system accepted both numeric and characters for mandatory numeric field type
- The information which was to be automatically arrived based on the inputs already available in the software was provided with the provision for fresh data entry or editing the data already uploaded, as detailed in the succeeding **Paragraph No. 3.3.8.1**.

On this being pointed out, Government accepted (October 2017) and assured that necessary action would be taken.

3.3.6 Security and End User controls

The Tamil Nadu e-Security Policy, 2010 envisaged that each Department need to formalise a set of processes that would manage users effectively. The level of users being able to access information as against accessing and modifying information would need to be determined by the Head of Department and/or Secretary concerned. The passwords are most commonly used to ensure authorised access to an information system or service and hence proven password management practices are essential to ensure that the IT system is secure.

3.3.6.1 Logical access and User management

- **Password Controls:** Department did not envisage a well-defined password policy. Audit observed that same user names and passwords were being used by all users in blocks and districts. Passwords were not frequently changed.
- **Segregation of duties, user roles and privileges not defined:** Department created three roles⁸³ for 417 users for accessing the ARS software. As data⁸⁴ in the application necessitated data entry by users, the correctness of such data were not verified and authenticated by the next level user. System also allowed editing the critical data without approval by appropriate authority.

⁸² Monthly, quarterly, half yearly and annual.

⁸³ Role 1: Fixing the target and report viewing at State level;
Role 2: View and edit data, generation of MIS report at District level and
Role 3: Data entry, view and editing at Block level.

⁸⁴ Samples received, analysed in laboratories, number of seed nuts procured, germinated and seedlings certified at Coconut laboratories, etc.

Same login credentials were provided to all the users of the district for various activities under different units and the system allowed the users to access any data within the particular district. The application did not ensure accountability of users who entered or modified the data, exposing the application to the risks of data manipulation. This affected the integrity and reliability of data adversely.

- **Audit Trails:** The application did not have audit trail to identify and detect unauthorised access to data, since there was no provision to capture the user details automatically to link to the field officials. Further, there was no provision to capture the date of creation and date of updation automatically from the server date. As the user was accessing Government information system, access of each user needs to be monitored and recorded.

Government accepted (October 2017) the observations and stated that password controls and authentication would be carried out.

3.3.6.2 Program change management controls

Audit observed that many modifications were carried out in the modules like Coconut Nurseries, State Seed Farm, Tamil Nadu State Seed Development Agency without any written requests from the users. Department also failed to document requests and modifications made in the application due to lack of documented change management procedures *viz.*, testing, approval and migration. Application version log was also not maintained.

3.3.6.3 Business Continuity Plan and Disaster Recovery Plan

As per the best practices, the Department need to have plans for off-site backups and to frame business continuity and disaster recovery plans to prevent interruption and disruptions due to natural disasters or man-made disruptions for Government process and procedures. This was required in view of the fact that the application was to capture vital information such as achievement of various Central / State schemes.

Government accepted (October 2017) and stated the observations were noted and would be corrected in near future.

3.3.7 Mapping of business Rules

- Scheme progress made in respect of seed nut procured and seed recovery percentage at coconut nurseries was to be calculated separately with reference to the target fixed for seed nut procurement and seedlings certified respectively. However, it was observed that the seed recovery percentage was calculated by comparing seedlings certified with that of seed nuts procured which depicted incorrect picture of scheme progress.
- The targets were fixed based on the annual analytical capacity of the laboratories. The ARS software was designed to depict the achievements of testing in the laboratories with reference to the actual

number of samples analysed to the samples received instead of targets indicating incorrect mapping of business rules.

- The ARS software did not have provision to capture the data of samples rejection on physical observation. These rejections were also treated as analysed in the reports generated.

The above deficiencies indicated that the relevant business rules and procedures required to be identified and suitably incorporated in the application were not mapped. Government replied (October 2017) that the deficiencies would be addressed shortly.

3.3.8 Application Controls

Analysis of ARS data, examination of data entry screens and generation of reports was made to verify completeness, accuracy and reliability of data and to check the existence of built-in controls like input, validation, processing and output controls and the observations are detailed below:

3.3.8.1 Input and Validation controls

- The system accepted both numeric and characters irrespective of field type⁸⁵.
- It also accepted negative numbers in respect of progress made in testing the samples received and seed multiplication ratio.
- The system allowed to edit the cumulative progress of schemes made up to the end of the fortnight during the subsequent fortnight. This resulted in incorrect exhibition of scheme progress made in the previous fortnight as even though they were completed with delay.
- The area harvested for cropping need to be equal to or less than the area covered under cropping. It was seen from the State Seed Farm module data that area harvested was higher than the actual area covered indicating absence of validation control.
- Similarly, in Lab modules, the total number of samples analysed was more than the total number of samples received.

3.3.8.2 Process Controls

- System was designed for capturing the financial figures in lakh of rupees instead of actual expenditure resulting in variation in the Annual financial reporting.
- In schemes module, target and achievement with respect to various schemes was entered at Directorate and field level respectively. The system allowed data entry of achievements without corresponding data entry of targets. In respect of cases where there were no targets, the percentage of achievement was shown as zero.
- The software generated Crop Cutting Experiment Report under ACRS module detailing the minimum, average and maximum area covered

⁸⁵ Air-curing, seedlings-certified, coconut nurseries as they represent numbers.

under cropping. It was seen that the report generated for minimum area covered also included the unharvested area without restricting to the harvested area. This resulted in incorrect generation of the report on the progress of area coverage for cropping.

- The information already available in the software was not utilised and the module was designed for fresh input of data as indicated below:
 - Seed Multiplication Ratio need to be arrived on the basis of available data of Foundation Seed Produced and Seed utilised for harvested area.
 - The actual yield of seed in State Seed Farm need to be arrived based on foundation seed produced and area harvested.

Thus, Department failed to incorporate adequate input, validation and processing controls in the ARS software resulting in ineffective monitoring of the progress of various schemes besides generation of reports.

Government accepted (October 2017) the observations and stated that the input, validation and process controls would be taken into consideration and the software modified accordingly.

3.3.9 Conclusion

Development of ARS software was finalised without adopting the User Requirement Specification, System Requirement Specification and User Acceptance Testing. A comparison of the data available in the ARS software and the reports generated therefrom with the manual records of the Department indicated incorrect and incomplete data capturing of physical and financial progress of the schemes implemented by the Department and were not useful for effective monitoring and decision making. The ARS application lacked adequate input controls, validation checks and process controls resulting in reports generated becoming unreliable for decision making by the Management and continued dependence on manual records. Thus, the objective of effective management of schemes by reducing the time required for data consolidation and reporting of schemes at all levels remained largely unachieved due to deficiencies in the design and implementation of the application software.

PUBLIC WORKS DEPARTMENT

3.4 Additional burden to State exchequer

Absence of inter-departmental co-ordination in pursuance of application of aggrieved land owners, inordinate delay and failure to adhere to the prescribed provisions resulted in dismissal of appeal and additional interest burden of ₹ 3.66 crore to the State exchequer.

Government of Tamil Nadu (GoTN) sanctioned (April 1986) formation of new tank near Chinnavedampatti Village in Coimbatore District to benefit 560 acres of dry land. As the work involved land acquisition (LA), Public Works Department (PWD) requested (July 1987) the Revenue Department to acquire 67.13.0 ha of land. The Special Tahsildar appointed by Revenue Department for acquiring land under this scheme, acquired the entire land and passed (February 1990) the award for ₹ 75.62 lakh⁸⁶. The land owners accepted the award under protest and received (April 1990) the compensation payment. Aggrieved over the award, land owners preferred (April 1990) an application to Special Tahsildar under section 18 of Land Acquisition Act, 1894, for referring the matter to the Court to determine the enhanced compensation amount. The Office of Special Tahsildar of the scheme was closed during 1993 without referring the application of land owners to the Court. In the meantime, PWD continued the tank work and completed (December 1993) it incurring expenditure of ₹ 6.78 crore.

As the earlier application was not referred to the court, the aggrieved land owners again submitted (October and November 2004) application and the same was referred (February and March 2005) to the Sub-Court, Coimbatore (SCC) for adjudication by the Land Acquisition Officer (Revenue Divisional officer) (LAO). The SCC, ordered (March 2008) to pay enhanced compensation⁸⁷ along with interest⁸⁸ thereof. Against the SCC order, LAO filed (October 2008) an appeal in the Hon'ble High Court of Madras (HC). HC directed (March 2009) the Department to deposit the entire amount within eight weeks. District Collector requested (December 2009) Principal Secretary and Commissioner of Land Acquisition, Chennai for obtaining expeditious sanction of the entire compensation amount from GoTN. On reference by Revenue Divisional Officer, Coimbatore seeking the opinion for filing appeal against the HC orders, the Special Government Pleader opined (September 2011) that it was not a fit case to appeal. On further reference by the Secretary to Government, PWD, the Additional Advocate General of HC advised (April 2012) against filing Special Leave Petition (SLP) in the Hon'ble Supreme Court (SC) considering the delay of three years from the appeal orders which was required to be condoned by the Court besides increased interest commitment for delayed payment.

⁸⁶ ₹ 30,000 per acre plus 30 per cent solatium and 12 per cent additional market value.

⁸⁷ ₹ 2.40 lakh per acre plus 30 per cent solatium and 12 per cent additional market value.

⁸⁸ Nine per cent per annum interest with effect from 27 April 1988 (from the date of notification for acquisition of land) for first one year and thereafter 15 per cent per annum till the date of payment.

Despite the same, Secretary, PWD after consulting Law Department, decided (July 2012) to file SLP considering the heavy amount involved. Based on the directions from GoTN, LAO filed SLP (December 2012) in the SC. The SC dismissed (April 2013) the SLP on the ground that there was inordinate delay of 1,254 days in filing appeal and also on maintainability⁸⁹ with the comments that all these petitions were filed at the cost of public exchequer without any sense of responsibility and the same filed to waste public money.

The proposal of PWD for payment of compensation was agreed (December 2013) by Finance Department subject to fixing responsibility on the persons responsible for delay in filing appeal. GoTN accorded⁹⁰ (June 2014) sanction for ₹ 21.70 crore towards payment of enhanced compensation which included interest of ₹ 16.82 crore and the amount was deposited in June 2014. The completion certificate for the work was not yet recorded (April 2017) due to delay in finalisation of the revised estimate including the revised cost of the land for the project by PWD. Revised Administrative Sanction was not issued (September 2017) by GoTN pending receipt of revised proposals from PWD.

In this connection, we observed the following:

- The PWD failed to co-ordinate with Special Tahsildar appointed for acquiring the land in referring the application seeking enhanced compensation to the SCC leading to delayed reference of the applications by Revenue Department after 14 years.
- Despite the receipt of orders of HC in March 2009, Department obtained the legal opinion for preferring an appeal in September 2011 and April 2012 after a delay of more than two and three years respectively resulting in non-condonation of delay by SC.
- Though PWD with the permission of GoTN, decided to file SLP considering the involvement of heavy amount, failure to follow the provisions of Code of Civil Procedure, 1908, resulted in dismissal of SLP on maintainability.
- The PWD failed to pursue the Government to deposit the amount as directed by the HC within eight weeks by taking into consideration the legal opinion on the merits of the case which led to additional interest burden of ₹ 3.66 crore⁹¹ by the State exchequer.
- Despite the directions of Finance Department to fix responsibility on the persons responsible for the delay, there was no documentary evidence to prove that necessary action has been initiated in this regard.

⁸⁹ As per Section 79 of the code of Civil Procedure, 1908, in a suit by or against the State Government, the authority to be named as plaintiff or defendant, as the case may be, should be State Government.

⁹⁰ G.O.Ms.No.97, Public Works Department dated 02 June 2014.

⁹¹ Balance enhanced value to be paid to the land owners = ₹ 4,88,52,605 x five years [HC orders (March 2009) + eight weeks (April and May 2009) amount deposited in the Court in June 2014. Hence period of interest June 2009 to May 2014] x 15 per cent = ₹ 3,66,39,454 or ₹ 3.66 crore.

Thus, absence of inter-departmental co-ordination in pursuance of application of aggrieved land owners seeking enhanced compensation, inordinate delay and failure to adhere to the prescribed provisions resulted in dismissal of appeal and additional interest burden of ₹ 3.66 crore to the State exchequer.

Government replied (September 2017) that PWD was not aware of the representation made by the land owners before the land acquisition officer during April 1990 and it was known only during 2004. It was also stated that certain administrative and social reasons had attributed for the delay and efforts were made to file SLP to safeguard the interest of the Government. The reply is not acceptable as the PWD, being the nodal Department engaged in the project, failed to co-ordinate with Revenue Department to speed up the process of LA settlement and did not ensure timely payment of compensation to aggrieved land owners.

3.5 Non-renewal of lease

Failure to renew the lease period, non-enhancement of lease rent resulted in short collection of lease rent of ₹ 3.29 crore besides non-eviction of encroachment from Government land.

Para 172 (iv) of Tamil Nadu Public Works Departmental Code prescribes that the period of temporary occupation of the lands of Public Works Department (PWD) needs to be determined carefully in each case with reference to the nature of property. Para 172 (v) *ibid* prescribes that the grant⁹² in each case, after sanction by competent authority⁹³ should be embodied in an order. Further Para 172 (x) *ibid* prescribes that renewal of grants can be sanctioned only by the authority competent to sanction the grant in the first instance.

Para 109 of Chapter VIII of the Tamil Nadu Budget Manual (August 1992) (Manual) prescribes that it is the duty of the Chief Controlling Officer to see that all the sums due to Government are regularly and promptly assessed, realised and credited into Government account.

The instances of non-observance of the provisions of Manual resulting in non-realisation of Government dues were as detailed below:

Vivekananda Rock Memorial Committee, Kanyakumari

Government of Tamil Nadu (GoTN) ordered⁹⁴ (August 1981) leasing of 0.30 acre (1,214.50 sq m) of PWD land in Kanyakumari village to the Vivekananda Rock Memorial Committee (VRMC) for 10 years at a lease rent of ₹ 500 per annum for putting up the exhibition and information centre on the life of Vivekananda. The Order envisaged enhancement of lease rent once in every five years. GoTN extended⁹⁵ (November 1993) the lease for a further period of five years (January 1992 to January 1997) and instructed PWD to finalise the quantum of lease rent before entering into agreement.

⁹² The grant includes all rights, easements and appurtenances belonging to the land or reputed to belong to it or usually held or enjoyed with it (Appendix XIII-C (21)).

⁹³ Chief Engineer, PWD is the authority for grant of lease upto the value of the property of ₹ 1.00 lakh and for value exceeding ₹ 1.00 lakh by GoTN.

⁹⁴ G.O.Ms.No.967, Public Works Department dated 25 June 1977.

⁹⁵ G.O.Ms.No.1636, Public Works Department dated 23 November 1993.

VRMC requested (July 1997 and January 1999) GoTN for leasing the PWD land on permanent basis. Though GoTN made protracted correspondence with the field officials of PWD, Special Commissioner Land Administration and Revenue Officials for finalisation of lease rent, the lease period and lease rent payable were not finalised for more than 10 years after the expiry of lease period. GoTN belatedly extended (June 2012)⁹⁶ the lease for a period of 15 years (January 1997 to January 2012) for lease rent of ₹ 12,240 per annum adopting 12 *per cent* of the Government guideline value (2007), as VRMC was rendering a non-profit service and lease agreement was entered (July 2013) with VRMC.

On expiry of lease period in January 2012, CE, PWD, Madurai recommended (October 2013) for renewal of lease agreement based on the current guideline value of land. Orders of GoTN for renewal of lease agreement and revision of lease rent was pending (July 2017).

We observed from the scrutiny of records the following:

- GoTN failed to adhere to the provisions of the Manual for prompt realisation of lease rent and its own Order for enhancement of lease rent once in five years. VRMC was allowed to pay the lease rent fixed initially for 15 years without revision.
- Even though the lease agreement expired in January 1997, no efforts were made to renew the lease immediately and renewal of lease agreement was made in June 2012 by GoTN for a period upto January 2012 only, thereby permitting occupation of Government lands by VRMC without renewal of lease agreement. The proposal (October 2013) of PWD for renewal of lease agreement and revision of lease rent were pending approval of Government for more than four years.
- Considering the Government guideline value (April 2012) of ₹ 17,225 per sq m for the land, the lease rent short collected for the period from January 2012 to June 2017 worked out to ₹ 1.37 crore⁹⁷.

Sunnad Jamat Mosque Annadhanapatti, Salem

Land measuring 13,631 sq ft of PWD land in Annadhanapatti Village in Salem District was occupied by Sunnad Jamat Mosque (SJM) for more than 50 years without any permission. GoTN accorded⁹⁸ (May 1989) permission for leasing of 13,631 sq ft of PWD land to SJM for 12 years from the date of occupation, with lease rent of ₹ 7,920 calculated at seven *per cent* of land cost. The managing trustee of SJM expressed (June 1989 and January 1991) their inability to pay the lease rent due to less income generation and requested GoTN to transfer the land free of cost. Department did not execute lease agreement as envisaged in the Departmental code. After the receipt of

⁹⁶ G.O.Ms.No.148, Public Works Department dated 14 June 2012.

⁹⁷ Leased out area of 1,214.50 sq m; Guideline value = ₹ 17,225 per sq m from April 2012; Lease amount per annum = 12 *per cent* of (1,214.50 sq m x ₹ 17,225) = ₹ 25.10 lakh; Lease amount for the period January 2012 to June 2017 (5 ½ years) = ₹ 25.10 lakh x 5.5 years = ₹ 1.38 crore; Amount already paid = ₹ 67,320; Arrear to be collected = ₹ 1.38 crore - ₹ 67,320 = ₹ 1.37 crore.

⁹⁸ G.O.Ms.No.828, Public Works Department dated 3 May 1989.

demand notice (February 1991) from the Superintending Engineer (Buildings), PWD, Salem, the lease rent of ₹ 7,920 was paid (November 1991) by SJM for the period from 1989 to 2000.

Chief Engineer, PWD (Building) Tiruchirappalli (CE) requested (March 1995) GoTN for notifying the exact date of commencement of the lease period as the actual date of occupation of the land was not ascertainable and recommended for considering May 1984 as the date of occupation. CE also intimated (March 1995) that SJM authorities had encroached an additional area of 5,770 sq ft of PWD land. SJM remitted (February 2009) a sum of ₹ 7,920 as lease rent for the subsequent 12 years period (January 2001 to January 2013).

Engineer in Chief, PWD reiterated (November 2011) that the lease rent of ₹ 7,920 was payable by SJM on annual basis and requested GoTN to issue suitable amendment to the Government Order for collection of remaining lease rent. After being reminded (November 2011 and June 2012) by the officials of PWD for payment of lease rent of ₹ 11, 272 per annum, SJM remitted (January 2013) ₹ 11, 272. PWD issued periodical demand notices to SJM and the latest (April 2017) being a demand for payment of lease rent of ₹ 1.92 crore for the period from May 1984 to March 2017. Final orders of Government on the date of commencement of lease period, periodicity of payment of lease rent and extension of lease was awaited (July 2017).

We observed the following from the scrutiny of records:

- Government failed to ascertain and notify the actual date of occupation of the PWD land by SJM at the time of grant of lease. The periodicity of payment of lease rent was also not clearly envisaged in the Order. Despite specific provision in the Manual, the lease was not renewed for 26 years after the initial period.
- Department failed to evict encroachment of additional area of 5,770 sq ft by SJM indicating absence of efforts to maintain the property of Government.
- Delay in issue of amendment to the original orders resulted in raising of huge demand notice for ₹ 1.92 crore by the Department.

Thus, failure of Government to renew the lease period in time, non-enhancement of lease rent based on revised guideline value resulted in occupation of Government land without lease agreements and short collection of lease rent of ₹ 3.29 crore in respect of VRMC and SJM besides non-eviction of encroachment from Government land in respect of SJM.

Government replied (October 2017) that action would be taken for renewal of lease agreement with VRMC from January 2015 with enhanced lease rent. It was also stated that the proposal for waiver of pending lease rent and fixation of nominal lease rent would be considered. However, the fact remains that the Government lands were continued to be occupied without lease agreements.

HIGHWAYS AND MINOR PORTS DEPARTMENT**3.6 Avoidable extra expenditure due to incorrect preparation of estimates**

Incorrect preparation of estimates by suppressing the Benkelman Beam Deflection test results and incorrect inclusion of seasonal variation factor, in violation to Indian Road Congress specifications, resulted in additional work and avoidable extra expenditure of ₹ 8.75 crore.

Indian Road Congress (IRC) prescribes guidelines for evaluating the strengthening requirements⁹⁹ of existing roads by adopting Benkelman Beam Deflection (BBD) technique¹⁰⁰. The specification also stipulates that the overlay design¹⁰¹ for existing road is arrived on the basis of the deflection values of BBD tests besides considering the factors like design life, design traffic and correction for temperature and seasonal variations. It is always desirable to take deflection measurements during the monsoon season, when the pavement is in its weakest condition. When deflections are measured during dry months, they would require a correction factor¹⁰² for seasonal variation to determine the overlay design.

Based on the proposals (October 2015) of Chief Engineer (Highways), Construction and Maintenance, Chennai (CE) Government of Tamil Nadu, (GoTN) accorded (January 2016) administrative sanction for taking up initial rectification, improvements and maintenance of roads for five years through Performance Based Maintenance Contract (PBMC) in Tiruvallur District for ₹ 630.38 crore. This sanction included the improvement of 32 works for a length of 213.49 km for ₹ 285.85 crore. Test check of records of 12 out of these 32 works revealed the following:

Based on the request (October 2015) of Divisional Engineer, Tiruvallur, (DE), Highways Research Station (HRS) of Highways Department conducted BBD test for a stretch of 107.25 km in the 12 works during the monsoon¹⁰³ period (4 November 2015 to 26 December 2015) and forwarded (2 January 2016) the test results to the DE. DE prepared (7 January 2016) the estimates for requirement of overlay thickness for the stretch in these 12 works on the basis of the deflection values of BBD test results conducted during monsoon period, the traffic volume on the road in terms of Commercial Vehicles Per Day and also incorrectly included the correction factor for seasonal variation.

DE also prepared estimates (7 January 2016) for partial reaches of four out of 12 works (9.9 km) by adopting IRC 37: 2012 specification¹⁰⁴ with provisions

⁹⁹ IRC specification: 81-1997.

¹⁰⁰ A.C. Benkelman devised the simple deflection beam for measurement of pavement surface deflection which is used for evaluation of the requirements of strengthening of flexible pavements.

¹⁰¹ In terms of thickness of Bitumen Macadam required for strengthening work.

¹⁰² Ratio of maximum deflection immediately after the monsoon to that of the minimum deflection during the dry months.

¹⁰³ As per the data furnished by Indian Meteorological Department, North East Monsoon for the year 2015 commenced on 28 October 2015 and concluded on 31 December 2015 in Tamil Nadu. The estimates also indicated significant rainfall in Tiruvallur District from 1 November 2015 to 10 December 2015.

¹⁰⁴ IRC: 37-2012 is applicable for designing the new flexible pavements in which the work involved formation of new roads from sub base to bituminous surface.

for laying of Wet Mix Macadam (WMM), Dense Bitumen Macadam (DBM) and Bituminous Concrete (BC) recording that these four stretches were in damaged condition and it was not possible to conduct BBD test on these stretches. However, it was seen from the estimate files that BBD tests were conducted by HRS for these reaches during November and December 2015 and the test results communicated (2/4 January 2016) to DE which indicated laying of DBM and BC. Technical sanction for the estimates of these 12 works was accorded (8 January 2016) by CE, which included the copy of the BBD test results.

Tenders were invited (January 2016) for the works and contractors quoted rate contract on the basis of approved estimates. The work was entrusted to the lowest tenderer (February 2016). The Department incurred ₹ 103.26 crore (December 2016) out of the total value of contract of ₹ 285.85 crore and the balance works were under progress (March 2017).

We observed the following from the test check of records:

Suppression of BBD test results

Despite conduct of BBD tests by HRS and availability of test results for a reach of 9.9 km in four works, DE suppressed the same and prepared the estimates for unnecessarily providing WMM and excess thickness of DBM which calls for fixing responsibility for the lapses. As the contractor quoted rate contract on the basis of Bill of Quantity arrived in the estimates, incorrect preparation of estimates suppressing the BBD test result, resulted in additional and avoidable expenditure of ₹ 6.55 crore as detailed in **Annexure - 4**.

Additional liability on inclusion of seasonal variation

Though seasonal variation correction factor was required for tests conducted during dry months, DE incorrectly included it for tests conducted in monsoon season resulting in adoption of excess thickness of five to 55 mm DBM for the stretch of 47.050 km in nine works and avoidable extra expenditure of ₹ 2.20 crore as shown in the **Annexure - 5**.

CE, while according technical sanction for these works, failed to notice the suppression of facts and incorrect inclusion of seasonal variation factor.

Thus, incorrect preparation of estimates by suppressing the BBD tests results in four works and provision of additional thickness by including seasonal variation factor, in violation of IRC specifications, resulted in avoidable extra expenditure of ₹ 8.75 crore.

Government stated (September 2017) that the deflection for these works were taken during December 2015 *i.e.* during monsoon, which was the period when the pavement was in its weakest condition. However, the seasonal correction factor was included as per IRC Clause 4.5.2 and 4.5.4 considering the sub-grade soil and field moisture. The reply is not acceptable as Clause 4.5.2 and 4.5.4 were applicable in cases BBD tests were conducted during dry months and in the instant case it was conducted during monsoon.

3.7 Non-realisation of revenue

Delay in recovery of additional expenditure incurred for completion of balance bridge works from the defaulted contractors resulted in non-realisation of revenue of ₹ 6.23 crore.

Clause 109.06 of Tamil Nadu Highways Manual, 1995 (Manual) stipulates that in the event of default of a contractor to complete the work in time, the Engineer of the Highways Department may determine (terminate) any part of the contract, after the issue of notice, and to proceed with the execution of the balance portion of the work through any other agency.

Clause 109.09 of Manual stipulates that the Engineer shall determine the amount recoverable from the original contractor towards the excess expenditure incurred by the Department in completing the works after issuing a notice in writing for payment within 30 days.

The work of construction of five bridge works in two¹⁰⁵ Divisions of Highways Department was administratively sanctioned for a total amount of ₹ 12.39 crore and revised to ₹ 24.74 crore by Government of Tamil Nadu (GoTN) (**Annexure - 6**) which included land acquisition and shifting of utilities.

Scrutiny of records relating to these works revealed that tenders were invited by the Department between October 2009 and May 2010 for these works. The construction of four bridge works was awarded (April 2010 and August 2010) to M/s. Rose Valley Infrastructures (P) Ltd (Tender premium of 11 to 15 *per cent* Above Estimate Rate (AER)) and the other bridge work to M/s. PTR Lane (P) Ltd (Tender premium of 12 *per cent* AER) (**Annexure- 6**) as they were the lowest tenderers for the respective works. The total value of the five civil works put to tender was ₹ 16.85 crore and the value finalised was ₹ 18.86 crore including tender premium. These works were to be completed between 12 and 18 months and the construction commenced between February and August 2010 by the contractors. As the execution of works by contractors was not in line with the terms of the agreement, the works were delayed and Divisional Officers issued notices (between June 2011 and June 2013) to enhance the pace of the work. Even after issue of notices, there was no significant improvement in the execution (works completed ranged between 24 and 60 *per cent*) and Divisional Officers terminated (between March 2012 and July 2013) the contracts with instructions that the incomplete works were to be completed at the risk and cost of these contractors as per agreement terms. Department invited (between June 2013 and December 2013) the tenders for the balance works of ₹ 8.83 crore and finalised at a rates with higher premium (tender premium of 73 to 98 *per cent* of AER). These balance value of works were executed by the new contractors and completed between May 2014 and September 2015. The additional expenditure incurred by the Department to complete the balance works was ₹ 6.23 crore.

Divisional Officers issued notice (between January and June 2015) to the defaulted contractors for payment of the same within 30 days. However, the additional expenditure of ₹ 6.23 crore was pending recovery from the

¹⁰⁵ Divisional Engineer (H), (Construction and Maintenance) Division, Chengalpattu and Divisional Engineer (H), (NABARD and Rural Roads) Division, Chengalpattu.

contractor for more than two years due to ineffective pursuance by the Divisional Officers despite stipulations in the manual.

Thus, delay in recovery of additional expenditure incurred by GoTN for completion of balance bridge works from the defaulted contractors resulted in non-realisation of revenue of ₹ 6.23 crore to Government for more than two years.

Government accepted (September 2017) and assured that efforts were being made to recover the cost from the defaulted contractors under revenue recovery Act.

3.8 Non-observance of Manual provisions

Violation of Manual provisions and absence of effective pursuance resulted in short collection of consultation fee of ₹ 2.18 crore, avoidable interest burden of ₹ 1.31 crore and non-realisation of lease rent of ₹ 2.36 crore for four years.

Para 77 of Tamil Nadu Port manual, 1997 (Manual) envisages assessment of rent (Licence fee) in accordance with standard rates for the occupation of port lands and the same is recoverable in advance. The Manual also stipulates that the rent due shall not be allowed to accumulate. Para 13 of Form 26¹⁰⁶ under Appendix IV of Manual, permit the Port authority to revoke this licence at any time if the licence fee or any part thereof shall remain unpaid for 15 days after it has become due.

Para 6 of Form 32 (amended in 1993)¹⁰⁷ under Appendix IV of Manual stipulates that the Licensee of the port user shall carry out all preliminary arrangements for the execution of works in consultation with the Tamil Nadu Maritime Board (TNMB) and a sum of 0.5 *per cent* of the estimated project cost should be paid in advance towards consultation fees to the TNMB.

The lease rent and licence fee collected by TNMB for the occupation of port lands is shared with GoTN on annual basis at a certain percentage (Normally 50 *per cent*) as communicated by GoTN every year.

Based on the proposal (May 1998) from M/s. Pennar Refineries Limited, (which was renamed as M/s. Nagarjuna Oil Corporation Limited in June 1999) Chennai (NOCL), GoTN notified (August 1998) Thiruchopuram in Cuddalore District as Minor Port. TNMB executed licence agreement for use of the entire minor port area of 42.29 acre by NOCL for handling petroleum products, after the receipt (March 1999) of advance annual licence fee of ₹ 34.23 lakh for a year (1999-2000).

Though the licence was granted and land handed over in March 1999 for allotment of 42.29 acre of port land, NOCL finalised the Detailed Project Report for creation of various marine structures only in October 2010 with the project cost of ₹ 555 crore, seeking permission to commence construction of marine facilities and execution of agreement. TNMB advised (12 November 2010) NOCL to remit 0.5 *per cent* of the estimated project cost as consultation

¹⁰⁶ Form for the agreement of licence for the use of lands within port limits for marine purposes.

¹⁰⁷ G.O. Ms. No. 1060, Transport Department, dated 09 November 1993.

fee. NOCL, citing the huge project cost, requested (18 November 2010) for payment of consultation fee on estimated construction cost of the jetty amounting to ₹ 120 crore and the associated facilities. TNMB accepted (19 November 2010) the request of NOCL in violation of Manual provisions. NOCL remitted (7 December 2010) ₹ 60 lakh as licence fee on estimated value (₹ 120 crore) to TNMB. The agreement for licence of erection of marine structure was finalised (16 December 2010) with NOCL for construction of open sea trestle Jetty in the coastal area at Thiruchopuram for handling bulk liquids. NOCL intimated (February 2011) TNMB, that they had spent ₹ 150 crore in setting up of port at Thiruchopuram which was more than ₹ 120 crore as mentioned in the DPR for which the consultation charges were paid. It was also intimated that the construction activities were not continued from the first quarter of 2012 for want additional equity infusion.

NOCL also failed to pay the licence fee for port land for the period 31 March 2013 to 30 March 2017 which worked out to ₹ 2.36 crore¹⁰⁸.

TNMB issued periodical reminders (January 2014 to January 2016) to NOCL for the payment of licence fee on port land and consultation fee for the balance project cost of ₹ 435 crore¹⁰⁹. As the same was not received, TNMB issued (November 2016) a Show Cause Notice for the withdrawal of the licence granted for utilising the minor port area. Further action in this regard was pending (May 2017).

In this connection we observed as under:

- Though the Manual provisions stipulated that the collection of consultation fee at 0.5 *per cent* on the estimated project cost of marine structures was to be made in advance, action of TNMB to accept the request of NOCL for payment of consultancy fee pertaining to a part of the estimated project cost, in violation of Manual provision resulted in undue favour to the licensee and short collection of ₹ 2.18 crore¹¹⁰ to the Board towards the project cost of ₹ 435 crore.
- Despite specific provision in the Manual not to accumulate port land rent (licence fee), TNMB failed to effectively pursue and to collect the licence fee of ₹ 2.36 crore for port land for the period 31.3.2013 to 30.3.2017. This resulted in non-realisation of ₹ 2.36 crore of revenue to the Board and non-transfer of 50 *per cent* of the amount (₹ 1.18 crore) to the GoTN.

¹⁰⁸ 31 March 2013 to 30 March 2014 = ₹ 0.51 crore; 31 March 2014 to 30 March 2015 = ₹ 0.62 crore; 31 March 2015 to 30 March 2017 = (₹ 61.62 lakh x two years) = ₹ 1.23 crore (₹ 0.51 crore + ₹ 0.62 crore + ₹ 1.23 crore = ₹ 2.36 crore).

¹⁰⁹ Navigational Channel Dredging - ₹ 110 crore; Pipe line / Single point mooring Installation - ₹ 200 crore; Submarine Pipelines Supply - ₹ 55 crore; Single point mooring and Components Supply - ₹ 70 crore.

¹¹⁰ 0.5 *per cent* of ₹ 435 crore = ₹ 2,17,50,000.

- We observed that TNMB paid ₹ 4.26 crore as interest to GoTN at the rate of 10 *per cent* per annum during 2005-06 to 2014-15 pending settlement of dues for the value of assets transferred to TNMB. Non-collection of consultation fee by TNMB from NOCL as per Manual provisions led to payment of interest of ₹ 1.31 crore¹¹¹ to settle its dues.

Thus, action of TNMB in extending undue favour to the licensee in violation of Manual provisions and ineffective pursuance resulted in short collection of consultation fee of ₹ 2.18 crore, avoidable interest burden of ₹ 1.31 crore and non-realisation of lease rent of ₹ 2.36 crore for four years.

Government replied (November 2017) that consultation fees was collected for the estimated project cost of the open sea trestle portion. It was also stated that the licensee did not commence execution of other components *viz.*, single point mooring, pipeline supply system and hence, consultation fee for these components were not paid despite periodical reminders. It was assured that continuous efforts were being made to collect the pending arrears. The reply is not acceptable as the Department failed to collect the licence fee for the project cost prior to execution of agreement as envisaged in the Manual.

3.9 Non-remittance to labour welfare fund

Non-remittance of ₹ 14.63 crore to Tamil Nadu Construction Workers' Welfare Board in violation of Act provisions.

Government of Tamil Nadu (GoTN) enacted Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Work) Act, 1982 (State Act) and framed thereunder the Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Work) Rules, 1986 (State Rules) for regulating the employment and conditions of work of the manual workers in the State. In accordance with Section 6 of the State Act, GoTN established (November 1994) the Tamil Nadu Construction Workers' Welfare Board (Board) to maintain and administer the Manual Worker General Welfare Fund for welfare measures of the manual workers engaged in construction or maintenance of dams, bridges, roads or in any building operations.

Section 8A (b) of the State Act stipulates that every person who undertakes or is in-charge of, any construction work shall be liable to pay the contribution to the Board, not exceeding one *per cent* of the total estimated cost of the building or construction works proposed to be constructed, as may be fixed by the Government by notification. GoTN notified (December 2013) one *per cent* of total estimated cost of the building or construction work as contribution payable to the Board.

Rule 20 A of the State Rules stipulates that remittance of such contributions to the Board be made within 30 days from the date of commencement of work.

Scrutiny of records of Highways Department revealed that lump sum provisions were made in the technical sanctions of the construction of bridges, roads and other maintenance works towards the contributions payable to the

¹¹¹ ₹ 2,17,50,000 x 10 *per cent* x six years (December 2010 to November 2016) = ₹ 1.31 crore.

Board for the welfare of manual workers. These contributions were subsequently required to be remitted¹¹² to the Board after obtaining the necessary financial sanction from the GoTN.

We observed from the test check of records that the Divisional Officers of the Highways Department failed to adhere to the provisions of the Act in remittance of the contributions to the Board. As against the total contribution of ₹ 83.91 crore for the works executed during 2014-15 to 2016-17 in 50 Divisional Offices under the control of seven¹¹³ circle offices, only ₹ 69.28 crore was remitted to the Board as on 31 March 2017 and contributions to an extent of ₹ 14.63 crore was pending remittance by 21 Divisions. Of the non-remitted contribution of ₹ 14.63 crore, ₹ 1.66 crore pertained to 2014-15 (11 *per cent*); ₹ 4.49 crore for 2015-16 (31 *per cent*) and the balance ₹ 8.48 crore related to 2016-17.

We also observed that remitted contribution of ₹ 69.28 crore relating to the works undertaken by 50 Divisions was not transferred to the accounts of the Board within time limit of 30 days from the date of commencement of work, as stipulated in the Rules. The delay in transfer of contributions ranged from one month to 24 months.

Thus, non-remittance of contributions of ₹ 14.63 crore coupled with delayed remittance of ₹ 69.28 crore by the Highways Department to the Board, in violation of the provisions of the Act, resulted in non-contribution and delayed contribution of funds to the Board to undertake the envisaged objective of providing welfare measures to the manual workers in the State of Tamil Nadu.

Divisional Officers stated (April and June 2017) that the non-remittance and delay in remittance of the amount was due to non-receipt of the financial sanction from the Government.

In this regard, we further observed the following:

Government of India, with a view to regulate the employment and conditions of service of building and other constructions workers and to provide for their safety, health and welfare measures, enacted (August 1996) “The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996” (Central Act), “The Building and Other Construction Workers’ Welfare Cess Act, 1996” and the Building and Other Construction Workers’ Welfare Cess Rules, 1998 (Central Rules) with the approval of the Parliament for applicability to the whole of India.

Rule 4 (3) of the Central Rules provided that in case of Government Departments or Public Sector Undertakings, the cess towards welfare of the Buildings and other construction workers had to be deducted from the bills payable to the contractor and deposited in the account of the Welfare Board formed as per the provisions of the Central Act.

¹¹² Through cheque, demand draft and electronic mode.

¹¹³ Chennai, Coimbatore, Madurai, Tiruchirappalli, Tirunelveli, Tiruppur and Villupuram.

As the State Act and Rules for the welfare of manual workers were enacted prior to the notification of the Central Act and Rules, the contributions to the Board were being approved and paid from Government funds, whereas the Central Act provided for recovery of contributions to the Board from the contractors.

We recommended the State Government to consider amendment of the State Act and Rules in line with the Central Act for providing recovery of the contribution to the fund from the contractors towards contribution to facilitate the timely availability of funds for the welfare of the manual workers.

Government replied (November 2017) that necessary instructions were being issued to all the officials stating not to make delay in remittance of labour welfare fund and also stated that suitable steps had been initiated to study the issue in detail and based on a consensus, the Government would be approached with proposals for amending the Act, if need be. However, the fact remains that ₹ 14.63 crore was not remitted to Tamil Nadu Construction Workers' Welfare Board.

AGRICULTURE DEPARTMENT

3.10 Parking of funds

Parking of Government funds outside Government account in violation of Government instructions resulted in loss of interest of ₹ 1.11 crore besides partial achievement of the envisaged objective.

Para 178 of Tamil Nadu Budget Manual envisaged drawal from the treasury of money not required for immediate use as a budgetary irregularity and also indicated that these arise due to absence of co-ordination between departments and lack of proper control over expenditure. The Public Accounts Committee (PAC) also in their recommendation¹¹⁴ on an observation included in the Audit Report for the year 1987-88, relating to parking of funds outside Government accounts, instructed that such financial irregularities should be strictly avoided in future.

Government of Tamil Nadu (GoTN) accorded¹¹⁵ (March 2015) administrative sanction for construction of Integrated Agricultural Extension Centres¹¹⁶ (IAECs) in 100 Blocks at a cost of ₹ 150 crore, under the financial assistance from National Bank for Agriculture and Rural Development (NABARD). GoTN also directed that the work was to be executed by the Public Works Department and Agriculture Engineering Department. GoTN authorised Director of Agriculture (DoA) to draw the amount and credit into the departmental Personal Deposit (PD) Account and not in the savings bank account.

¹¹⁴ PAC 134th Report presented to the Legislative Assembly on 03 May 1994 for Para No. 3.1.6 of Report of the CAG (Civil Audit), Government of Tamil Nadu for the year 1987-88.

¹¹⁵ G.O.Ms.No.73, Agriculture Department dated 23 March 2015.

¹¹⁶ IAECs are centres under one single roof for providing Agriculture, Horticulture, Agricultural Marketing, Agricultural Engineering and Seed Certification extension service and distribution of inputs in order to benefit the farmers at block level.

Director of Agriculture issued (January and October 2016) fund availability certificate to PWD for utilising the grant directly from treasury for ₹ 75 crore and released (January 2016) ₹ 50 crore to the PD account of Executive Director, Tamil Nadu Watershed Development Agency (TAWDEVA) with instruction to issue the amount to Chief Engineer, Agriculture Engineering Department (CE/AED). In turn, TAWDEVA issued (February 2016) a cheque of ₹ 50 crore to CE/AED which was deposited (February 2016) in the savings bank account in the name of CE/AED. TAWDEVA also released (June 2016 to April 2017) ₹ 12.16 crore which was also deposited in the same savings bank account.

Scrutiny of records revealed that CE/AED transferred between April 2016 and April 2017 funds of ₹ 62.06 crore to the savings bank /current account of the Executive Engineers (EEs) of the Divisions of the AED. It was also seen from the records of the five test checked divisions¹¹⁷ that the funds of ₹ 14.70 crore received during April 2016 to April 2017 were deposited in the savings/current account. Department completed (October 2017) 37 out of 50 buildings and of the completed 37 buildings, only 25 buildings were handed over by EE/AED to the Agriculture Department.

In this regard, we observed the following:

- DoA not only failed to adhere to the instructions of GoTN for drawal and credit of funds for the scheme in the departmental PD account but also released funds in advance of requirement in contravention to the provisions of Budget manual and the recommendations of the PAC.
- Despite specific instructions from the Government not to deposit the amount in the savings Bank account, DoA instructed TAWDEVA to release the amount to CE/AED which resulted in parking of Government funds outside the Government account and in violation of the instructions issued by Government in the Administrative Sanction.
- Parking of funds outside the Government account during April 2016 to April 2017 resulted in loss of interest of ₹ 0.81 crore (**Annexure -7**) to Government being the difference between the interest earned on the retention of money in the savings Bank account and the average open market borrowing rates of the Government (8.11 *per cent* for the year 2016-17) as GoTN had resorted to borrowing of ₹ 37,250 crore during 2016-17.
- The funds transferred to the Divisional Executive Engineers were also parked in the Savings bank account/current account, outside the Government account, resulting in loss of interest to Government. The loss of interest in respect of five test checked divisions worked out to ₹ 0.30 crore (**Annexure - 8**).

¹¹⁷

Dharmapuri, Salem, Tirunelveli, Tiruvallur and Vellore.

- Though the funds were released well in advance, CE/AED could complete and handover only 25 out of 50 buildings to the Agriculture Department resulting in partial achievement of the envisaged objective of the project.

Thus, release of funds in advance of actual requirements in violation of provisions of Budget manual, instructions of the Government and recommendations of PAC resulted in parking of funds outside the Government account which led to loss of interest of ₹ 1.11 crore to Government besides partial achievement of the objective.

Government accepted and stated (October 2017) that a proposal had been received for opening of PD account from CE/AED and the matter was under examination.

TOURISM DEPARTMENT

3.11 Non-availing of Government of India grant

Lack of monitoring the progress of work and delayed furnishing of Utilisation Certificates by State Government for development of tourism infrastructure resulted in non-availing of Government of India grant of ₹ 17.40 crore.

Government of India (GOI) formulated (September 2006) Product/Infrastructure Development for Destinations¹¹⁸ and Circuit¹¹⁹ (PIDDC) scheme for integrated infrastructure development of tourism in the country with 100 *per cent* Central Assistance. The scheme guidelines envisaged release of GOI funds to the implementing States in three installments for the mega projects of destination and circuit development. The pattern of release was 50 *per cent* on approval of the project, 30 *per cent* on receipt of Utilisation Certificate (UC) relating to the previous installment and the balance 20 *per cent* on the completion of project. For other than mega projects, the pattern of release was 80 *per cent* on approval and balance 20 *per cent* on the completion of work and receipt of the UC.

Government of India sanctioned ₹ 56.39 crore and released ₹ 45.11 crore to GoTN for PIDDC under other than mega projects category during 2007-08 to 2012-13. Out of the released amount of ₹ 45.11 crore, GoTN furnished UC for ₹ 26.94 crore and UC for ₹ 18.17 crore was pending submission to GOI.

¹¹⁸ Destination is a place of tourist interest. The destination development is the development of most visited sites in the State and the heritage monuments located in the particular area.

¹¹⁹ Circuit Development is the development of a route on which at least three major tourist destinations were located in different town, village or city.

In the meantime, based on the proposal (November 2009) of GoTN for 'Development of Thanjavur Palace¹²⁰ under Mega Tourism Project', GOI sanctioned (December 2010) Central Assistance of ₹ 14.75 crore under PIDDC scheme and released (December 2010) the first installment of ₹ 7.38 crore for completion of the work within 12 months. The sanction order of GOI envisaged (i) submission of UC within six months of the closure of the financial year along with physical progress achieved in implementation of the project for release of second installment, (ii) surrender of GOI funds along with interest which were kept unutilised for more than six months from the date of release, and (iii) Monitoring the physical and financial progress of work on quarterly basis by GoTN.

Ten months after the release of GOI funds, GoTN accorded (October 2011) administrative sanction for ₹ 14.75 crore for the Project and released (October 2011) ₹ 7.38 crore authorising Commissioner of Tourism (COT) to draw and disburse the amount to Chief Engineer (CE), Public Works Department (PWD), Chennai, instead of the executing agency, Executive Engineer, PWD, Thanjavur (EE). Based on the request (January 2012) of EE, GoTN accorded necessary amendment (February 2012) to the administrative sanction for disbursal of funds to EE, who was the executing agency, and the funds were transferred (March 2012) for execution of works.

Tenders were invited (December 2011) for all the 12 components of work. The single tenders were received for these components from different contractors and the same were approved (February and March 2012) by the competent authority¹²¹. Agreements were executed (April and May 2012) with the contractors. Works for 11 components were commenced by the contractors and one component¹²² was dropped by the PWD due to non-commencement of work by the contractor. GoTN forwarded (March 2013) the UC to GOI, without physical progress achieved in implementation of the project components as envisaged in the sanction order. After being pointed (November 2013) out by GOI, COT forwarded (December 2013) revised UCs in respect of the release of funds for ₹ 7.38 crore along with the physical progress and requested release of second installment. The value of work done for the execution of 11 project component of the project was ₹ 11.72 crore (November 2014).

¹²⁰ The project comprised execution of 12 components which included Refurbishing and renovation of existing Maratha Palace, Saraswathi Mahal Library and Art Gallery in the palace complex and Integrated development of Thanjavur.

¹²¹ The value of tenders exceeding ₹ one crore was approved by Tender Award Committee and less than ₹ one crore by Chief Engineer.

¹²² Construction, Restoration and Renovation of Bell Tower – Agreement value ₹ 28.50 lakh.

In the meantime, GOI instructed (February 2012) GoTN to liquidate all the pending UCs for the release of funds before 31 March 2012 failing which no further release would be made. Despite the same, GoTN failed to furnish UC for ₹ 18.17 crore released under PIDDC scheme during 2007-08 to 2012-13. GOI conveyed (November 2014) that no further funds would be sanctioned due to non-submission of UCs. GoTN submitted (March 2016) pending UCs and requested for release of final installment of the balance 20 per cent funds under category other than mega projects (₹ 10.03 crore) and second and final installment (50 per cent) of ₹ 7.37 crore for mega project, Development of Thanjavur Palace.

GOI intimated (May 2016) that PIDDC scheme had been delinked from Central Assistance from 2015-16 on recommendations of the XIV Finance Commission and hence, the sanctioned projects were to be implemented by the State Governments from their own resources.

Scrutiny of records also revealed that COT requested (February and June 2016) GoTN to release ₹ 16.67 crore for settlement of dues to contractors for the completed/ongoing projects under PIDDC. GoTN released (November 2016 and April 2017) ₹ 13.69 crore (inclusive of State share of ₹ 3.93 lakh) to settle the dues to contractor which included ₹ 4.36 crore for Development of Thanjavur Palace as a special case. Considering the availability of released funds, 10 components in the work of Development of Thanjavur Palace were foreclosed (February 2017) by PWD.

Thus, failure to monitor the progress of work by the Department and delayed submission of UCs (March 2016) by GoTN for the projects sanctioned during 2007-08 to 2012-13 resulted in non-release of GOI grant of ₹ 17.40 crore due to delinking of PIDDC scheme from Central Assistance from April 2015. This also led to expenditure of ₹ 13.65 crore¹²³ as an additional burden on the State exchequer.

Government replied (August 2017) that the delay in completion of projects were due to obtaining necessary permissions from the Archaeological Department and delicate structures of tourism importance. It was also stated that the GOI guidelines were modified in 2013-14, which stipulated liquidating the existing sanctions for availing new grants. The reply is not acceptable as the delay in furnishing UCs by GoTN for the funds released

¹²³ ₹ 13.69 crore minus State Share of ₹ 3.93 lakh = ₹ 13.65 crore.

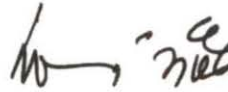
during 2007-08 to 2012-13 resulted in non-release of funds by GOI. The State did not get an opportunity to avail these funds after belated submission of UCs due to delinking of the scheme from Central Assistance.



Chennai
Dated 11 February 2018

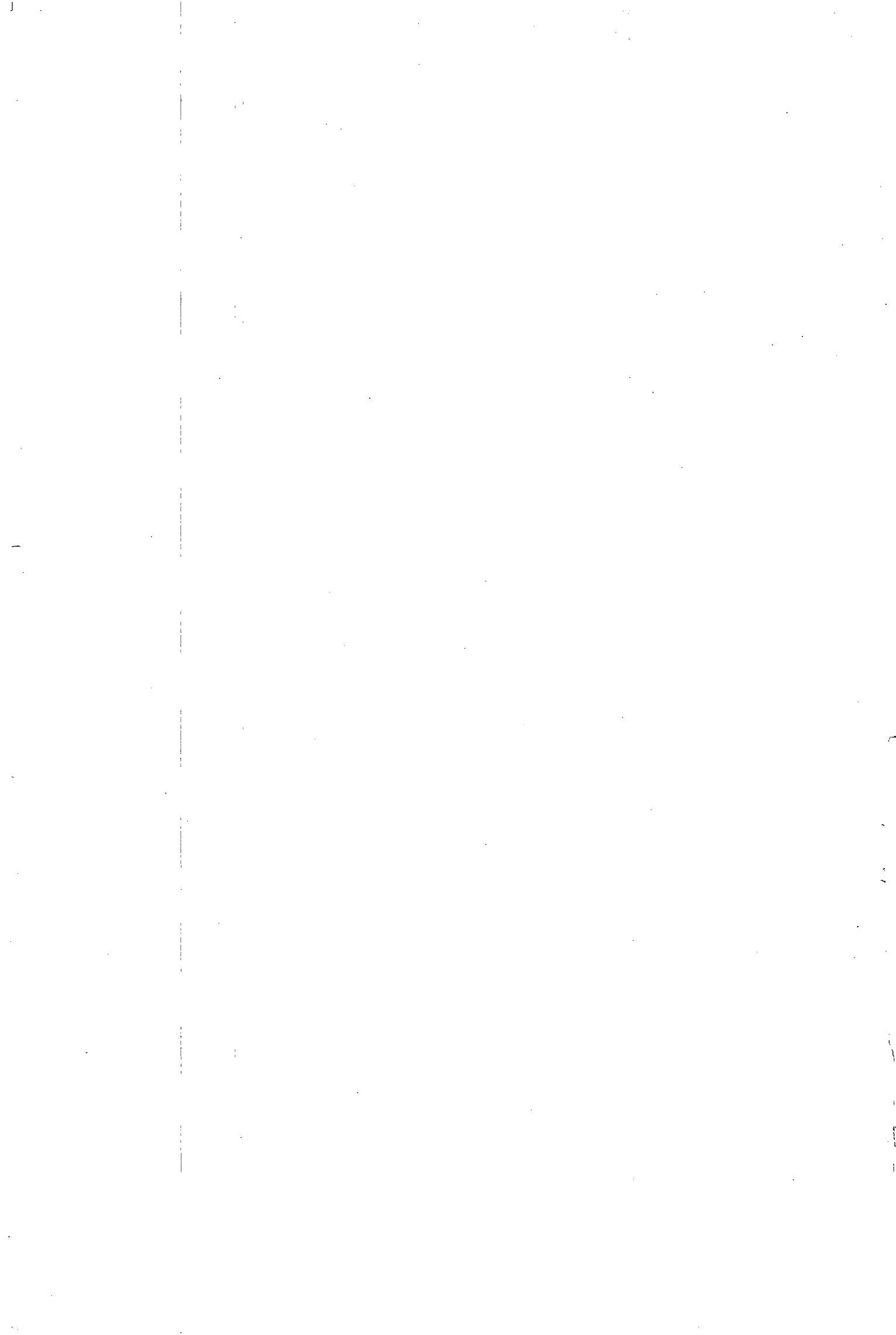
(R. THIRUPATHI VENKATASAMY)
Accountant General
(Economic and Revenue Sector Audit)
Tamil Nadu

Countersigned



New Delhi
Dated 13 February 2018

(RAJIV MEHRISHI)
Comptroller and Auditor General of India



ANNEXURES

Annexure-1**(Referred to in Paragraph 1.6.3)****Department-wise details of Inspection Reports
and Paragraphs pending**

Sl. No.	Name of the Department	Number of Outstanding	
		Inspection Reports	Audit Observations
1	Public Works Department (Water Resources)	125	415
	Public Works Department (Buildings)	139	345
2	Highways and Minor Ports	212	599
3	Environment and Forests	131	463
4	State Autonomous Bodies	40	171
5	Agriculture	222	719
6	Animal Husbandry	40	140
	Dairy Development	15	35
	Fisheries	25	69
7	Handlooms and Textiles	48	148
	Khadi and Village Industries	2	4
	Sericulture	0	0
8	Industries	6	20
	Micro, Small and Medium Enterprises	44	100
9	Tourism	16	38
10	Information and Technology	1	7
Total		1,066	3,273

Annexure 2
(Referred to in Paragraph 3.1.4.1)

Average number of cases treated per day

(Figures in numbers)

Name of the district	Total Number of VDs	Total VH and VCC	Average number of cases treated per day							
			Number of VDs					Number of VHs		Cases treated in VCC more than 80 cases
			Less than 30 cases	More than 30 and less than 40 cases	More than 40 and less than 60 cases	More than 60 and less than 80 cases	More than 80	More than 60 and less than 80 cases	More than 80	
Coimbatore	90	13	40	27	17	5	1	3	4	0
Erode	95	8	16	29	16	22	12	1	1	2
Madurai	89	4	48	20	17	2	2	0	0	0
Pudukottai	92	5	79	8	5	0	0	1	1	0
Theni	52	3	13	12	19	8	0	2	1	0
Tirunelveli	107	7	72	17	10	2	6	4	0	0
Tiruvarur	68	8	64	4	0	0	0	0	2	1
Tiruppur	97	7	24	53	17	2	1	1	2	0
Vellore	117	9	64	33	19	1	0	3	0	1
Villupuram	148	8	119	24	5	0	0	1	2	0
Total	955	72	539	227	125	42	22	16	13	4

(Source: Details furnished by Department)

Annexure 3
(Referred to in Paragraph 3.1.7.2)

Details of expiry medicines issued for treatment

Sl No	Name of the medicine	2014-15						2015-16						2016-17						Remarks
		OB	R	T	S	CB	EX	OB	R	T	S	CB	EX	OB	R	T	S	CB	EX	
VD Kollumangudi																				
1	D5 Cherratt powder	0	4	4	1	3	8/15	3	0	3	1	2	9/16	2	0	2	2	0	--	The medicine expired in 8/15 was used during 2016-17
2	D11 Picorhiyza powder	1	3	4	4	0	3/14	0	0	0	0	0		0	0	0	0	0	--	The medicine expired in 3/14 was used during 2014-15
3	D73 Analgin with Paracetamol injection	5	17	22	7	15	10/15	15	0	15	0	15	10/16	15	0	15	15	0	12/16	The medicine expired in 10/15 was used during 2016-17
4	D75 Prednisolone Injection	14	34	48	28	20	1/16	20	1	21	11	10	12/17	10	10	110	60	50	7/18	The medicine expired in 1/16 was used during 2016-17
5	D78 Sodium salicylate with sodium iodide	10	41	51	45	6	3/16	6	0	6	0	6	10/16	6	0	6	6	0	11/17	The medicine expired in 3/16 was used during 2016-17
6	D 102 Antiprotozoal injection	3	3	6	3	3	11/14	3	2	5	0	5	11/17	5	4	9	0	9	6/18	The medicine expired in 11/14 was used during 2016-17
7	D 112 B.comp with choline	--	---	--	--	--	--	0	18	18	18	0	3/15	--	--	--	--	--	--	The medicine expired in 3/15 was used during 2015-16
8	D 123 Triamcinalone Acetate	71	8	79	73	6	1/16	6	0	6	0	6	11/16	6	0	6	6	0	10/16	The medicine expired in 1/16 was used during 2016-17
9	D138 Adrenaline	10	21	31	20	11	1/15	11	10	21	18	3	9/16	3	10	13	3	10	5/17	The medicine expired in 1/15 was used during 2015-16
10	159 Raniditine Hel 2ml	100	30	130	100	30	2/14	30	40	70	30	40	10/17	40	0	40	0	40	10/17	The medicine expired in 2/14 was used during 2014-15 and 2015-16
11	D 145 Cefachlor	0	330	330	30	300	1/16	300	0	300	200	100	11/16	100	10	110	110	0	6/18	The medicine expired in 1/16 was used during 2016-17
VD Vellaikinar																				
12	D169 Clomiphene tab BP	--	--	--	--	--	--	100	200	300	200	100	3/16	100	10	200	200	0	--	The medicine expired in 3/16 was used during 2016-17
VCC Pollachi																				
13	D146 Oxy tetra cycline	--	---	--	--	--	--	0	220	220	60	160	10/15	160	0	160	160	0	--	The medicine expired in 10/15 was used during 2016-17

OB - Opening Balance; R - Receipt; T - Total; S - Supply; CB - Closing Balance; EX - Date of Expiry

Annexure 5
(Referred to in Paragraph 3.6)

Avoidable expenditure due to non-adherence of IRC-81: 1997

Sl. No	Name of the work	Reach executed	Date of BBD Test	Overlay required in terms of BM (in mm)	Overlay after conversion (in mm)	DBM to be laid after adjusting 40 mm for BC (in mm)	DBM actually laid (in mm)	Difference in DBM laid (in mm)	excess quantity (in cum)
1	Name of work: Improvements to riding surface at km 2/6-13/2, 16/0-26/2 and providing crash barrier type centre median at km 0/0-6/3 of Chennai - Pulicat Road (SH104) including construction of storm water drain at km 0/0-0/5.	11/8-13/2 (1.4 Km)	26.12.2015	95	67	50*	60	10	98
		17/0-26/2 (9.2 km)	26.12.2015	130	91	55	60	05	322
2	Name of work: Improvements in km 4/0-10/6 of Kavrapettai - Sathyavedu road (SH52)	4/0-10/6 (6.6km)	25.12.2015	160	112	75	85	10	462
3	Name of work: Improvements in km 0/0-5/0 of Kodambakkam - Sriperumbudur road (SH113)	0/0-0/2 (0.200 km)	19.12.2015	155	109	70	75	5	14
		0/4-1/0 (0.600 km)		155	109	70	75	5	42
4	Name of work: Improvements in riding surface at km 0/0-12/0 of Pudukoyal - Periapalayam road (M378)	0/0-1/0	24.12.2015	115	81	50	55	5	35
		1/0-2/0		115	81	50	60	10	70
		2/0-3/0		115	81	50	55	5	35
		3/0-4/0		115	81	50	60	10	70
		4/0-5/0 and 7/0-12/0 (10 km)		115	81	50	55	5	210
5	Name of work: Improvements in km 0/0-2/2 RS of Poonamallee - Kundrathur road (M369)	0/0-2/2 RS (2.2 km)	20.12.2015	130	91	55	70	15	231

Annexure 5 (Continued)

6	Name of work: Improvements in km 3/8-9/6 of Madhavaram - Redhills road (SH-111)	3/8-4/8	19.12.2015	25	Minimum	0	55	55	770
		4/8-5/8		130	91	55	60	5	70
		5/8-6/8 (RS)		130	91	55	60	5	35
		6/8-9/6 (5.8 km)		130	91	55	60	5	126
7	Name of work: Improvements in km 0/0-0/8 and widening from two lane to four lane at km 1/2-1/8 of Basin road (M-1022)	0/0-0/8 (0.800 km)	24.12.2015	110	77	50	60	10	56
		1/2-1/8 (0.600 km)		110	77	50	55	5	18
8	Improvements in 17/894-18/689, 19/578-21/193, 29/500-29/930, 37/392-38/235, 52/350-55/210, 56/025-59/235 and Widening from two lane to multi land from km 43/577-43/850, 44/300-44/400, 49/0-50-490, 50/940-51/910) of Chennai - Thiruthani-Renigunda Road (SHU)	17/9-18/9, 19/6-21/2 (2.600km)	7.11.2015	115	81	50	60	10	181.3
		29/5-30/0 (0.500 km)		110	77	50	65	15	45.15
		37/4-38/2 (0.800 km)		105	74	50	60	10	59.01
9	Improvements to km 1/850-5/0, 10/0-12/6 of Vengal Seethancheri - Kannigaiper Road (M740)	1/850-3/0	6.11.2015	105	74	50	60	10	63.250
		3/0-4/0		105	74	50	55	5	27.5
		4/0-5/0		120	84	50	60	10	55
		10/0-12/0		130	91	55	60	5	37.5
		12/0-12/6 (5.750 km)		105	74	50	60	10	63.250
Total 47.050 km									3,143.96

*Minimum DBM to be provided = 50 mm, hence the same was adopted here.
 Avoidable expenditure = 3,143.96 cum x ₹ 7,000 = ₹ 2,20,07,720 (₹ 2.20 crore)

Annexure –6
(Referred to in Paragraph 3.7)

Difference in cost to be recovered from the first contractor whose work was determined

Sl. no	Name of the work	Administrative Sanction	Revised Administrative sanction	Name of the first contractor	Agreement value	Value of work done by the first contractor	Value of Balance work to be done	Balance work put into tender	Actual expenditure on balance executed by the second contractor	Amount to be recovered from the first contractor	Remarks
1	Reconstruction of Bridge at km 0/6 of km 11/4 of Vennangupattu-Panaiyur Road to Thazhuthalikuppam	G.O. Ms. No. 401, Revenue Department, dated 25 July 2007 / ₹ 2.00 crore	G.O. Ms. No. 363 Revenue Department, dated 30 September 2009 / ₹ 6.08 crore	M/s. Rose Valley Infrastructures (P) Ltd.	₹ 3.78 crore plus 11.5 per cent AER ₹ 4.21 crore	₹ 2.26 crore plus tender premium = ₹ 2.52 crore (60 per cent)	₹ 1.52 crore	₹ 1.39 crore plus 86.45 per cent AER ₹ 2.58 crore	₹ 2.58 crore	₹ 1.04 crore	The difference between tender premium of 86.45 per cent and 11.5 per cent
2	Reconstruction of Bridge at km 2/6 of Kadapakkam Road	G.O. Ms. No. 401, Revenue Department, dated 25 July 2007 / ₹ 2.00 crore	G.O. Ms. No. 363 Revenue Department, dated 30 September 2009 / ₹ 6.23 crore	M/s. Rose Valley Infrastructures (P) Ltd.	₹ 3.73 crore plus 10.5 per cent AER ₹ 4.12 crore	₹ 1.68 crore plus tender premium = ₹ 1.85 crore (45 per cent)	₹ 2.05 crore	₹ 1.99 crore plus 81.00 per cent AER ₹ 3.60 crore	₹ 3.35 crore	₹ 1.30 crore	The difference between tender premium of 81 per cent and 10.5 per cent
3	Reconstruction of Bridge at km 57/4 of Chennai-Mamallapuram Road (via) Tiruporur	G.O. Ms. No. 401, Revenue Department, dated 25 July 2007 / ₹ 4.00 crore	G.O. Ms. No. 363 Revenue Department, dated 30 September 2009 / ₹ 4.00 crore	M/s. Rose Valley Infrastructures (P) Ltd.	₹ 3.51 crore plus 14.95 per cent AER ₹ 4.04 crore	₹ 1.71 crore plus tender premium = ₹ 1.97 crore (49 per cent)	₹ 1.80 crore	₹ 1.76 crore plus 98.00 per cent AER ₹ 3.50 crore	₹ 3.62 crore	₹ 1.46 crore (₹ 1.76 crore x 83.05 per cent)	The difference between tender premium of 98 per cent and 14.95 per cent
4	Construction of Bridge at km 3/2 of Tiruporur-Nemili Road.	G.O. Ms. No. 401, Revenue Department, dated 25 July 2007 / ₹ 1.50 crore	G.O. Ms. No. 363 Revenue Department, dated 30 September 2009 / ₹ 4.10 crore	M/s. Rose Valley Infrastructures (P) Ltd.	₹ 3.42 crore plus 11 per cent AER ₹ 3.79 crore	₹ 1.52 crore plus tender premium = ₹ 1.69 crore (44 per cent)	₹ 1.90 crore	₹ 1.84 crore plus 82.00 per cent AER ₹ 3.36 crore	₹ 3.56 crore	₹ 1.31 crore (₹ 1.84 crore x 71 per cent)	The difference between tender premium of 82 per cent and 11 per cent

Annexure –6 (Continued)

5	Construction of Bridge at km 10/2 of Shoolagiri-Rayakottai Road	G.O. Ms. No.278, Highways and Minor Ports (HW.I) Department, dated 19 November 2008 / ₹ 2.89 crore	G.O. Ms. No. 19 Highways and Minor Ports (HP.2) Department, dated 28 January ++2016 / ₹ 4.33 crore	M/s. PTR Lane (P) Ltd.	₹ 2.41 crore plus 11.97 per cent AER ₹ 2.70 crore	₹ 0.58 crore plus tender premium = ₹ 0.65 crore (24 per cent)	₹ 1.83 crore	₹ 1.85 crore plus 73.14 per cent AER ₹ 3.21 crore	₹ 3.19 crore (₹ 1.84 crore plus 73.14 per cent)	₹ 1.12 crore (P17/V38) (₹ 1.83 crore plus 61.17 per cent)	The difference between tender premium of 73.14 per cent and 11.97 per cent
Total		₹12.39 crore	₹24.74 crore		Tender value - ₹16.85 crore Agreement value - ₹18.86 crore	₹ 7.75 crore	₹ 9.10 crore	₹ 8.83 crore	₹ 16.3 crore	₹6.23 crore	

*AER – Above estimate rate; LER – Less than estimate rate

Annexure 7
(Referred to in Paragraph 3.10)

Interest loss on parking of funds outside Government Account

Sl. No	Date	Opening Balance (₹)	Deposits (₹)	Withdrawals (₹)	From	To	Number of days	Interest* (₹)
1	12.04.2016	0	49,90,75,297	0	12.04.2016	19.04.2016	8	8,87,123
2	20.04.2016	49,90,75,297	0	2,56,00,000	20.04.2016	26.04.2016	7	7,36,416
3	27.04.2016	47,34,75,297	0	4,42,00,000	27.04.2016	26.05.2016	30	28,61,443
4	27.05.2016	42,92,75,297	0	75,00,000	27.05.2016	03.06.2016	7	6,56,005
5	04.06.2016	42,17,75,297	0	0	04.06.2016	09.06.2016	6	5,62,290
6	10.06.2016	42,17,75,297	0	1,27,240	10.06.2016	23.06.2016	14	13,11,614
7	24.06.2016	42,16,48,057	0	60,00,000	24.06.2016	28.06.2016	5	4,61,768
8	29.06.2016	41,56,48,057	0	2,260	29.06.2016	10.07.2016	12	11,08,237
9	11.07.2016	41,56,45,797	1,48,00,000	11,88,00,000	11.07.2016	11.07.2016	1	69,245
10	12.07.2016	31,16,45,797	0	1,48,00,000	12.07.2016	10.08.2016	30	1978,,701
11	11.08.2016	29,68,45,797	0	3,19,00,000	11.08.2016	31.08.2016	21	12,36,244
12	01.09.2016	26,49,45,797	49,00,000	0	01.09.2016	15.09.2016	15	8,99,363
13	16.09.2016	26,98,45,797	0	6,06,00,000	16.09.2016	17.10.2016	32	14,87,766
14	18.10.2016	20,92,45,797	0	5,99,00,000	18.10.2016	21.10.2016	4	1,32,734
15	22.10.2016	14,93,45,797	0	50,00,000	22.10.2016	30.11.2016	41	13,14,970
16	01.12.2016	14,43,45,797	10,19,00,000	21,98,00,000	01.12.2016	28.02.2017	90	5,28,843
17	01.03.2017	2,64,45,797	0	1,34,15,000	01.03.2017	22.03.2017	22	63,697
18	23.03.2017	1,30,30,797	0	30,00,000	23.03.2017	16.04.2017	35	78,007
19	17.04.2017	1,00,30,797	0	1,00,00,000	17.04.2017	13.06.2017	58	397
			62,06,75,297	62,06,44,500			Total	1,63,74,863
			Less Interest earned in Savings Bank account by CE/AED					82,54,777
							Interest Loss	81,20,086

*Interest at the rate of 8.11 per cent – Average rate of interest of open market Borrowings by Government of Tamil Nadu

Annexure 8
(Referred to in Paragraph 3.10)
Interest loss on parking of funds outside Government Account

Sl. No	Name of the District	Interest Loss adopting Average Annual Borrowings of GoTN (₹)	Interest earned in Bank Account (₹)	Net Interest Loss (₹)
1	Dharmapuri	5,82,778	--	5,82,778
2	Salem	1,32,81,57	--	13,28,157
3	Tirunelveli	11,32,438	5,66,537	5,65,901
4	Vellore	3,75,281	1,86,046	1,89,235
5	Tiruvallur	5,11,978	2,26,526	2,85,452
	Total	39,30,632	9,79,109	29,51,523

Glossary

Sl.No.	Abbreviation	Description
1	AED	Agriculture Engineering Department
2	ADIU	Animal Disease Intelligence Units
3	AER	Above Estimate Rate
4	AGRISNET	Agriculture Resources Information System Network
5	AHD	Animal Husbandry Department
6	APC	Agriculture Production Commissioner and Principal Secretary to Government
7	ARS	Agri Reporting System
8	ATN	Action Taken Note
9	BBD	Benkelman Beam Deflection
10	BC	Bituminous Concrete
11	BM	Bituminous Macadam
12	CAG	Comptroller and Auditor General of India
13	CE	Chief Engineer
14	COT	Commissioner of Tourism
15	COPU	Committee on Public Undertakings
16	CPD	Chief Project Director
17	CRIDP	Comprehensive Road Infrastructure Development Programme
18	cu m	Cubic metre
19	DAH	Director of Animal Husbandry and Veterinary Services
20	DBM	Dense Bituminous Macadam
21	DE	Divisional Engineer
22	DFO	District Forest Officer
23	DLTF	District Level Task Force
24	DMU	Divisional Management Unit
25	DoA	Director of Agriculture
26	DPC	Duties, Powers and Conditions of Service
27	DPR	Detailed Project Report
28	E&RSA	Economic and Revenue Sector Audit
29	EDC	Ecotourism Development Committee
30	EE	Executive Engineer
31	ELCOT	Electronics Corporation of Tamil Nadu
32	ER	Elephant Reserves

33	ESD	Ecologically sustainable development
34	ESZ	Eco sensitive Zone
35	FMAS	Financial Management and Accounting System
36	FMU	Field Management Unit
37	G&M	Geology and Mining
38	GIS	Geographical Information System
39	GLP	Good Laboratories Practices
40	GMP	Good Manufacturing Practice
41	GOI	Government of India
42	GoTN	Government of Tamil Nadu
43	GPS	Global Positioning System
44	ha	Hectare
45	HACA	Hill Area Conservation Authority
46	HC	Hon'ble High Court of Madras
47	HLEC	High Level Empowered Committee
48	HRS	Highways Research Station
49	IAEC	Integrated Agriculture Extension Centre
50	ICT	Information and Communication Technology
51	IR	Inspection Report
52	IRC	Indian Road Congress
53	IVPM	Institute of Veterinary Preventive Medicines
54	JICA	Japan International Co-operation Agency
55	Km	Kilometre
56	LA	Land Acquisition
57	LAO	Land Acquisition Officer
58	m	Metre
59	MIS	Management Information System
60	mm	Millimetre
61	MoEF	Ministry of Environment and Forests
62	MoRTH	Ministry of Road Transport and Highways
63	MT	Metric Tonne
64	NABARD	National Bank for Agriculture and Rural Development

65	NeGP-A	National e-Governance Plan for Agriculture
66	NOC	No Objection Certificate
67	NADP	National Agriculture Development Programme
68	NADRS	National Animal Disease Reporting System
69	NDDB	National Dairy Development Board
70	NOCL	M/s. Nagarjuna Oil Corporation Limited
71	PA	Protected Area
72	PAC	Public Accounts Committee
73	PC	Poly Clinic
74	PBMC	Performance Based Maintenance Contract
75	PD	Personal Deposit
76	PDDL	Poultry Disease Diagnostic Laboratories
77	PIDDC	Product/Infrastructure Development for Destinations and Circuit
78	PMU	Project Management Unit
79	PPR	Peste des Petits Ruminants
80	PWD	Public Works Department
81	RF	Reserved Forest
82	RJDAH	Regional Joint Director of Animal Husbandry
83	SC	Hon'ble Supreme Court
84	SCC	Sub-Court, Coimbatore
85	SDG	Sustainable Development Goal
86	SE	Superintending Engineer
87	SEIAA	State Level Environment Impact Assessment Authority
88	SLAF	State Level Appellate Forum
89	SLP	Special Leave Petition
90	SJM	Sunnad Jamat Mosque
91	Sq km	Square kilometre
92	sq m	Square metre
93	SRS	System Requirement Specification
94	SSF	State Seed Farms
95	TANUVAS	Tamil Nadu Veterinary and Animal Sciences University

96	TAWDEVA	Tamil Nadu Watershed Development Agency
97	TBGP	Tamil Nadu Biodiversity Conservation and Greening Project
98	TCPL	Tree Cultivation in Private Lands
99	TED	Turtle Excluder Device
100	TLTF	Taluk Level Task Force
101	TNLDA	Tamil Nadu Livestock Development Agency
102	TNMB	Tamil Nadu Maritime Board
103	TNMMCR	Tamil Nadu Minor Mineral Concession Rules, 1959
104	TNMSC	Tamil Nadu Medical Services Corporation
105	TNPCB	Tamil Nadu Pollution Control Board
106	UAV	Unmanned Aerial Vehicle
107	UC	Utilisation Certificate
108	URS	User Requirement Specification
109	VAS	Veterinary Assistant Surgeon
110	VCC	Veterinary Clinician Centres
111	VD	Veterinary Dispensary
112	VFC	Village Forest Council
113	VH	Veterinary Hospital
114	VLMP	Village Level Micro Plan
115	VRMC	Vivekananda Rock Memorial Committee
116	WMM	Wet Mix Macadam