सत्यमेव जयते

Report of the
Comptroller and Auditor General of India
on
Economic Sector
for the year ended March 2016

Government of Tamil Nadu
Report No. 1 of the year 2017

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ANNEXURES

PREFACE

This Report for the year ended March 2016 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 audit of various Departments of the Government of Tamil Nadu.

The instances mentioned in this Report are those, which came to notice in the course of test audit for the period 2015-16 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 2015-16 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
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 ₹ 21,794.30 crore covered here, a major portion of the expenditure was incurred by Highways and Minor Ports (30.83 *per cent)*, Agriculture (28.45 *per cent)*, Public Works (16.65 *per cent)* and Animal Husbandry, Dairying and Fisheries (8.24 *per cent*) Departments during 2015-16.

1.2 Trend of expenditure

A comparative position of expenditure incurred by the Departments during the year 2015-16 along with preceding two years is given in **Table 1.1** and **Chart No.1**

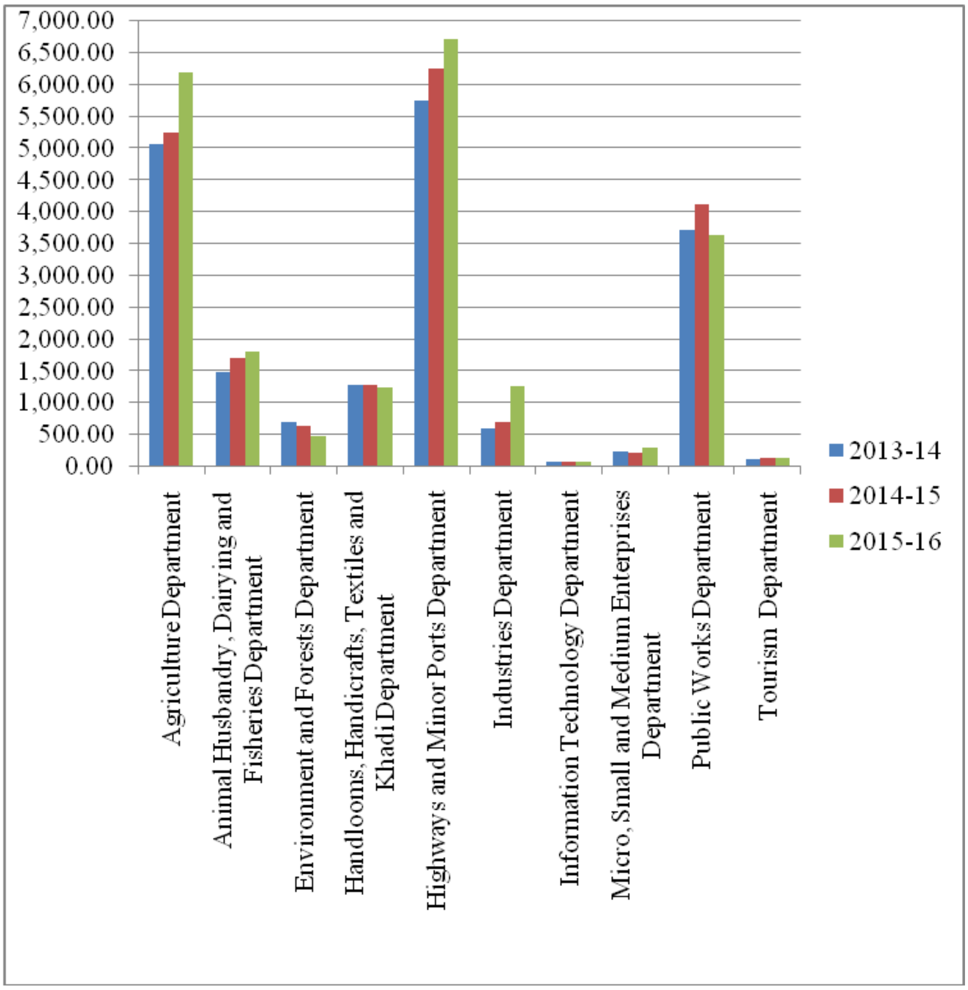
Table 1.1: Trend of expenditure for three years

(₹ in crore)

Sl. No.	Name of the Department	2013-14	2014-15	2015-16
1	Agriculture	5,067.84	5,247.25	6,199.67
2	Animal Husbandry, Dairying and Fisheries	1,487.60	1,705.37	1,795.75
3	Environment and Forests	686.75	633.96	473.47
4	Handlooms, Handicrafts, Textiles and Khadi	1,287.38	1,271.56	1,234.97
5	Highways and Minor Ports	5,744.66	6,254.65	6,719.63
6	Industries	591.90	703.58	1,253.08
7	Information Technology	75.83	81.72	79.29
8	Micro, Small and Medium Enterprises	238.63	219.06	284.04
9	Public Works	3,710.66	4,113.54	3,628.23
10	Tourism	105.50	125.33	126.17
Total		**18,996.75**	**20,356.02**	**21,794.30**

(Source: Finance Accounts for the years 2013-14, 2014-15 and 2015-16)

Chart No. 1: TREND OF EXPENDITURE (₹ in crore)



(Source: Finance Accounts for the years 2013-14, 2014-15 and 2015-16)

Reasons for increase or decrease in expenditure are stated below:

Agriculture Department: The increase in expenditure was due to payment of production incentive to the farmers for supply of paddy to Tamil Nadu Civil Supplies Corporation and payment of subsidies to Tamil Nadu Electricity Board on behalf of farmers using new connections for farm pump sets in Crop Husbandry.

Industries Department: The increase in expenditure was due to promotion of Investment in Tamil Nadu, Global Investors Meet, Value added Tax refunds, subsidy for promotion of industries and refund of Electricity tax for promotion of industries and contribution to Industrial Infrastructure Consolidated Fund.

Roads and Bridges: The increase in expenditure was due to maintenance of roads under Comprehensive Road Infrastructure Development Programme.

Public works: The decrease in expenditure was due to non-execution of the sanctioned works on account of unprecedented rain and consequential flood during November and December 2015.

1.2.1 Some major schemes implemented by the Departments of the Economic Sector during 2015-16

(i) Comprehensive Road Infrastructure Development Programme covering State Highways, Major District Roads, Other District Roads (including Special Component Plan) at a cost of ₹ 2,992.47 crore, implemented by Highways Department.

(ii) Value Added Tax Refund Subsidy Scheme at a cost of ₹ 1,003.50 crore implemented by Industries Department

(iii) Free distribution of handloom cloth to the people below poverty line including Special Component Plan (₹ 489.52 crore), by Handlooms and Textiles Department.

(iv) National Agriculture Development Programme (₹ 309.33 crore), implemented by Agriculture Department.

(v) Free distribution of sheep/goat/milch cows to persons living below poverty line including Special Component Plan (₹ 236.05 crore), implemented by Animal Husbandry 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 13[1] 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

[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.

Autonomous Bodies, under Section 14[4] of CAG's (DPC) Act, which are substantially funded by the Government. Principles and methodologies for various audits are prescribed in the Auditing Standards and the Regulations on Audit and Accounts, 2007 issued by the CAG.

1.5 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

Eight Draft Paragraphs and one Performance Audit of Implementation of National Horticulture Mission in Tamil Nadu were forwarded, demi-officially, to the Principal Secretaries of the Departments concerned between May and November 2016, with the request to send their responses. Government replies to seven Draft Paragraphs and one Performance Audit of Implementation of National Horticulture Mission in Tamil Nadu have been received. The replies have been incorporated in the Audit Report, wherever applicable. In respect of Performance Audit, an Entry Conference was held in May 2016 with the representatives of the Government and an Exit Conference was held with the representatives of the Government in October 2016 and views expressed in these Conferences have been included in the Report.

[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.

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 of 31 March 2016, 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 764 and 15 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 2016 were reviewed and found that 3,148 Paragraphs relating to 1,005 IRs remained outstanding at the end of September 2016 **(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 Implementation of National Horticulture Mission in Tamil Nadu was conducted during this year. Significant audit observations are given below:

- Tamil Nadu Horticulture Development Agency failed to prepare State Horticulture Mission Document to determine the potentiality of horticulture in the State. Annual Action Plan was prepared without baseline survey, finalisation of detailed project proposals was delayed and there was absence of sub-plan for the component area expansion. All these resulted in deferment of six sanctioned projects for ₹ 11.47 crore and non-availing of GOI sanction of ₹ 34.33 crore for 26 projects indicating inadequate planning in the development of horticulture sector.

- Imprudent financial management resulted in blocking of funds of ₹ 4.35 crore and non-utilisation of the released funds of ₹ 32.37 crore. There was delay in release of received Central funds and State funds by Government of Tamil Nadu resulting in delayed achievement of the envisaged objectives.
- Absence of effective maintenance of new plantations in the subsequent years despite incurring of ₹ 36.15 crore, and delayed or under completion of projects resulted in non-achievement of the objective of enhancement of production of horticultural crops. Short allocation of sanctioned funds to the schemes for the benefit of deprived sections of society resulted in non-generation of income and provision of social security.
- Lack of concurrent evaluation of projects and deficiencies in the monitoring of the programme indicated weak internal control.

1.7.2 Compliance Audit

1.7.2.1 Management of Co-operative Sugar Mills in Tamil Nadu

Audit of Management of Co-operative Sugar Mills (CSMs) in Tamil Nadu brought out the following observations:

- Commissioner of Sugar failed to consider the earlier years' productivity while fixing the targets for cane crushing due to faulty planning.
- The Co-operative Sugar Mills suffered losses of ₹ 1,095 crore during 2013-14 to 2015-16, due to high cost of production, coupled with interest burden of ₹ 963.73 crore on the borrowings, due to which CSMs became financially weak.
- The objective of nursery programme to ensure the development of quality seeds for bulk plantations was not fulfilled, which impacted the optimum sugarcane production for crushing by CSMs.
- Utlilisation of over-aged cane for crushing, non-adherence to prescribed norms in production activities and delay in completion of diversification and modernisation programme impacted the effective sugar recovery and resulted in revenue loss of ₹ 33.49 crore and excess expenditure of ₹ 47.98 crore.
- Due to lack of proper monitoring, above deficiencies were yet to be corrected. Some deficiencies continued to exist despite being pointed out in the CAG's Audit Report for the year 2008-09.

1.7.2.2 Audit of transactions of various Departments of Government and field offices revealed additional expenditure, avoidable expenditure and blocking of funds as detailed below:

- Non-adherence to guidelines in preparation of estimates for execution of road works resulted in non-utilisation of Government of India grant of ₹ 1.40 crore besides additional burden to the State exchequer.

(Paragraph No.3.2)

- Delay in according Revised Administrative Sanction resulted in avoidable expenditure of ₹ 1.79 crore in the construction of High Level Bridge across Palar River.

(Paragraph No.3.5)

- Duplication in selection of blocks, absence of weather forecasting data and availability of incomplete and unreliable weather data in the server resulted in avoidable extra expenditure of ₹ 1.42 crore and blocking of funds of ₹ 1.03 crore besides non-achievement of the envisaged objective.

(Paragraph No.3.6)

- Non-adherence of GOI instructions and construction of godowns without adequate height and absence of three phase power supply to operate Seed Processing Units resulted in non-availing of GOI grant of ₹ 8.60 crore and blocking of funds of ₹ 4.66 crore, besides non-achievement of the envisaged objective.

(Paragraph No.3.7)

- Non-adherence to the Standard Schedule of Rates to determine the quantity of materials for the construction of spurs led to additional expenditure of ₹ 2.38 crore.

(Paragraph No.3.8)

CHAPTER II
PERFORMANCE AUDIT

AGRICULTURE DEPARTMENT

2 Implementation of National Horticulture Mission in Tamil Nadu

Executive Summary

Introduction

National Horticulture Mission (NHM), a Centrally Sponsored Scheme, was launched in 2005-06 to promote holistic growth of the horticulture sector through area based regionally differentiated strategies including research, technology promotion, extension, processing and marketing to enhance horticulture production, improve nutritional securities and income support to farm households. NHM was subsumed as a sub-scheme of the Central Scheme, Mission for Integrated Development of Horticulture from April 2014 onwards. NHM was implemented in the State of Tamil Nadu in 13 out of 31 districts from 2005-06 and extended to other districts periodically. During 2011-12 to 2015-16, the scheme was implemented in 22 out of 31 districts of the State. Tamil Nadu Horticulture Development Agency (TANHODA), a registered society formed as a Special Purpose Vehicle for implementing various horticulture schemes funded by Government of India and Government of Tamil Nadu functioned as State Horticulture Mission headed by Managing Director.

Planning

TANHODA failed to prepare State Horticulture Mission Document to determine the potentiality of horticulture in the State. Annual Action Plan was prepared without baseline survey, finalisation of detailed project proposals was delayed and there was absence of sub-plan for the component area expansion. All these resulted in deferment of six sanctioned projects for ₹ 11.47 crore and non-availing of GOI sanction of ₹ 34.33 crore for 26 projects indicating inadequate planning in the development of horticulture sector.

Financial Management

Imprudent financial management resulted in blocking of funds of ₹ 4.35 crore and non-utilisation of the released funds of ₹ 32.37 crore. There was delay in release of received Central funds and State funds by Government of Tamil Nadu resulting in delayed achievement of the envisaged objectives.

Programme Management

Absence of effective maintenance of new plantations in the subsequent years despite incurring of ₹ 36.15 crore and delayed or under completion of projects resulted in non-achievement of the objective of enhancement of production of horticulture crops. Short allocation of sanctioned funds to the schemes for the benefit of deprived sections of society resulted in non-generating of income and provision of social security.

Monitoring

Lack of concurrent evaluation of projects and deficiencies in the monitoring of the programme indicated weak internal control.

2.1 Introduction

National Horticulture Mission (NHM), a Centrally Sponsored Scheme, was launched in 2005-06 to promote holistic growth of the horticulture sector through area based regionally differentiated strategies including research, technology promotion, extension, processing and marketing to enhance horticulture production, improve nutritional securities and income support to farm households. NHM was subsumed as a sub-scheme of the Central Scheme, Mission for Integrated Development of Horticulture (MIDH) from April 2014 onwards. NHM was implemented in the State of Tamil Nadu in 13 out of 31 districts from 2005-06 and extended to other districts periodically. During 2011-12 to 2015-16, the scheme was implemented in 22[5] out of 31 districts of the State. Tamil Nadu Horticulture Development Agency (TANHODA), a registered society formed as a Special Purpose Vehicle for implementing various horticulture schemes funded by Government of India (GOI) and Government of Tamil Nadu (GoTN), functioned as State Horticulture Mission (SHM) headed by Managing Director. GOI established Agro Economic Research Centres (AERCs) to provide data on various aspects of agriculture and rural life and to conduct comprehensive study of agricultural economic problems in the States. AERC, University of Madras conducted an impact study on NHM during 2012-13. The study identified various deficiencies such as absence of focus on post harvest management facilities and marketing and recommended suggestions for the growth of horticulture sector of Tamil Nadu.

2.2 Organisational setup

Agriculture Production Commissioner and Secretary to Government (APC) is the administrative head of the Agriculture Department at the Government level. Director of Horticulture and Plantation Crops (DHPC) is the head of the Horticulture Department. The NHM scheme is implemented by SHM through District Mission Committees[6] (DMCs) and supervised by State Level Executive Committee[7] (SLEC).

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5 Ariyalur, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kanyakumari, Krishnagiri, Madurai, Nilgiris, Perambalur, Pudukotai, Ramanathapuram, Salem, Sivagangai, Thanjavur, Theni, Tiruppur, Tirunelveli, Tiruchirappalli, Vellore and Villupuram.

6 District Mission Committee headed by District Collector with Joint Director/Deputy Director of Horticulture as Member Secretary and 12 Members from various agencies, which included Rural Development Agency, Agriculture Department, Agricultural Market Committee, Tamil Nadu Agriculture University (TNAU), Growers Associations and Khadhi and Village Industries Board.

7 APC is the Chairman of SLEC and DHPC is the Member Secretary. Besides there are 11 members from various Departments viz., Finance, Agriculture, Agricultural Engineering, TNAU, Forest and Ministry of Agriculture, Government of India.

2.3 Audit objectives

Performance Audit was conducted to assess whether:

- Planning for formulation of projects was effective and according to the guidelines of the scheme;
- Financial management ensured adequate and timely availability of funds and their effective and economic utilisation;
- Projects were implemented economically, efficiently and effectively as envisaged in the guidelines, besides achievement of the intended objectives; and
- Internal control and monitoring was adequate.

2.4 Audit criteria

Audit criteria were sourced from:

- Five Year Plan documents for the period 2007-08 to 2011-12 and 2012-13 to 2016-17;
- NHM operational guidelines issued by GOI in 2010;
- MIDH operational guidelines issued by GOI in 2014;
- Annual Action Plans (AAPs) approved by GOI on NHM;
- Implementation guidelines issued by SHM from time to time;
- Impact study on NHM conducted by AERC, University of Madras;
- State General Financial and Accounting Rules/procedure; and
- Information on NHM available in the website of Ministry of Agriculture, GOI.

2.5 Scope and methodology of Audit

The implementation of NHM involved execution of five[8] major components in 22 districts covering all the seven Agro Climatic Zones[9] of the State. Performance Audit was conducted from April to August 2016 and covered test check of seven[10] out of 22 districts for the period 2011-12 to 2015-16. In addition, records at the Secretariat and TANHODA were also examined. The districts in the Agro Climatic Zones were stratified and one district from each Zone was selected by adopting random sampling method for detailed scrutiny. In order to assess field level implementation, 25 *per cent* of the block level offices in each district, subject to minimum of two and maximum of four, were also checked.

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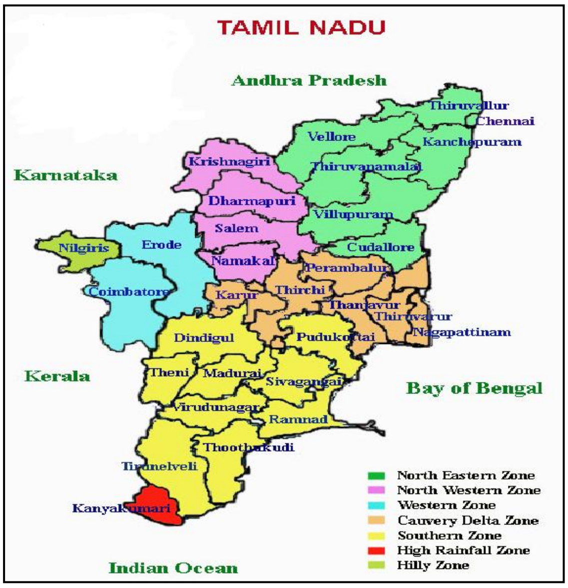
[8] Area expansion, Rejuvenation, Protected Cultivation, Organic farming and Integrated Post Harvest Management.

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

[10] Dindigul, Kanyakumari, Krishnagiri, Madurai, Nilgiris, Tiruchirappalli and Vellore.



Audit scope, coverage and methodology were discussed in the Entry Conference held on 25 May 2016 with the APC and the Head of TANHODA. Audit findings were also discussed with the APC and Head of TANHODA in the Exit Conference held on 17 October 2016 and their views have been considered while finalising the report. The reply of the Government, received in December 2016, has also been considered while finalising the report. We acknowledge the co-operation extended by Agriculture Department, TANHODA and other field offices in providing us the necessary records and information.

Audit Findings

2.6 Planning

2.6.1 Non-preparation of State Horticulture Mission Document

NHM guidelines, 2010 and 2014 (Paras 4.8 and 5.1) envisaged preparation of Perspective/Strategic Plan and road map i.e. State Horticulture Mission Document (SHMD) for overall development of horticulture in consonance with Mission's objectives and in co-ordination with Technical Support Groups and State Agriculture Universities. SHMD determined the potentiality of horticulture products duly projecting plan of action for XI and XII Five Year Plan periods. GOI had also instructed (March 2013) for preparation of AAP from 2013-14, in accordance with the district-wise bench mark data on area, production and productivity and also to adhere to the District Agriculture Plans.

We observed that TANHODA had failed to co-ordinate with Tamil Nadu Agriculture University (TNAU) for preparation of SHMD in consonance with Mission's goals and objectives. This resulted in postponement of six GOI approved projects[11] for ₹ 11.47 crore by SLEC for want of feasibility / assessment report from TNAU and non-availability of work force. This led to diversion of funds to other components and non-achievement of the objectives of establishment of tissue culture units and cold storage facilities in these six projects.

[11] (i) Establishment of new Tissue Culture Unit at Periyakulam- ₹ 5.92 crore; (ii) Construction of Multipurpose Cold Storage, Pudukottai – ₹ 4.80 crore; (iii) Strengthening of Plant Tissue culture units at TNAU at Coimbatore, Madurai and Tiruchirappalli – ₹ 0.60 crore and (iv) Establishment of pre cooling unit at Krishnagiri – ₹ 0.15 crore.

We also observed that the Comprehensive State Agriculture Plan (CSAP) for the XI Plan period (2007-08 to 2011-12) prepared in 2008-09 by GoTN, on the basis of inputs from District Agriculture Plans, identified certain weaknesses in the horticulture sector like inadequate network of horticulture extension machinery in the State and lack of infrastructure for processing value added fruit and vegetable products had not been addressed. CSAP for XII Plan period (2012-13 to 2016-17) was finalised during 2016-17. Absence of projects to address the weakness identified in the CSAP during XI Plan and delayed preparation of CSAP during XII Plan resulted in non-determination of potentiality of horticulture crops.

2.6.2 Preparation of Annual Action Plan (AAPs)

NHM guidelines, 2010 and 2014 (Para 4.8(b)) envisaged SHM to conduct baseline survey and feasibility studies in the Districts and Blocks to determine the status, potential, production and demand for horticulture development based on strength, weakness, opportunities and challenges (SWOC) analysis. AAPs prepared with these details were consolidated by SHM, vetted by SLEC and approved by GOI. The guidelines had also envisaged preparation of sub-plans for determining the availability of planting materials for the component of area expansion. The sub-plan was also required to indicate the details of quantifiable major outputs, objectives and strategies of the projects proposed for approval.

In respect of Project Based Activities, the details of beneficiaries, location, etc., was required to be communicated to GOI with the approval of SLEC for release of funds.

Scrutiny of the approved AAPs for the period 2011-12 to 2015-16 revealed the following:

- Baseline survey was not conducted by SHM during 2011-12 to 2015-16 in the State. An amount of ₹ one crore sanctioned in the AAP for 2014-15 towards conducting baseline survey and strengthening horticulture statistical database was not allocated (October 2016) by SHM citing short release of funds. This resulted in non-determination of potential and demand of horticulture development based on SWOC analysis.
- The AAPs proposed by SHM and approved by GOI during 2011-12 to 2014-15, did not include sub-plan to ensure the objective of the availability of planting materials and strategies adopted for their supply to expand the area of horticulture. Failure to determine the availability of planting materials resulted in non-availability of planting materials for turmeric, banana sucker and bulbous flowers in the State farms and permitting farmers to procure the same at their own discretion in violation of the guidelines as discussed in Paragraph No. 2.8.3.
- Twenty six Project Based Activities for the components including Integrated Post Harvest Management (IPHM), Organic farming proposed and approved in the AAPs, were not submitted to GOI for release of funds due to delay in finalisation of detailed project

proposals. This resulted in non-availing of GOI sanction of ₹ 34.33 crore towards the development of horticulture sector **(Annexure - 2).**

Thus, non-preparation of SHMD to determine the potentiality of horticulture in the State, preparation of AAP without baseline survey, delay in finalisation of detailed project proposals and absence of sub-plan for the component area expansion resulted in deferment of six sanctioned projects for ₹ 11.47 crore and non-availing of GOI sanction of ₹ 34.33 crore for 26 projects indicating inadequate planning in the development of horticulture sector.

Director of Horticulture and Plantation Crops stated (October 2016) in the exit conference that the weaknesses identified would be addressed after engagement of consultant. Government replied (December 2016) that the AAPs were finalised on the basis of perspective plan and baseline survey prepared by a private consultant in 2005. It was stated that short release of GOI funds while approving the AAPs was attributed to non-preparation of baseline survey. Government further stated that Projects Based Activities could not be submitted due to non-receipt of proposals from the beneficiaries.

The reply was not acceptable as the perspective plan and baseline survey conducted in 2005 was for proposal of projects for the period 2005-06 to 2007-08 only. Further, GOI released the grants on lump sum basis and SHM failed to allocate sufficient funds for conducting baseline survey. In respect of Projects Based Activities, SHM failed to identify existence of beneficiaries before proposing the projects to GOI indicating absence of adequate planning.

2.7 Financial Management

The components of the NHM were executed utilising the GOI and GoTN funds. The funding pattern by GOI and GoTN was in the ratio of 85 and 15 *per cent* during 2011-12 to 2014-15 and 60 and 40 *per cent* from 2015-16 onwards. At the commencement of each financial year, GOI communicated the tentative financial outlay for each year to TANHODA for submission of AAP to GOI for approval and release of funds. The sanctioned Central and State share of funds were released directly to TANHODA during 2011-12 to 2013-14. From 2014-15, GOI released the Central share to the State Government, which subsequently released to TANHODA. GoTN appointed (July 2014) a nodal officer to ensure timely release of Central funds along with the State share to the implementing agencies to avoid delay in securing further Central funds.

The details of tentative financial outlay, financial outlay proposed and approved in AAP, release of funds and expenditure under NHM for the period 2011-12 to 2015-16 were as detailed in **Table 2.1.**

Table: 2.1 Sanction and release of funds

(₹ in crore)

Year	Tentative financial outlay	AAP sent to GOI for approval	AAP approved by GOI	Actual release			Expenditure
				GOI	GoTN	Total	
2011-12	110.00	200.50	145.00	62.00	10.94	72.94	50.15
2012-13	150.00	346.09	80.00	56.00	9.88	65.88	73.16
2013-14	136.00	140.00	115.00	92.87	16.39	109.26	90.97
2014-15	127.00	115.54	115.85	55.36	9.77	65.13	64.26
2015-16	97.31	123.20	102.50	58.73	39.15	97.88	100.18
Total	**620.31**	**925.33**	**558.35**	**324.96**	**86.13**	**411.09**	**378.72**

(Source: Details furnished by TANHODA)

From the above details, we observed as under:

- Though GOI had communicated tentative financial outlay of ₹ 620.31 crore during 2011-12 to 2015-16, TANHODA forwarded AAPs for ₹ 925.33 crore, indicating that efforts were not made to propose prioritised project components in the AAP and non-execution of some projects approved by GOI in AAP, due to non-identification of beneficiaries as discussed in Paragraph No.2.6.2.

- Despite communication of tentative financial outlay of ₹ 150 crore, GOI approved AAP for ₹ 80 crore for the year 2012-13 due to non-utilisation of the released funds by TANHODA during 2011-12. Failure to utilise the released funds within the financial year resulted in short approval of funds for components for horticulture sector in AAP to the extent of ₹ 70 crore.

- As against the total approved amount of ₹ 558.35 crore i.e., ₹ 448.97 crore by GOI and ₹ 109.38 crore by the GoTN, the actual release of funds by GOI was ₹ 324.96 crore and GoTN was ₹ 86.13 crore (totaling ₹ 411.09 crore) for the implementation of the project components. This resulted in short release of funds to the tune of ₹ 147.26 crore i.e., ₹ 124.01 crore (28 *per cent*) by GOI and ₹ 23.25 crore (21 *per cent*) by GoTN. The short release of funds resulted in short achievement of targets for the components protected cultivation, organic farming, mechanisation, Human resource development and IPHM during 2011-12 and 2013-14 and also indicative of ineffective pursuance by the SHM to ensure complete release of funds for the project components included and approved in AAP by GOI.

- Out of ₹ 411.09 crore released, ₹ 378.72 crore was incurred during 2011-12 to 2015-16 leaving unspent balance of ₹ 32.37 crore. Non-utilisation of the released funds was due to delay in identification of beneficiaries, delay in completion of tender process and partial completion of the projects as discussed in Paragraph Nos. 2.8.5.1 and 2.8.7.2.

- Though GOI funds for the years 2011-12 to 2013-14 were released directly to TANHODA, the matching share of GoTN funds of ₹ 4.76 crore pertaining to 2010-11 and 2012-13 was released to TANHODA belatedly in the subsequent financial years resulting in delayed allocation of funds to the districts for execution of projects.

- After the introduction of modified procedure of transfer of GOI funds to TANHODA through GoTN, we observed that GOI funds of ₹ 30.36 crore pertaining to 2014-15 received from GOI in June 2014 were released (November 2014) by GoTN with a delay of five months and ₹ 46.13 crore received from GOI for 2015-16 was released to TANHODA with a delay of two months. This resulted in delayed availability of funds for execution of sanctioned projects despite appointment of a nodal officer to ensure timely release of funds.

Thus, due to imprudent financial management, there was delay in release of received Central funds and matching share of State funds by GoTN. Further, the failure of TANHODA to utilise the released funds of ₹ 32.37 crore resulted in non-achievement of the objectives of NHM.

Government replied (December 2016) that diversion of staff during 2011-12 to bring back cyclone Thane affected horticulture crops resulted in non-utilisation of funds in the sanctioned projects and the same would be utilised in the subsequent years. It was also stated that processing time involved in transfer of funds delayed the release of funds to TANHODA during 2014-15 to 2015-16.

The reply was not acceptable as the funds for NHM were released by GOI in June 2011 and GoTN in September 2011, whereas the cyclone occurred in December 2011 only and released funds were not utilised during 2013-14 also. The delay of two to five months for processing and transferring the funds received in the Government account from GOI to TANHODA indicated lack of effective action to implement the projects in horticulture.

2.7.1 Non-establishment of Terminal Market Complex

GOI approved (November 2010) establishment of Terminal Market Complex for horticulture produce at Perundurai for ₹ 120.62 crore on Private Public Partnership mode with the NHM subsidy of ₹ 28.99 crore for implementation by Tamil Nadu State Agriculture Marketing Board (TNSAMB). The objectives of the project were to link farmers to markets by shortening supply chain of perishables, to increase farmers' income and for development of marketing and post harvest infrastructure through private sector investment. The work was entrusted to a firm in February 2011. The agreement provided for payment of 15 *per cent* of the subsidy on execution of 25 *per cent* of the project work and the balance after completion of prescribed quantum.

After commencement of the project and execution of 19 *per cent* of the complex work by the private entrepreneur, TNSAMB requested for release of first instalment of the subsidy and TANHODA released (September 2014) ₹ 4.35 crore. The project could not be continued by the private entrepreneur due to non-procurement of the commodities like fruits and vegetable, by the local traders at the insistence of commission agents. TNSAMB did not disburse the first instalment of the subsidy to the entrepreneur as 25 *per cent* of work was not completed, which resulted in termination of the project (May 2015).

Thus, release of funds before completion of prescribed quantum of work resulted in blocking of funds of ₹ 4.35 crore in the Personal Deposit account of TNSAMB for more than two years besides non-achievement of intended objective of creation of infrastructure and enhanced income to farmers.

Government replied (December 2016) that efforts were being made to receive the first instalment of the subsidy amount from TNSAMB.

2.7.2 Non-submission of Utilisation Certificates to State Government

While releasing the funds, GOI and GoTN instructed the implementing agencies for submission of Utilisation Certificates (UCs) for the funds received for execution of projects under NHM, after the end of the financial year. It was, however, noticed that the TANHODA submitted UC for the GOI funds received and utilised during 2011-12 to 2015-16 duly indicating the balance of funds available at the end of the year. TANHODA failed to furnish UC for the utilisation of GoTN funds of ₹ 75.19 crore received during 2012-13 to 2015-16. This resulted in release of subsequent funds from State Government without ensuring the utilisation of released funds by GoTN and non-communication of release and utilisation of State share to GOI.

Government replied (December 2016) that UCs were forwarded to GOI for Central share and the amount of State share to NHM was watched through Budget. The reply was not acceptable as the entire funds released under NHM was transferred to the savings bank account of TANHODA and could not be watched through Budget.

2.7.3 Excess expenditure towards mission management activities

NHM guidelines, (Para 9.1 of 2010 and 8.1 of 2014) permitted five *per cent* of the total annual expenditure for managing various activities of implementing agency and district missions towards administrative expenses, project preparation, computerisation, etc.

Scrutiny of records revealed that an expenditure of ₹ 21.05 crore was incurred towards managing the activities of SHM and DMCs towards administrative and other expenses during 2011-12 to 2015-16, as against the eligible amount ₹ 18.94 crore (five *per cent* of ₹ 378.72 crore) resulting in excess expenditure of ₹ 2.11 crore towards mission management activities instead of approved projects for the development of horticulture sector.

2.8 Programme Management

The details of area of horticulture cultivation, production and productivity during the last five years in respect of horticulture crops for the State of Tamil Nadu are as detailed in **Table 2.2**.

Table: 2.2 Area, production and productivity of horticulture crops

Name of the crop	Year														
	2011-12			2012-13			2013-14			2014-15			2015-16		
	A	Pdn	Pty	A	Pdn	Pty	A	Pdn	Pty	A	Pdn	Pty	A	Pdn	Pty
Fruits	2.87	58.77	20.48	2.95	59.56	20.18	2.77	55.22	19.91	2.86	59.63	20.87	2.94	62.61	21.28
Vegetables	2.54	69.27	27.25	2.20	52.88	24.01	2.77	69.60	25.17	2.85	75.16	26.39	2.93	78.92	26.90
Spices and Condiments	1.65	10.05	6.11	1.31	7.89	6.04	1.09	7.23	6.62	1.13	7.82	6.94	1.16	8.21	7.07
Plantation crops	2.55	10.50	4.12	2.55	10.61	4.16	2.36	10.95	4.63	2.43	12.33	5.07	2.51	12.95	5.16
Medicinal and Aromatic crops	0.14	1.29	9.20	0.16	2.17	13.26	0.14	2.04	14.98	0.14	2.20	15.71	0.14	2.31	16.02
Flowers	0.26	2.74	10.35	0.26	2.96	11.32	0.25	3.11	12.56	0.25	3.36	13.17	0.26	3.52	13.43
Total	**10.01**	**152.62**	**15.24**	**9.43**	**136.07**	**14.42**	**8.38**	**138.3**	**16.50**	**9.66**	**160.5**	**16.61**	**9.94**	**168.52**	**16.95**

(Source – Details furnished by the Department)
(A: Area in lakh ha; Pdn: Production in lakh MT; Pty: Productivity in MT per ha)

As may be seen from the above, the production of horticulture crops had increased from 152.62 LMT in 2011-12 to 168.52 LMT during 2015-16 but the production of spices and condiments had decreased from 10.05 LMT in 2011-12 to 8.21 LMT in 2015-16, and the productivity of vegetables had decreased by 0.35 MT per ha during this period. The area under horticulture cultivation had also decreased from 10.01 lakh ha to 9.94 lakh ha.

The audit observations on the implementation of the components of the NHM are discussed in the succeeding paragraphs.

2.8.1 Mission achievements

In order to achieve the objectives of NHM, various components such as production of planting material, establishment of new gardens (area expansion), rejuvenation, protected cultivation and integrated post harvest management etc. had been implemented in the State. NHM guidelines (2010) envisaged taking up of specific programmes under IPHM. GOI also emphasised (March 2013) the importance of development of IPHM activities and desired that atleast 25 *per cent* of outlay of the AAP had to be utilised for IPHM. It was also instructed to restrict the expenditure on area expansion to 20 *per cent* of the outlay. The impact study conducted by AERC, University of Madras also recommended the need for enhancement of IPHM infrastructure considering the perishable nature of fruits and flowers.

The details of expenditure incurred for the various components of NHM during the period 2011-12 to 2015-16 were indicated as detailed in **Table 2.3**.

Table: 2.3 Details of year-wise and component-wise expenditure

(₹ in crore)

Sl. No	Major components	Year-wise expenditure					Total for 2011-12 to 2015-16/ percentage	Total for 2013-14 to 2015-16/ percentage
		2011-12	2012-13	2013-14	2014-15	2015-16		
1	Area Expansion	35.09	32.83	22.18	20.04	22.00	132.14 (35)	64.22 (25)
2	Rejuvenation	1.27	14.12	8.38	4.10	3.00	30.87 (8)	15.48 (6)
3	Protected cultivation	8.15	12.23	27.69	25.12	44.40	117.59 (31)	97.21 (38)
4	Organic Farming	0.19	0.33	1.10	1.02	0	2.64 (1)	2.12 (1)
5	IPHM	0.20	0.10	1.40	1.38	4.46	7.54 (2)	7.24 (3)
6	Miscellaneous and other components	5.25	13.55	30.22	12.60	26.32	87.94 (23)	69.14 (27)
	Total	**50.15**	**73.16**	**90.97**	**64.26**	**100.18**	**378.72**	**255.41**

(Source: Details furnished by TANHODA)
(The figures in the brackets indicated the percentage of expenditure for the component to the total expenditure)

From the above, we observe as under:

- Seventy four *per cent* of the total expenditure incurred was for three components viz., Area expansion (35 *per cent*), protected cultivation (31 *per cent*) and Rejuvenation (8 *per cent*) during 2011-12 to 2015-16. The expenditure under area expansion continued to be more than 20 *per cent* during 2013-14 to 2015-16 despite instructions from GOI for restricting the expenditure upto 20 *per cent*.
- The area under horticulture production was reduced to 9.95 lakh ha in 2015-16 from 10.01 lakh ha in 2011-12 despite incurring 35 *per cent* of the total expenditure for area expansion of 82,432 ha, indicating absence of efforts to retain the farmers under horticulture cultivation in the subsequent years.
- As against the instructions of GOI and recommendations by University of Madras, SHM incurred expenditure of ₹ 7.24 crore out of the total expenditure of ₹ 255.41 crore during 2013-14 to 2015-16 (three *per cent*) resulting in inadequate allocation of funds for IPHM activities. This resulted in short-achievement of objective of increasing marketability of horticulture produce and profitability of farmers envisaged in the guidelines.

Thus, SHM failed to provide funds proportionately to all components, restrict expenditure towards area expansion and provide adequate funds for the development of IPHM infrastructure to promote latest technologies.

Government replied (December 2016) that the expenditure under area expansion was incurred as per the targets approved in the AAPs and reallocation of approved funds was not permitted by GOI. The reply was not acceptable as TANHODA failed to follow the instructions of GOI and recommendation of University of Madras at the time of preparation of AAP. Further, the allocation of funds from GOI was made on lump sum basis and not component-wise.

2.8.2 Production and distribution of planting material

The guidelines on NHM envisaged that production and distribution of quality seeds and planting material is an important component of the Mission. To meet the requirement of planting material for bringing additional area under improved varieties of horticulture crops and for rejuvenation programme for old/senile plantations, assistance was provided for setting up new nurseries under the Public[12] and private sector. This component included establishment of nurseries and formation of Tissue Culture Units.

2.8.2.1 Establishment of nurseries

The component envisaged creation of model nursery in an area of two to four ha and small nursery of one ha area with infrastructure like fencing, mother stock block maintenance, raising root stock seedlings under net house conditions and propagation house with irrigation system. 100 *per cent* assistance[13] was provided for setting up new nurseries under Public sector and 50 *per cent* under private sector. Production of minimum of 50,000 numbers of planting materials per ha every year was also envisaged. From 2014-15, hi-tech nurseries were approved in an area of one to four ha. The details of establishment of nurseries during 2011-12 to 2015-16 have been furnished in **Table 2.4**.

Table: 2.4 Details of establishment of nurseries

Year	Model				Hi-tech				Small			
	Approved		Achievement		Approved		Achievement		Approved		Achievement	
	P	F	P	F	P	F	P	F	P	F	P	F
2011-12	8	200.00	0	0.62	0	0	0	0	12	75	6	24.91
2012-13	6	137.50	6	112.50	0	0	0	0	10	46.88	9	43.75
2013-14	1	21.25	1	25.00	0	0	0	0	7	23.91	3	15.63
2014-15	0	0	0	0	5	212.50	2	50	14	153	7	67.5
2015-16	0	0	0	0	0	0	0	0	0	0	0	0
Total	**15**	**358.75**	**7**	**138.12**	**5**	**212.50**	**2**	**50**	**43**	**298.79**	**25**	**151.79**

(Source: Details furnished by TANHODA)
(P – Physical in number; F – Financial- ₹ in lakh)

- Though AAP envisaged creation of 15 (Public- 14 and private- 1) model nurseries during 2011-12 to 2015-16, only seven (Public- 6 and private- 1) were created incurring ₹ 1.38 crore. Eight nurseries approved in the AAP for 2011-12 were not completed resulting in non-production of 80 lakh[14] planting materials during 2011-12 to 2015-16 for supplying good quality seeds to farmers.

- As against the target of 43 (Public - 29 and private - 14) for establishment of small nurseries, only 25 (Public- 14 and private- 11) were created resulting in shortfall of 52 *per cent* in Public sector, under the control of TANHODA which led to short production of planting materials despite sanction by GOI.

[12] The State Horticulture Farms under the control of TANHODA. The planting materials developed under these Farms were supplied to the beneficiaries.

[13] ₹ 6.25 lakh for small nursery and total cost of ₹ 25 lakh at ₹ 6.25 lakh per ha for model nursery.

[14] Eight nursery x 50,000 planting material x 4 ha x 5 years = 80 lakh.

Government replied (December 2016) that the works for establishment of Hi-tech, model and small nurseries were in progress and would be completed before March 2017. Thus, the objective of establishment of nurseries, for enhanced production of planting materials for supply to farmers was not achieved.

2.8.2.2 Establishment of nurseries in test checked districts

In six out of seven test checked districts, six model and 10 small nurseries were approved for establishment in the State Horticulture Farms (SHFs) of the districts, during 2011-12 to 2015-16 for ₹ 2.48 crore. Of these, three model and three small nurseries were completed and the remaining nurseries were yet to be completed. We observed as under with regard to these nurseries.

- In Reddiarchatram, Dindigul district a small nursery created (November 2012) at a cost of ₹ 6.25 lakh[15] was dismantled (October 2013) to accommodate the Centre of Excellence (COE) for the development of vegetable crops, thereby making the expenditure unfruitful.
- In respect of model nursery at Santhaiyur, Dindigul district, TANHODA released (August 2013) ₹ 25 lakh. Similarly, ₹ 40 lakh was released (2014-15) for creation of a Hi-tech and a small nursery at Sirumalai, Dindigul district. However, these nurseries could not be completed (August 2016) due to non-creation of infrastructure facilities like fencing to protect planting materials from cattle and trespassers and building for storing the inputs, by the Engineering Wing of TANHODA, pending finalisation of tenders.
- TANHODA released (2011-12 to 2012-13) ₹ 62.50 lakh to the district field office for establishment of two model nurseries in public sector and one model nursery in private sector in Krishnagiri District. The site identified (2011-12) in the Horticulture Training Centre for one model nursery was not handed over and the other selected site did not have irrigation facilities which resulted in non-establishment (June 2016) of nurseries in public sector. The private nursery was also not established due to non-identification of beneficiary, even after five years of release of funds.
- TANHODA released (2011-12 to 2012-13) ₹ 31.25 lakh for creation of one model nursery in SHF Navlok and one small nursery in SHF Kudapattu in Vellore district. Scrutiny of records revealed that ₹ 3.66 lakh was utilised for purchase of planting materials for the existing nursery and maintenance of existing shade net. Thus, the nurseries were not created even after five years from sanction, despite incurring an expenditure of ₹ 3.66 lakh.

Thus, failure to allocate sufficient funds for creation of nurseries, non-creation of sanctioned nurseries, absence of adequate infrastructure and dismantling of

[15] ₹ 1.30 lakh towards installation of shade-net house of 544.320 sq m; ₹ 2.05 lakh for installation of three poly-houses of 85.32 sq m each and ₹ 2.90 lakh for Drip Irrigation system.

the created nursery resulted in non-achievement of the objective of providing quality planting material for enhancement of production of horticulture crops.

Government replied (December 2016) that the establishment of small nursery at Sirumalai had been proposed to be shifted to some other location and in respect of Krishnagiri, the action to hand over land was in progress. In respect of other nurseries, the works commenced after allocation of funds would be completed in March 2017. However, Government did not furnish specific replies to selection of unsuitable site and absence of irrigation facilities in the selected site.

2.8.2.3 Establishment of new gardens (Area expansion)

NHM guidelines (Para 8.16), 2010 envisaged adequate coverage of large areas under improved varieties of horticulture crops. This would enable to introduce latest high yielding varieties of suitable crops for enhanced productivity. The pattern of NHM assistance was 100 *per cent* for flowers, 60 *per cent* for perennial crops with two years maintenance assistance at 20 *per cent* each year and 75 *per cent* for non-perennial crops with 25 *per cent* maintenance assistance. The maintenance assistance was linked to the survival of the crops.

The details of the area of new gardens created for perennial crops, fruits and flowering crops including maintenance activities undertaken during 2011-12 to 2015-16 are detailed in the **Annexure - 3**.

Though an area of 82,432 ha was included for the plantation of latest high yielding varieties under NHM during 2011-12 to 2015-16, there was no significant increase in the total area under horticulture production and in fact it had decreased from 10.01 lakh ha in 2011-12 to 9.94 lakh ha in 2015-16 despite incurring an expenditure of ₹ 112.99 crore on this component.

The targets and achievements of raising and maintenance of perennial and non-perennial crops during 2011-12 to 2015-16 have been given in **Annexure - 4.**

- We observed that the Department had released assistance (60 *per cent*) for raising of perennial plantation in 26,969 ha during 2011-12 to 2014-15 and these plantations were eligible for first year maintenance of 20 *per cent* subject to survival rate of 75 *per cent*. The first year maintenance assistance of ₹ 13 crore was released to cover an area of 17,857 ha during 2012-13 to 2015-16. In respect of the balance area of 9,112 ha, no maintenance assistance was paid.

- Similarly, second year maintenance was paid for 2,364 ha during 2013-14 for the plantations raised during 2011-12 and no provision was made during 2014-15 for maintenance of plantation raised during 2012-13.

- Department had released assistance (75 *per cent*) for raising of non-perennial plantation in 11,351 ha during 2011-12 to 2014-15. These plantations were eligible for first year maintenance of 25 *per cent* subject to survival rate of 90 *per cent*. The first year maintenance assistance of ₹ 0.03 crore was released to cover an area of 35 ha during 2012-13 to 2015-16. In respect of the balance area of 11,316 ha, no maintenance assistance was paid.

- It was seen from the test checked districts that the details of survival of plantations was not recorded and the survival was estimated based on physical appearance. The correctness of estimation of survival of plantations by physical appearance raised in an area of 38,320 ha could not be ensured in audit due to absence of recorded documents. This resulted in non-assessment of achievement of the objective of enhanced productivity of horticulture crops.

Thus, absence of effective maintenance of the plantations in the subsequent years resulted in non-ensuring the fulfillment of objective of the area expansion scheme executed utilising ₹ 36.15 crore for raising (9,112 ha) perennial and (11,316 ha) non-perennial crops during 2011-12 to 2014-15.

In the Exit Conference (October 2016), DHPC assured to instruct the district level officials to maintain Follow-up Register on survival of plants.

Government replied (December 2016) that the commercial production of the fruits, vegetables, plantation crops undertaken by area expansion could be realised from sixth year onwards and increase in production and productivity would be realised after six years. It was also stated that more funds for maintenance component were not provided as they intended to provide funds to more number of farmers and to bring new area under horticulture crops.

The reply was not acceptable as varieties of horticulture crops like vegetables and flowers had commenced commercial production in one or two years. The reasons for not providing more funds for maintenance was also not acceptable as activity of covering new areas instead of maintenance of existing area resulted in reduction of total area despite area expansion of 82,432 ha during 2011-12 to 2015-16**.**

2.8.2.4 Delay in supply of planting materials

The production of good quality of seeds and planting materials and their timely distribution[16] to farmers are critical inputs to attain the objective of increase in production and productivity of the horticulture crops. NHM guidelines 2010 had also envisaged that the planting material should be supplied from accredited nursery, their availability should be ensured in advance and duly reflected in AAP.

The details of distribution of planting material, the planting season, varieties of plantation under area expansion component relating to the 10 blocks in three out of seven test checked districts were as detailed in **Table 2.5**.

[16] Details of seasons for planting, fertigation, harvesting, etc. of various horticulture crops are recommended in the Crop Production Techniques published by the DHPC and TNAU.

Table: 2.5 Distribution of planting materials

Crop variety	Planting season recommended by TNAU	Total planting material supplied			Planting material supplied beyond the season				Period of delay in supply
		Area (in ha)	Number of farmers	Number of plantations	Area (in ha)	Number of farmers	Number of plantations	Percentage of plantations	
Mango	July to December	1,790.50	1,701	2,08,160	1,301.50	1,195	1,43,172	69	1 to 5 months
Acid lime	December to February, June to September	362	497	68,346	213	295	29,012	42	1 to 3 months
Amla	July and August	172	145	26,033	172	145	26,033	100	1 to 8 months
	Total	**2,324.50**	**2,343**	**3,02,539**	**1,686.50**	**1,635**	**1,98,217**		

(Source: Details furnished by TANHODA)

It may be seen from the above that 100 *per cent* of the plantations of amla, 69 *per cent* of mango and 42 *per cent* of acid lime were supplied belatedly after the planting seasons indicating absence of effective planning in supply of planting materials to the beneficiaries for utilisation in the right planting season to achieve the desired income generation to them.

Government replied (December 2016) that there was no expiry season for planting material and can be planted in summer also, if sufficient irrigation facilities were provided. It was also stated that the farmers were advised to keep the planting materials in shady places with proper irrigation to enable them to plant during the next season.

Reply was not acceptable as non-availability of planting materials prior to the start of season and retaining the same for longer periods than required were contrary to guidelines and would impact the yield of horticulture crops, besides putting undue pressure on irrigation facilities.

2.8.3 Payment of subsidy in contravention to NHM guidelines

As per Para 4.4 of NHM guidelines, 2010, the Executive Committee of GOI is empowered to approve, modify and reallocate the quantum of subsidy assistance to beneficiaries for the components under NHM. The guidelines provided for supply of planting materials and inputs for various schemes. Beneficiaries were eligible for credit linked back ended subsidy for some components of NHM, like IPHM. The guidelines also prohibited procurement of planting materials at the discretion of farmers and envisaged supply through nurseries.

The operational guidelines issued by TANHODA provided for payment of cash assistance through bank accounts to the farmers towards procurement of planting materials of bulbous flowers, turmeric and banana suckers crops and for meeting inter-cultivation expenses like ploughing under the component area expansion, in violation of NHM guidelines. This resulted in procurement of planting materials at the discretion of farmers for a value of ₹ 5.04 crore, and payment of ₹ 13.18 crore towards inter-cultivation expenses during 2011-12 to 2015-16 in the seven test checked districts.

Thus, modification of NHM assistance by the SHM in contravention of guidelines resulted in procurement of planting materials at the discretion of farmers instead of supplying them through the accredited nurseries to maximise the yield of horticulture crops.

Government stated (December 2016) that planting material for turmeric, bulbous flower and banana sucker were not produced in the State farms/accredited nursery and considering large quantity of requirement, farmers were allowed to procure planting material.

The reply was not acceptable as the SHM not only failed to produce required planting material for farmers but also permitted procurement from non-accredited sources.

2.8.4 Rejuvenation of old and senile plantations

NHM guidelines attributed reasons for low productivity of perennial fruits like mango, cashew and strawberry plantations to existence of old and senile trees. Rejuvenation[17] helps in improving production and productivity. The NHM guidelines (Para 8.19) envisaged the productivity improvement programmes through rejuvenation by removal of senile plantations, re-plantations with fresh stock supported with appropriate and integrated combination of fertilizers, pruning and grafting techniques.

The targets and achievements of rejuvenation of old and senile plantations during 2011-12 to 2015-16 were as detailed in **Table 2.6.**

Table: 2.6 Targets and achievements of rejuvenation of plantations

Year	Target		Achievement	
	Physical (in ha)	Financial (₹ in crore)	Physical (in ha)	Financial (₹ in crore)
2011-12	2,500	3.75	1,627	1.27
2012-13	14,000	21.00	9,526	14.12
2013-14	6,486	8.27	5,589	8.38
2014-15	2,400	4.08	2,050	4.10
2015-16	1,500	3.00	1,500	3.00
TOTAL	**26,886**	**40.10**	**20,292**	**30.87**

(Source: Details furnished by TANHODA)

It may be seen from above that as against the target of 26,886 ha for rejuvenation, the actual achievement was 20,292 ha and the Department cited the non-allotment of sufficient funds as the reasons for shortfall.

As the yield of fruit bearing trees exhibit declining trend after 20 years, the Department needs to plan for rejuvenation of atleast five *per cent* of the area of fruit bearing trees (2.87 lakh ha in 2011-12) every year. However, the actual achievement of rejuvenation ranged between one and three *per cent* only, during 2011-12 to 2015-16.

We observed that detailed assessment of productivity/yield of senile plantations for the past period, tree census with regard to their age, disease etc., and survey of the senile plantations in the orchards requiring replacement were ascertained by field level officers by physical estimates and no documentation was maintained.

[17] Refers to replacement of old and senile plants with new plants.

Scrutiny of records in test checked districts revealed the following:

- No rejuvenation was undertaken in two[18] test checked districts during 2011-12 to 2015-16. The area of cultivation of jack fruit and strawberry in Nilgiris district reduced from 177 ha and 7.40 ha in 2014-15 to 60.55 ha and 5.85 ha in 2015-16 respectively, emphasizing the need for rejuvenation.
- In five out of seven test checked districts, as against the target of 3,081 ha, rejuvenation of 1,940 ha (63 *per cent*) of old orchards was completed incurring an expenditure of ₹ 2.33 crore.
- Absence of documentation on the area occupied by senile plantations and insufficient allocation of funds for rejuvenation of the existing orchards resulted in non-enhancement of productivity of perennial crops as discussed in Paragraph No 2.8**.**

Government replied (December 2016) that work was executed based on the fund released. However, the fact remains that absence of initiative to undertake rejuvenation hampered the productivity of perennial crops.

2.8.5 Protected cultivation

Protected cultivation practice is a cropping technique wherein the micro climate surrounding the plant body is controlled partially or fully as per the requirement of the horticulture crops grown during their period of growth. NHM guidelines envisaged mission activities like construction of Green house, shade net house, and mulching[19] to protect cultivation from extreme weather conditions and to increase the production and productivity.

2.8.5.1 Mission activities under protected cultivation

NHM guidelines, 2010 (Para 8.22) provided for selection of variety of construction material[20] for green houses with different rates of subsidy[21] to enable beneficiaries to select variety of locally available construction materials.

Completed Green House without plantations

[18] Nilgiris and Kanyakumari.

[19] Mulching is covering the soil around the plant with plastic film to conserve the soil moisture that prevents weed growth and regulate soil temperature.

[20] (i) Fan and Pad system ₹ 1,465 per sq m – (ii) Tubular Structure ₹ 935 per sq m (iii) Wooden structure ₹ 515 per sq m (iv) Bamboo structure ₹ 375 per sq m.

[21] For all the structure subsidy component was 50 *per cent* of the cost.

The actual achievement against target of 6,631 ha fixed for poly green houses, shade net, mulching and anti bird nets under protected cultivation during 2011-12 to 2015-16 was 5,567 ha. The lower achievement of target was attributed to the inability of beneficiaries to afford huge investment involved for the project and the difficulties faced by them to obtain bank loan by providing collateral security.

We observed in Krishnagiri District, that as against the target for construction of 101 green houses in 3.08 lakh sq m during 2014-15, only 46 works of 1.30 lakh sq m involving subsidy of ₹ 5.57 crore were completed leaving 55 works of 1.78 lakh sq m unexecuted. Similarly during 2015-16, against target of 149 works of 4.64 lakh sq m, only 91 works of 2.68 lakh sq m involving subsidy of ₹ 11.45 crore were completed and balance 58 works of 1.96 lakh sq m were pending execution as of September 2016. Of the 470 beneficiaries identified in Krishnagiri district during 2013-14 to 2014-15, 135 beneficiaries had withdrawn their applications due to non-sanctioning of loan and the Department could re-identify only 90 fresh beneficiaries for the project.

Thus, selection of beneficiaries without proper assessment of their financial capabilities led to non-commencement of the projects by the selected beneficiaries requiring re-identification of fresh beneficiaries. Failure to re-identify the fresh beneficiaries resulted in non-achievement of increased production and productivity of vegetable species.

Government replied (December 2016) that the delay in sanction and release of loan by banks resulted in delayed execution of the project. It was also stated that the shortfall would be completed in the subsequent years. The reply was not tenable as the Department failed to assess the financial status of the beneficiaries indicating absence of proper planning.

2.8.5.2 Plastic Mulching

Plastic mulching is an advanced technology, which is promoted among farmers to enhance productivity of horticulture crops. Under NHM, this component was implemented for promoting intensive cultivation of vegetables in a cluster mode by giving due priority.

The targets and achievements during 2011-12 to 2015-16 were as under:

Year	Physical (in ha)		Financial (₹ in crore)	
	Target	Achievement	Target	Achievement
2011-12	1,000	335	1.00	0.33
2012-13	0	40	0	0.04
2013-14	1,597	1,386	1.36	1.39
2014-15	1,000	903	1.36	1.44
2015-16	2,600	2,601	4.16	4.16
Total	**6,197**	**5,265**	**7.88**	**7.36**

(Source: Details furnished by TANHODA)

As against the target of 6,197 ha set for implementing plastic mulching in the State, Department achieved 5,265 ha during 2011-12 to 2015-16 by incurring an expenditure of ₹ 7.36 crore.

We observed from the seven test checked districts that as against an area of 59,576 ha undertaking vegetable and flower cultivation as of 31 March 2016, only 1,283 ha of area had been covered with the latest technology of plastic mulching during 2011-12 to 2015-16 with an expenditure of ₹ 1.74 crore. This indicated absence of initiative to introduce latest technology in the horticulture sector for better production and productivity of vegetables.

Government replied (December 2016) that the targets were proposed based on the requirement received from the farmers and large area would be covered in a phased manner. However, the fact remains that only very less area was covered for adoption of latest technology by farmers.

2.8.6 Organic farming

Organic Farming is a holistic and integrated way towards creating a sustainable farming system by lowering input cost by substituting chemical inputs with organic inputs, decreased reliance on non-renewable resources, capturing the high-value markets thereby increasing farm income.

2.8.6.1 Unfruitful expenditure on promotion of Organic Farming

GOI approved (March 2009) the AAP for the year 2009-10, which included organic farming and certification in an area of 800 ha with project cost of ₹ 1.20 crore and subsidy assistance of ₹ 80 lakh. Based on the tender from CHPC, International Competence Centre of Organic Agriculture (ICCOA) had submitted (June 2009) project proposals for organic farming and certification in 1,000 ha. The proposals received were scrutinised and the Department instructed (August 2009) ICCOA to conduct baseline survey in two districts[22] for identification of organic farming potential and the same was completed (September 2009) and proposal submitted for implementation in 800 ha. However, SLEC approved (May 2012) adoption of organic farming and certification to cover 1,000 ha in four districts[23] in a period of three years.

The project proposals submitted (August 2012) for implementation in four districts were deferred (September 2012) by GOI for want of clarification regarding details of codal formalities/bidding process followed in selection of service provider. SHM re-submitted (October 2012) the project stating that ICCOA was the only agency, which had submitted the proposal in required form. GOI approved (April 2013) project for ₹ 3.28 crore with the subsidy of ₹ two crore for adoption of 1,000 ha and certification of 20 clusters of 50 ha with back ended subsidy. The agreement was entered (June 2013), with ICCOA with various conditions including creation of farmers' groups, conduct of baseline survey, providing training and inputs for adoption of technology, registration of area and farmers using accredited certified agency.

TANHODA released ₹ 70 lakh (₹ 34.00 lakh in November 2013 and ₹ 36 lakh in June 2014). During inspection (November and December 2014) it was ascertained that clusters were not formed and there was short supply of organic inputs to farmers. Considering the poor performance of the ICCOA, the project was withdrawn (June 2015) with the approval of SLEC. Despite repeated reminders, no accounts were furnished for the released amount of ₹ 70 lakh by ICCOA (November 2016) to TANHODA. The balance amount

22 Namakkal and Nilgiris.
23 Erode, Ramanathapuram, Theni and Vellore.

sanctioned for the project was diverted to pollination support component with the approval of GOI.

Scrutiny of records revealed the following:

- Though baseline survey was conducted for two districts, the project was approved by SLEC for implementation in four different districts without any survey.
- Despite assurance to GOI that the proposals submitted by ICCOA were in the required form and insisted on approval without following bidding process, poor performance of ICCOA in the conduct of baseline survey and short supply of inputs indicated selection of incorrect agency for execution of the project on promotion of organic farming.
- GOI approved the project with back ended subsidy. However, SHM released ₹ 70 lakh in two instalments without ascertaining the actual work executed and eligibility of subsidy without furnishing any accounts on the expenditure incurred.
- Diversion of the balance amount to another project resulted in non-achievement of the objective of promotion of organic farming.

Thus, selection of districts without baseline survey, selection of implementing agency without adopting bidding process, payment of subsidy in advance in contravention of GOI instructions and diversion of sanctioned funds for other project resulted in unfruitful expenditure of ₹ 70 lakh besides non-achievement of the objective of promotion of organic farming and certification.

Government replied (December 2016) that the project was withdrawn due to poor performance of ICCOA. It was stated that the diversion of funds was done with the approval of SLEC to the project with huge demand and efforts would be made to execute organic farming project in the ensuing years. However, the fact remains that the project approved by GOI for promotion of organic farming was yet to be initiated in the State.

2.8.7 Centre of Excellence

NHM guidelines (Para 7.32) envisaged establishment of Centre of Excellence (COE) for different horticulture crops which would serve as demonstration and training centers as well as source of planting material and vegetable seedlings under protected cultivation. Establishment of four CsOE was sanctioned for ₹ 29.98 crore during 2011-12 to 2015-16 for flowers, vegetables and tropical fruits in the four districts[24] of the State. Two sanctioned CsOE were not taken up due to non-approval of project reports by GOI. The audit observations on the establishment of other two CsOE are discussed in the succeeding paragraphs.

[24] Dindigul, Krishnagiri, Nilgiris and Tiruchirappalli.

2.8.7.1 Centre of Excellence for cut flowers

The project of establishment of COE for cut flowers in Krishnagiri district, an Indo-Israel Joint Venture, was approved (April 2012) by GOI for ₹ 8.80 crore with an objective to serve as a demonstration site for high tech protected floriculture technologies to flower growers and entrepreneurs. The project envisaged construction of civil works[25] for ₹ 4.86 crore and horticulture activities[26] for ₹ 3.94 crore for cultivation in 10 acre for production and distribution of 25,000 floriculture planting materials to farmers. All the 18 components of the civil works were awarded (November 2013) to a single tenderer who quoted lowest rate, for ₹ 4.94 crore for completion within nine months, i.e., by August 2014. The contractor completed (August 2016) nine components of civil works incurring an expenditure of ₹ 3.68 crore and five components (sanctioned ₹ 54.78 lakh - expenditure ₹ 37.66 lakh) were under progress. Four components (sanctioned ₹ 71.62 lakh) like construction of ponds, interlinking water sources and poly house automation system had not been commenced even after the expiry of two years from the scheduled date of completion of the project. TANHODA did not invoke penal clause to levy penalty on the contractor for delay in completion of work as envisaged in the agreement. The horticulture activities of procurement of cold storage equipment, post harvest equipment were completed and cultivation of flowers was also undertaken in one ha incurring an expenditure of ₹ 1.06 crore (December 2016).

We observed that the horticulture activities completed could not be put to use due to delay in completion of civil works and the objective of growing flowers in 10 ha utilising high-tech protected floriculture technologies could not be achieved even after three years from the commencement of work despite incurring an expenditure of ₹ 4.74 crore for the project.

Government replied (December 2016) that the works were undertaken on priority basis and an expenditure of ₹ 4.74 crore had been incurred. It was also stated that the production phase would commence after completing planting before March 2017. Thus, the achievement of the envisaged objective of the joint venture project was still pending.

2.8.7.2 Centre of Excellence for vegetables

With a view to demonstrate advanced production technologies for high quality vegetable produce for both National and International market and to achieve increased productivity, the project of establishment of COE for vegetables in Dindigul district was approved (April 2012) for ₹ 10.18 crore (civil and engineering activities - ₹ 6.57 crore and horticulture activities - ₹ 3.61 crore) by GOI. SHM planned to establish the COE in the existing SHF considering the locational and climatic advantages. The project envisaged demonstration of poly house cultivation of tomato, capsicum and cucumber in 4,000 sq m each and demonstration of transplant production in vegetable under poly house

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[25] Land leveling; laying of bore wells; construction of administrative building for storage, laboratories, pre-cooling units; establishment of poly houses and shade net house.

[26] Post harvest equipment, cold storage equipment, generator, crop supported system, drip irrigation facilities, etc.

structure in two units of one acre each with expected quantity of 10 lakh per year.

Civil works were awarded (November 2013) to contractors for ₹ 3.79 crore for completion in nine months and horticulture activities were proposed to be undertaken by the Department. The works relating to civil works were completed (October 2015) with an expenditure of ₹ 3.65 crore.

We noticed that an amount of ₹ 0.92 crore was incurred (October 2016) towards horticulture activities and the works on creation of 3,968 sq m of hi-tech vegetable nursery, components like poly-house automation system, farm equipments were not completed due to non-finalisation of tenders by TANHODA. We also noticed that, for facilitating construction activities for establishment of the COE, 1,420 out of 4,983 pedigree mother plants in the existing SHF were removed (June 2013) by the project officer without analysing environmental impact.

Thus, delay in commencement of horticulture and engineering activities of the COE resulted in non-utilisation of civil structures constructed, besides non-achievement of demonstration of transplant production of vegetables despite incurring an expenditure of ₹ 4.57 crore. Removal of pedigree mother plants in the existing SHF for the project also led to non-maintenance of existing horticultural activities.

Government replied (December 2016) that production and distribution of vegetable Pro Tray seedlings was undertaken in the constructed civil work of naturally ventilated poly house and efforts would be made to complete the hi-tech nursery and other components before March 2017. However, the fact remains that the objective of demonstration of transplant production of vegetables was not achieved even after three years from the date of commencement of work.

2.8.8 Inadequate spending for Scheduled Castes / Tribes and women beneficiaries

Government of India instructed (April 2011) SHM to ensure that 16.2 *per cent* and eight *per cent* of the sanctioned funds under NHM were targeted for the farmers and beneficiaries belonging to Scheduled Castes (SC) and Scheduled Tribes (ST) as per the directives of the Planning Commission. It was also instructed that at least 30 *per cent* of the allocation was to be earmarked for women beneficiaries / farmers.

The release of funds for NHM was revised from 2014-15 onwards and funds were released separately for SC/ST beneficiaries. As against the total release of NHM funds of ₹ 163.01 crore during 2014-15 to 2015-16, separate release orders of ₹ 32.15 crore were issued for implementation of components to benefit SC/ST beneficiaries.

We observed that TANHODA allocated funds of ₹ 20.37 crore (61 *per cent*), during 2014-15 to 2015-16, for SC/ST beneficiaries and the actual expenditure incurred during these two years was ₹ 14.59 crore resulting in diversion of ₹ 17.56 crore of NHM funds released for the benefit of the economically underprivileged section of society to general beneficiaries.

We also observed from the test checked districts that as against the total NHM beneficiaries of 54,699, only 6,071 (11 *per cent*) SC/ST farmers were benefitted with the assistance for the improvement of horticulture sector during 2011-12 to 2015-16. This resulted in short achievement of targets by 13 *per cent* indicating absence of adequate coverage to SC/ST beneficiaries.

The details of total expenditure and the percentage of expenditure on SC, ST and women beneficiaries in seven test checked districts were as detailed in **Table 2.7**.

Table: 2.7 Details of expenditure on SC, ST and women beneficiaries

(₹ in crore)

District	Total Expenditure during 2011-12 to 2015-16	Percentage of expenditure			Percentage of shortfall in expenditure to the beneficiaries with reference to standards		
		SC	ST	Women	SC	ST	Women
Tiruchirappalli	8.55	0.63 (7.37)	0.12 (1.40)	1.33 (15.56)	8.83	6.60	14.44
Nilgris	9.84	0.30 (3.05)	0.25 (2.54)	1.40 (14.23)	13.15	5.46	15.77
Dindigul	16.33	4.69 (28.72)	0	1.34 (8.21)	-	8.00	21.79
Madurai	10.77	0.81 (7.52)	0	1.72 (15.97)	8.68	8.00	14.03
Kanyakumari	6.64	0.16 (2.41)	0.45 (6.78)	1.69 (25.45)	13.79	1.22	4.55
Vellore	12.67	2.10 (16.57)	0.19 (1.50)	0.31 (2.45)	-	6.50	27.55
Krishnagiri	60.98	1.34 (2.20)	0	5.40 (8.86)	14.00	8.00	21.14

(Source: Details furnished by TANHODA)
(Figures in bracket indicated the percentage of expenditure to the total expenditure)

From the above details, the following deficiencies were noticed:

- The shortfall in expenditure towards SC beneficiaries during 2011-12 to 2015-16 in the seven test checked districts ranged between 8.68 and 14 *per cent* except the two districts of Dindigul and Vellore.
- The shortfall in expenditure towards ST beneficiaries ranged between 1.22 and eight *per cent*.
- In respect of women beneficiaries, the shortfall ranged between 4.55 and 27.55 *per cent*.

Thus, TANHODA failed to adhere to the directives of the Planning Commission in allocation and expenditure of funds under NHM to the beneficiaries and farmers belonging to the SC, ST and Women in order to enable them to earn sufficient income and provide social security.

Government replied (December 2016) that availability of potential farmers under SC/ST/Women category was not uniform in all districts. The components like protected cultivation, IPHM, etc., involved higher cost of investment excluding subsidy and absence of progressive beneficiaries was the reason for non-achievement. The reply was not acceptable as exclusive components for the benefit of SC/ST/Women beneficiaries considering their financial status were not proposed in the AAP.

2.8.9 Human Resource Development

NHM guidelines (Para 8.31) envisaged training, field visits of farmers to neighbouring districts, study tours of staff to other districts and States, exposure visits in latest technologies like precision farming, organic farming, etc. to farmers. The details of various trainings imparted to the beneficiaries/ farmers during 2011-12 to 2015-16 were as under:

Type of training	Target as per AAP (Numbers)	No. of participants trained	Shortfall	Percentage of shortfall
Training of farmers	26,480	18,707	7,773	29
Exposure visit of farmers	6,780	2,765	4,015	59
Study tour	6,714	330	6,384	95
Total	**39,974**	**21,802**	**18,172**	

(Source: Details furnished by TANHODA)

There was shortfall in achievement of target to training and exposure visits to farmers to the extent of 29 and 59 *per cent* respectively. The study tours proposed for the technical staff/field officers of the Department, to enable them to learn and disseminate the technology to the farmers for better horticulture production among farmers, was achieved to an extent of five *per cent* of the targets. The percentage of shortfall in achievement of these components in the seven test checked districts was 39, 47 and 98 respectively.

We observed that three projects[27] for ₹ 2.90 crore were approved by GOI in AAP and SHM failed to forward the project proposals with the approval of SLEC for release of funds. This resulted in non-achievement of envisaged objective of acquiring knowledge of production practices followed in other district and States.

Thus, SHM did not initiate effective steps for imparting training, exposure visits and study tours to the farmers and field staff despite proposing in the AAP.

Government replied (December 2016) that training needs vary from farmer to farmer and common training module cannot be developed. It was stated that efforts were made for imparting training to farmers within the State, outside the State and Exposure visits. Government did not furnish reasons for shortfall in study tours. The reply was not acceptable as the targets fixed by the Department itself after considering the training needs of the individual farmers were not achieved.

2.8.10 Promotion of Groups and Associations

NHM guidelines, 2014 envisaged (Para 2.1 (b)) encouragement of farmers into farmer groups like farmer interest groups, farmer producer organizations as one of the main objectives to bring economy of scale and scope in the horticulture sector.

Despite the above guidelines and GOI approval of ₹ 20 lakh in the AAP (2014-15) for forming ten farmer's groups, no action was taken (August 2016) to form the groups to bring economy of scale and scope in the horticulture sector.

Government replied (December 2016) that the component was not implemented despite inclusion in the AAP as the funds were not released in full by GOI during 2014-15. The reply was not acceptable as the overall funds released during 2014-15 was ₹ 65.12 crore and the amount approved for this

[27] Three training / study tour of technical staff / field functionaries (outside India).

component was a meagre ₹ 20 lakh. Adequate amount could have been allotted by TANHODA to achieve the objective.

2.9 Internal Control

2.9.1 Monitoring

NHM guidelines envisaged SLEC to release funds, monitor and review implementation of the programmes under NHM. The DMC was responsible for carrying forward the objectives for the project formulation, implementation and monitoring of these programmes. The operational instructions for NHM (2014-15) by the TANHODA mandated approval of identified beneficiaries for the area expansion component by DMC. Despite these guidelines and instructions, we observed as under:

- No meetings of SLEC were conducted during 2013-14 and 2014-15. In the selected Vellore district no meeting of DMC was conducted during 2011-12. The number of DMC meetings conducted in the seven test checked districts during 2011-12 to 2015-16 varied between eight[28] and 53[29].
- Though the DMC was in-charge for project formulation, five out of seven test checked districts failed to consider the projects for inclusion in AAP finalised by TANHODA during 2011-12 to 2015-16.
- The minutes of the meetings of DMC indicated that the progress of implementation of the programmes approved for execution in districts was not monitored by DMC in the seven test checked districts during 2011-12 to 2015-16.
- Despite requirement of approval of DMC for the identified beneficiaries, the same was not followed in two[30] test checked districts during 2014-15 and 2015-16 and two[31] test checked districts during 2014-15.
- Additional operational instructions for implementing NHM issued during 2011-12 specified that the inputs for the NHM scheme shall be distributed within one month of receiving supply at the field office. As and when the inputs were received, the details of inputs received should be reported within 12 hours by Block level officers to the District Officer and also to the Managing Director of TANHODA on the same day by email. However, we observed from the scrutiny of records that 7.73 lakh kg and 6,220 litre of inputs such as Dimethoate, Imidacloprid, Corbon oxy chloride. etc, were issued to the beneficiaries with a delay ranging from one to 11 months in 19 blocks in seven selected districts by the field offices in violation of the guidelines. The same was also not monitored by the District and TANHODA officials.

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28 DMC, Vellore.
29 DMC, Dindigul.
30 Tiruchirappalli and Madurai.
31 Dindigul and Vellore.

2.9.2 Evaluation

NHM guidelines envisaged conduct of term end evaluation at the end of XI and XII Plan period on the implementation of the scheme. Concurrent evaluation was also required to be conducted by engaging suitable agencies. State Governments were also required to conduct evaluation studies on project basis.

Scrutiny of records revealed that term end evaluation on the implementation of the NHM scheme in the State was not conducted at the end of the XI Plan period. Concurrent evaluation on the impact of the scheme in the State was conducted during 2012-13 by University of Madras and further concurrent evaluation study was not conducted during 2013-14 to 2015-16. It was also noticed that the recommendations made on the concurrent impact study was not implemented by the State.

Thus, non-conduct of SLEC meeting for two years, failure to propose project formulations with the approval of DMC, non-approval of identified beneficiaries by DMC for area expansion programme and absence of concurrent evaluation indicated inadequate monitoring in implementation of the NHM in the State.

Government replied (December 2016) that though no SLEC meetings were held for the two years, the agenda was discussed in Review meeting and through circulation agenda. It was also replied that the Institute of Economic Change had been nominated (November 2016) to conduct evaluation which would be completed shortly.

The reply was not acceptable as the representative of GOI was not present to express the views for the centrally sponsored scheme for these years and to ensure effective implementation.

2.10 Conclusion

Implementation of National Horticulture Mission in Tamil Nadu revealed that the TANHODA failed to prepare State Horticulture Mission Document to determine the potentiality of horticulture in the State. Annual Action Plan was prepared without baseline survey, finalisation of detailed project proposals was delayed and there was absence of sub-plan for the component area expansion. All these resulted in deferment of six sanctioned projects for ₹ 11.47 crore and non-availing of GOI sanction of ₹ 34.33 crore for 26 projects indicating inadequate planning in the development of horticulture sector. Imprudent financial management resulted in blocking of funds of ₹ 4.35 crore and non-utilisation of the released funds of ₹ 32.37 crore. There was delay in release of received Central funds and State funds by GoTN resulting in delayed achievement of the envisaged objectives. Absence of effective maintenance of new plantations in the subsequent years despite incurring of ₹ 36.15 crore and delayed or under completion of projects resulted in non-achievement of the objective of enhancement of production of horticulture crops. Short allocation of sanctioned funds to the schemes for the benefit of deprived sections of society resulted in non-generating of income and provision of social security. Lack of concurrent evaluation of projects and deficiencies in the monitoring of the programme indicated weak internal control.

2.11. Recommendations

State Government may

- Ensure preparation of State Horticulture Mission Document after conducting baseline survey and preparation of AAP and sub-plan envisaging the objectives and strategies of the projects.
- Ensure prompt submission of project proposals with the approval of SLEC for Project Based Activities.
- Strengthen the system of financial control in implementation of projects by ensuring complete and effective utilisation of funds sanctioned for intended objectives.
- Formulate a mechanism for effective project management in timely supply of planting materials, maintenance of plantations, rejuvenation of orchards and creation of post harvest facilities.
- Ensure effective monitoring of implementation of projects through District Mission Committees. Concurrent evaluation of implemented projects may also be ensured.

CHAPTER III
COMPLIANCE AUDIT

INDUSTRIES DEPARTMENT

3.1 Management of Co-operative Sugar Mills in Tamil Nadu

3.1.1 Introduction

Tamil Nadu is the fourth largest sugar producing State in the country with an annual sugar production of 13.08 Lakh Metric Tonne (LMT) during 2015-16 crushing season[32]. There are 43 sugar mills in the State, of which 16 are in Co-operative sector registered under the Tamil Nadu Co-operative Societies Act, 1961 (Act), two in public sector and 25 in private sector. These 16 mills had 28 *per cent* of the total registered area in the State for sugarcane cultivation and contributed about 21 *per cent* of the total sugar production of the State during 2015-16. Two out of 16 mills had distillery units also.

The Commissioner of Sugar (COS), as Cane Commissioner and Registrar of Co-operative Societies, monitors compliance to the provisions of the Sugarcane (Control) Order, 1966 (Sugar Order) and the Tamil Nadu Co-operative Sugar Federation Limited (TNCSF), an organisation under the control of COS, undertakes sale of sugar and other by-products[33] produced by Co-operative Sugar Mills (CSMs).

We conducted Audit between May and August 2016 covering the offices of the COS and six[34] out of 16 CSMs selected adopting simple random sampling technique for the period from 2013-14 to 2015-16, to examine the effectiveness of the role of COS in the management of CSMs in ensuring timely availability of adequate quantity and quality sugarcane, economical and efficient financial management, effectiveness of production, marketing and adequacy of internal control mechanism with reference to statutory provisions, orders of the Government and Corporate plans[35] of the CSMs and technical norms prescribed for sugar manufacturing industries.

3.1.2. Planning

COS has been empowered to reserve sugarcane growing area considering the crushing capacity of the mill, to determine the sugarcane requirement and regulate export of sugarcane from any area.

A mention was made in the Report of the C&AG (Civil Audit), Government of Tamil Nadu (GoTN) for 2008-09, on non-utilisation of installed capacity of the mills for crushing. Policy Note (2014-15 and 2015-16) of GoTN envisaged achievement of cane production to meet 100 *per cent* of the installed crushing capacity of the mills by adopting various technologies.

32 Crushing season for sugar is the period from November to June every year.
33 Bagasse, molasses and press mud.
34 Amaravathi, Kallakurichi I, Madurantakam, National, NPKRR and Tiruttani.
35 Corporate plans are Annual plans prepared by CSMs and approved by COS.

The installed cane crushing capacity of 16 CSMs in the State was 64.32 LMT per crushing season. Corporate plans of the mills indicated the target fixed by COS for supply of cane for crushing, taking into account the factors like area available, trend in registration, expected cultivation and productivity of crop based on previous years.

The annual targets fixed for the 16 CSMs and comparative analysis of targets arrived with reference to installed capacity and previous year's productivity were as detailed in **Table 3.1.**

Table: 3.1 Details of targets fixed and achievements

Year	Targets		Installed capacity		Comparative analysis of targets arrived at with reference to previous year productivity			
	Registration of area (in lakh acre)	Cane supply for crushing (LMT)	Total Installed crushing capacity (LMT)	Percentage of targets fixed for cane supply	Cane received for crushing during the earlier year per acre (MT)	Expected cane supply for the registered area (LMT)	Shortfall in fixation of target for cane supply to CSMs (LMT)	Percentage of shortfall
1	2	3	4	5	6	7 (6 x 2)	8 (7-3)	9
2013-14	2.02	31.60	64.32	49	26	52.52	20.92	40
2014-15	1.85	33.48	64.32	52	25	46.25	12.77	28
2015-16	1.86	35.39	64.32	55	26	48.36	12.97	27

(Source: Details furnished by the Department)

As may be seen from the above:

- COS failed to consider the installed capacity of the mills while fixing the targets. The physical targets were fixed, during 2013-14 to 2015-16, between 49 and 55 *per cent* of the total installed capacity of the CSMs without taking into account the productivity of sugarcane in the previous years.
- A comparative analysis of the cane supplied to the mills in the earlier years with reference to the productivity in the previous years and registered area revealed that there was short fixation of targets ranging between 27 and 40 *per cent* during 2013-14 to 2015-16.

Thus, the targets fixed by COS were neither on the basis of installed capacity of the CSMs nor with reference to actual productivity of the sugarcane in the previous years due to faulty planning in ensuring the availability of adequate quantity of sugarcane.

Government replied (November 2016) that target was fixed by considering factors such as trend in area, production and yield of sugarcane cultivation. The reason for declining trend in sugarcane cultivation was mainly due to poor rain fall, diversion of cultivation to other competitive crops and delayed/non-payment of sugarcane price by the mills.

The reply was not acceptable as the targets were not fixed based on the actual productivity in the earlier years. Moreover, the reason for diversion of cultivation to other crops and delayed payment of sugarcane price was due to non-operation of CSMs as discussed in Paragraph No. 3.1.3.

3.1.3 Financial Status

The 16 CSMs were established between 1960 and 1997 with share capital from the GoTN and sugarcane growers as members of the mills. The CSMs were provided with ways and means advance from GoTN and loan for settlement of cane price to the growers from Government of India (GOI), besides other loans from financial institutions.

The financial Status and working results of 16 CSMs during 2013-14 to 2015-16 was as detailed in **Table 3.2**.

Table: 3.2 Details of Share capital and working results of CSMs

(₹ in crore)

Year	Share capital		Ways and means advance from GoTN	GOI loan	Working results of CSMs				Cumulative loss of all the CSMs
	From GoTN	From members			Profit		Loss		
					No.	Amount	No.	Amount	
OB			1,525.09						
2013-14	64.61	140.20	75.00	--	2	11.60	14	318.38	2,308.85
2014-15	64.61	146.02	113.79	97.03	2	3.88	14	348.68	2,653.65
2015-16*	64.61	146.02	74.93	43.69	--	--	16	428.41	3,082.05**
Total			**1,788.81**	**140.72**		**15.48**		**1,095.47**	

(Source: Details furnished by the Department)

*Provisional figures furnished by the Department pending finalisation of accounts.

**This included ₹ 1,930.08 crore (63 *per cent*) accumulated loss of six test checked CSMs.

As may be seen from the above:

- The share capital of ₹ 64.61 crore from GoTN and ₹ 146.02 crore received from the sugarcane growing farmers, totalling ₹ 210.63 crore as of 31 March 2016, was eroded due to operation of CSMs with accumulated loss to the tune of ₹ 3,082.05 crore as exhibited in the audited Balance Sheet of the 16 CSMs.

- Though two[36] CSMs managed to earn profit during the two financial years 2013-14 and 2014-15, they could not retain the trend during 2015-16 and there was total loss to the CSMs of ₹ 1,095.47 crore during 2013-14 to 2015-16. The loss to CSMs was due to shortfall in procurement of sugarcane, delay in modernisation of mills leading to low sugar recovery rate, excess consumption of utilities, etc., which are discussed in Paragraph Nos. 3.1.6.1 and 3.1.5.

Factors contributing to additional financial burden to CSMs

The following factors affected the working results of the CSMs and contributed to additional financial burden:

- COS pointed out (November 2013) adverse financial implications due to declaration of State Advisory Price[37] (SAP) in addition to Fair Remunerative Price[38] (FRP) fixed by GOI for sugarcane, without adequate financial assistance from GoTN. This had resulted in additional financial burden of ₹ 497.36 crore to the 16 CSMs, being the difference in cost between SAP and FRP for the period 2013-14 to 2015-16.

- 16 CSMs had accumulated interest burden of ₹ 963.73 crore as of 31 March 2016, on the ways and means advance, which further enhanced the financial burden on the CSMs.

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36 Kallakurichi II and Subramanya Siva.

37 SAP for 2013-14 - ₹ 550 per MT; 2014-15 - ₹ 450 per MT; 2015-16 - ₹ 550 per MT.

38 FRP for 2013-14 - ₹ 2,100 per MT; 2014-15 - ₹ 2,200 per MT; 2015-16 - ₹ 2,300 per MT.

- A mention was made in Report of the C&AG (Civil Audit), GoTN for 2008-09, that the production cost of sugar was higher than the sale realisation. Analysis of cost of production and sales realisation of all CSMs during 2013-14 to 2015-16 revealed that average realisation per quintal of sugar produced was insufficient[39] even to take care of cost of basic raw material (Sugarcane including taxes and transportation), resulting in high cost of production and accumulation of losses.

Thus, CSMs suffered losses due to high cost of production and huge interest burden on the borrowings, which further led to more borrowings and interest thereby making the financial status of the mills very weak.

3.1.3.1 Delay in implementation of measures to make CSMs financially self sustainable

GoTN had constituted (May 2013) an Expert Committee with COS as the Member Secretary and other six expert members[40], to analyse the reasons for increased cost of production and accumulated losses of sugar mills and to suggest measures for making the mills financially self sustainable. The recommendations of the Committee (January 2014) for adoption of good seed nursery programme, technology[41] to enhance steam fuel ratio, speeding up co-generation and modernisation projects were accepted (March 2014) by GoTN. However, the recommendation on conversion of outstanding ways and means advance into equity was not accepted by GoTN due to the reason that the fiscal deficit would exceed the permitted limit of Gross State Domestic Product.

Despite acceptance of recommendations and approval (September 2015) of modernisation of three[42] test checked CSMs at a cost of ₹ 118.99 crore by GoTN, the modernisation works were yet to be taken up (August 2016) due to delay in submission of loan proposals to National Co-operative Development Corporation by GoTN considering the accumulated losses and repayment capacity of the mills. Non-implementation of other recommendations of the Committee on adoption of good nursery programme and technology for enhancement of steam fuel ratio have been discussed in Paragraph Nos. 3.1.4.1 and 3.1.5.1.

Thus, the measures to make CSMs financially self sustainable remained largely unimplemented.

Government stated (November 2016) that increase in cane price every season without corresponding increase in sugar selling price and the moderate sugar recovery led to non-covering the cost of sugarcane. The reply was not

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39 As against realisation of ₹ 3,067.27 per quintal in 2013-14, ₹ 3,135.78 in 2014-15 and ₹ 2,829.76 in 2015-16 the cost of sugarcane required for producing one quintal of sugar was ₹ 3,300.27, ₹ 3,336.64 and ₹ 3,411.95 respectively.

40 (i) Cane expert, Sugarcane Breeding Institute, Coimbatore, ii) Chief Engineer, Department of Agro Engineering; iii) Dean, College of Agriculture Engineering, Tamil Nadu Agriculture University; iv) Sugar Processing / Manufacturing Expert from Vasantdada Sugar Institute, Pune; v) Management Expert from University of Madras; and vi) an Officer from Treasuries and Accounts Department.

41 A proven technology of addition of combustion catalyst to improve steam fuel ratio thereby saving the consumption of bagasse.

42 Amaravathi, NPKRR and Tiruttani.

acceptable as moderate sugar recovery was due to deficiencies in adherence to production norms, as detailed in Paragraph No. 3.1.5

Procurement and Production operations

The capacity of the CSMs was not utilised fully due to deficiencies in procurement and production operations of the mills as discussed in the subsequent paragraphs.

3.1.4 Procurement

3.1.4.1 Inadequate supply of seed for plantation

For quality sugarcane, mills developed sugarcane sett[43] through three-tier nursery programme[44] from breeder seeds. The sugarcane setts developed in one nursery can be planted in an enhanced area of seven times in another nursery till bulk planting in the sugarcane fields.

The targets and achievement of development of sugarcane sett for supply to bulk plantation in six out of 16 test-checked CSMs for the years 2012-13 to 2014-15 were as detailed in **Annexure - 5**. Analysis of the same revealed the following:

- The six CSMs could achieve average 97 *per cent* of targets in the production of sugarcane sett in primary nurseries, 87 *per cent* in the secondary nurseries and 58 *per cent* in the commercial nurseries during 2012-13 to 2014-15.
- The achievement of sugarcane sett transferred to the fields for bulk plantations was 40,453 acre (34 *per cent*) against the target of 1.20 lakh acre. The sugarcane sett available for plantation in the fields for bulk plantation worked out to 63,357 acre considering the achievement of commercial nursery adopting the prescribed conversion norms. The non-transfer of the developed sugarcane setts to bulk plantations resulted in insufficient sugarcane for crushing by the CSMs.

Government replied (November 2016) that the physical mortality of seedling at every stage would reduce the conversion rate from primary to bulk plantations. The reply was not acceptable as the percentage of achievements in primary and secondary nurseries was above 85 *per cent* and it declined in commercial and bulk plantations. Further, the objective of nursery programme to ensure the development of quality seeds for bulk plantations was not fulfilled.

3.1.4.2 Shortfall in sugarcane procurement

The annual corporate plans of the CSMs fixed the target for registration of area for sugarcane growing and procurement of grown sugarcane from the farmers. The targets and achievements of registration of area and supply of cane by farmers for the years 2013-14 to 2015-16 were as detailed in **Table 3.3.**

43 Cane cuttings with one or two buds are known as sett.
44 Primary, secondary and commercial.

Table: 3.3 Details of registered area for sugarcane production

Year	Target		Achievement			Analysis of actual sugarcane supplied to CSMs with reference to average State yield*	
	Area	Cane supply (LMT)	Actual area registered (lakh acre)	Area harvested (lakh acre)	Cane supplied (LMT)	Yield required to be supplied for the harvested area available with CSMs (LMT)	Difference (LMT)
1	**2**	**3**	**4**	**5**	**6**	**7**	**8 (7-6)**
2013-14	2.02	31.60	1.47 (73)	1.32 (90)	32.99 (104)	55.44	22.45
2014-15	1.85	33.48	1.32 (71)	1.20 (91)	31.20 (93)	51.60	20.40
2015-16	1.86	35.39	1.25 (67)	1.12 (90)	30.50 (86)	47.04	16.54
Total					**94.69**	**154.08**	**59.39**

(Source: Details furnished by the Department)
*****The yield of sugarcane in the State was 42 MT per acre during 2013-14 and 2015-16 and 43 MT per acre during 2014-15. As against the same, the supply of sugarcane to CSMs ranged between 25 and 27 MT per acre during 2013-14 to 2015-16.
(Figures in bracket indicate the percentage)

As may be seen from the above:

- The targeted area of registration was on the declining trend as compared to 2013-14. Despite the same, the achievement ranged between 73 and 67 *per cent*. Of the registered area, about 90 *per cent* of area was harvested with the sugarcane plantations.
- The achievement of the target for cane supply was on the declining trend from 104 *per cent* during 2013-14 to 86 *per cent* during 2015-16.
- The yield of sugarcane adopting State average for 2013-14 to 2015-16 was worked out to 154.08 LMT. However, the supply of sugarcane from the harvested area to the CSMs for crushing during 2013-14 to 2015-16 was 94.69 LMT. This resulted in shortfall in supply of sugarcane of 59.39 LMT (63 *per cent* of the total cane supplied) during 2013-14 to 2015-16.

Government replied (November 2016) that the State yield of sugarcane was calculated on the basis of data collected by Department of Economics and Statistics, and it was based on the crop cutting experiment method. However, the data reported by the Department of Sugar was based on the actual area registered and supplied to the mills. The reply was not acceptable as Department of Economics and Statistics adopted the same method for all the three years, for reporting of production and productivity of all the crops by Agriculture Department in the State, which determined the Gross Domestic Product of the State.

3.1.4.3 Procurement of over-aged cane

As per the directions issued by the COS from time to time, cutting of the cane at the right age would result in achieving the targeted sugar recovery above 9.5 *per cent*. Optimum age of harvesting is 12-13 months for planted sugarcane and 11 months for ratoons[45] cane. Cane officers of the sugar mills assess the maturity level of sugarcane and issue orders for cutting the sugarcane to supply to the mills immediately. The procurement of cane for crushing by the six test checked CSMs was as given in **Annexure – 6.** The percentage of over-aged cane crushed by these mills ranged between nine and 94 *per cent*

45 Germination of new plants from the root portion of the harvested cane.

during 2013-14 to 2015-16. This indicated non-observance of directions of COS by cane officers and led to loss in recovery of sugar of 52,228 MT valued at ₹ 157.22 crore in test checked mills (**Annexure - 7**).

Government replied (November 2016) that over matured cane was diverted to nearby CSMs for achieving optimum age of crushing and recovery.

The reply was not acceptable as the instances detailed in the Annexures were crushing of cane after 13 months which were not diverted to other CSMs for crushing. It is also pertinent to note that the deficiency continued to remain uncorrected despite being pointed out in earlier Audit Report (2008-09).

3.1.5 Production activities

Capacity utilisation of sugar mills depends not only on quality sugarcane but also the efficiency of the machinery and the manufacturing process. The deficiencies in production activities of sugarcane crushing and effectiveness of machinery utilised were as under:

Sl. No	Activity	Norms prescribed	Actuals	Number of CSMs	Implication
1	Sugarcane crushing	Crushing within 24 hours of harvesting for optimum sugar recovery of 9.5 *per cent* fixed by GOI	Crushed within 24 hours – 3.00 to 8.00 *per cent* **Delayed crushing** Beyond 24 hours – 92 to 97 *per cent* which included 18 to 27 *per cent* beyond 32 hours	Three test checked CSMs	Resulted in sugar recovery of 7.98 to 8.66 *per cent*
2	Production hours loss	COS prescribed 8.00 *per cent* of the available production hours loss	8.23 to 32.33 *per cent*	Six test checked CSMs	Resulted in non-optimum utilisation of machinery and labour
3	Manufacturing loss	COS prescribed loss of 1.80 *per cent* of cane crushed	1.81 to 2.61 *per cent*	14 CSMs	Resulted in revenue loss of ₹ 33.49 crore **(Annexure - 8)**
4	Repairs and maintenance cost of plant and machinery	COS prescribed ₹ 26 to ₹ 30 per MT of cane crushed	₹ 31.22 to ₹ 279.79 per MT of cane crushed	16 CSMs	Resulted in excess expenditure of ₹ 36.36 crore[46] **(Annexure - 9)**
5	Utilisation of power	COS prescribed 20/30 units per MT of cane crushed for steam/ electrical driven crushers	21.28 to 29.84 units /32.21 to 47.35 units	10 CSMs including three test checked CSMs	Resulted in excess expenditure of ₹ 11.62 crore[47] **(Annexure - 10)**

[46] 2013-14 ₹ 13.77 crore on 32.94 LMT; 2014-15 ₹ 12.35 crore on 32.42 LMT and ₹ 10.24 crore on 30.96 LMT of cane crushed.

[47] 2013-14 - ₹ 3.35 crore; 2014-15 - ₹ 3.85 crore and 2015-16 - ₹ 4.4 crore.

Thus, non-adherence to the norms prescribed in production activities of sugarcane crushing and effectiveness of machinery utilised resulted in loss of revenue ₹ 33.49 crore and excess expenditure of ₹ 47.98 crore.

Government replied (November 2016) that the delayed crushing was due to non-availability of labourers and transport vehicles. It was also stated that continuous efforts were being made to arrange sufficient vehicles for transportation. In respect of process loss Government stated that the percentage of allowable loss was fixed at 2.0 to 2.2 *per cent* by GOI, whereas COS had fixed the allowable loss at 1.8 *per cent* for better performance. It was also stated that the prescribed norms would be maintained after completion of modernisation and achieving 100 *per cent* sugarcane crushing capacity.

The reply was not acceptable as the CSMs failed to maintain the process loss percentage fixed by COS and modernisation was delayed as discussed in Paragraph No. 3.1.6.1 and the Department also failed to enhance cane crushing to the installed capacity of the mills.

3.1.5.1 Non-adoption of proven technology for saving fuel

Based on the recommendations of the Expert Committee constituted by GoTN, trial study for saving the fuel in the sugar mills with proven technology was conducted at CSM, Ambur. As this technology was found effective, COS instructed (August 2015) for adoption of the same in all the CSMs.

Despite saving of fuel cost of ₹ 3.25 lakh in 33 crushing days during 2015-16 in Kallakurichi I test checked CSM due to adoption of this technology, no efforts were made to implement the same in the remaining five test checked CSMs indicating absence of effective measures to make the CSMs financially self sustainable.

Government stated (November 2016) that the adoption of the technology in other mills was being followed for implementation in the coming seasons.

3.1.6 Allied production activities

Sugar manufacturing activity also yields by-products such as bagasse[48], a fuel used as boiler feed for power generation and molasses, a raw material for alcoholic products. Audit observations related to these allied production activities of CSMs are discussed in the following paragraphs:

3.1.6.1 Inordinate delay in establishment of co-generation plants and modernisation

Based on the proposals from COS, the GoTN approved (February 2008) establishment of co-generation[49] plants through the Tamil Nadu Electricity Board. The project cost for setting up plants including modernisation of

[48] Cane residue leaving mills after extraction of juice.

[49] Co-generation is the use of the fuel (Bagasse) to provide both heat energy, used in the mill and electricity which is sold to consumer electricity grid.

10 CSMs was proposed to be met from various sources[50]. The co-generation and modernisation of the CSMs envisaged reduction in the consumption of power and steam besides export of additional power.

Tamil Nadu Electricity Board invited (January 2009) the tender and awarded (March 2010) the work to the lowest tenderer at a cost of ₹ 1,125.63 crore for setting up the co-generation plants and modernisation of 10 CSMs within 18 months (September 2011). Eighty eight to 95 *per cent* of the works were completed in nine CSMs and the co-generation plant was put on trial run (February 2016) in one[51] CSM and works in other CSMs were in progress (September 2016) due to delay in execution of civil works and disputes over payments. Despite the receipt of initial contribution of ₹ 70.90 crore from the cane growers in December 2010 and ₹ 352 crore from GoTN in December 2012 and expenditure of ₹ 1,059.75 crore (May 2016), there was inordinate delay of five years, in diversification and modernisation programme of the 10 CSMs, from the scheduled date of completion of the project resulting in non-achievement of the objective of reduction in consumption of power and export of additional power.

Government replied (November 2016) that modernisation works had been completed in six mills and the work was in progress in four other mills. The co-generation project was in advanced stage of completion in two mills. However, the fact remains that the objective of self sufficiency of the CSMs was delayed for five years due to delayed completion of modernisation and non-completion of co-generation activities.

3.1.6.2 Delay in commissioning of Distillery-cum-ethanol Plant

GoTN announced (July 2014) establishment of 45 kilo litre per day (KLPD) Distillery-cum-ethanol Plant at a cost of ₹ 90 crore each in two CSMs[52] for augmenting additional revenue by the sale of ethanol. The project was to be implemented by COS with 90 *per cent* cost from loan and 10 *per cent* of cane growers' contribution. After finalisation (January 2016) of tender, the funding agency, National Co-operative Development Corporation opined (March 2016) that the project cost was on higher side as compared to two other similar projects financed by them in other States. The funding agency also suggested to take assistance from the consultancy organisation for evaluation of market conditions and for reduction in the cost. The project cost as worked out by the consultancy agency, National Sugar Institute, Kanpur was ₹ 85 crore approximately and the lay out and civil works details were not furnished. A technical committee constituted (April 2016) by COS reviewed the project cost and worked it out as ₹ 93.95 crore. The contracts were cancelled (May 2016) and subsequent invitation of fresh tenders and further action was pending (July 2016) in this regard.

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50 i) cane growers' contribution of 10 *per cent* (₹ 124.12 crore – Of which ₹ 70.90 crore remitted between October 2010 and January 2016); ii) loan from Sugar Development Fund (SDF) (₹ 352.26 crore - received ₹ 352 crore in December 2012 from GoTN pending approval) and iii) loan from financial institutions (₹ 764.76 crore).

51 Chengalrayan.

52 Kallakurichi II and Subramanya Siva.

We observed that the COS, as Registrar of the CSMs failed to co-ordinate with the consultancy and funding agency for arrangement of financial resources for the establishment of the approved project of Distillery-cum-ethanol Plant in two CSMs even after two years from the date of approval, due to which, additional revenue could not be augmented.

Government replied (November 2016) that scrutiny of tender documents was under progress.

3.1.6.3Short production of spirit due to non-compliance to pollution norms

Central Pollution Control Board (CPCB) noticed (February 2011) non-availability of adequate effluent handling system for the licensed capacity of the distillery unit of one test checked CSM[53] and directed for restriction of production of industrial alcohol to 30 KLPD. CPCB also directed (May 2011) to submit a time bound action plan (within 15 days) to achieve zero effluent discharge condition. However, GoTN directed the CSM only in July 2014 to install Reverse Osmosis plant at an estimated cost of ₹ 8.50 crore from its own/ borrowed funds of CSM and the work was under progress (August 2016). Non-compliance to the pollution norms led to non-operation of the licensed capacity of the mill and short production of spirit, ranging from 60 to 78 *per cent* during 2013-14 to 2015-16.

Government stated (November 2016) that the civil works were in advanced stage of completion and the selection of technically suitable technology, tendering process, supply, erection and commissioning of the project took time leading to delays.

3.1.7 Marketing

Tamil Nadu Co-operative Sugar Federation (TNCSF) is an organisation under the control of COS, which undertakes sale of sugar and other by-products produced by CSMs. The sale of sugar was mainly to Public Distribution System (PDS) in the State and sale of by-products like Molasses, Alcohol and Bagasse in open market to manufacturers. Audit observations in this regard are discussed below:

3.1.7.1 Sale of molasses

GoTN directed (August 2000) TNCSF to invite tenders once in two months for disposal of molasses. During the period 2013-14 to 2015-16, as against the required number of 18 tenders, TNCSF invited only 10 tenders citing time taken from three to six months for finalisation of tenders. It was also noticed that the available stock in the range of 58,022 MT to 1.38 LMT of molasses was not offered in full, for tender on these occasions for reasons not on record.

The tender conditions envisaged acceptance of rates quoted by the highest bidder. In case the quantity offered by the bidder at the highest price is less than the quantity available for sale, the offer of second highest bidder or others would be accepted at the highest rate. The tenderer may inspect the stock and

53 Amaravathi.

quote the rates. Withdrawal of offer based on quality of molasses will not be permitted.

Scrutiny of records revealed that TNCSF allowed the tenderer to lift 38,609 MT molasses in excess of the tendered quantity of 1.51 lakh MT on four occasions during 2013-14 and 2014-15. Allowance of lifting of excess quantity of molasses resulted in a loss of ₹ 1.87 crore to CSMs as compared to the higher rate quoted in the subsequent tenders.

In another case, TNCSF permitted (June 2015) a tenderer to lift 2,500 MT of allotted quantity of molasses from another CSM (NPKRR, Nagapattinam) due to quality preferences, in contravention of the tender conditions. This had resulted in loss of ₹ 17.50 lakh to MRK CSM, Chidambaram.

Thus, lack of invitation of tenders at regular intervals, failure to offer complete quantity of stock for tenders and permitting lifting of excess quantity and from non-tendered mill resulted in non-observance of tender conditions and financial loss of ₹ 2.05 crore to CSMs.

Government replied (November 2016) that the tendered quantity for sale was fixed considering the storage capacity, demand, financial necessity and availability of stock. It was also stated that the excess quantity was allowed to liquidate the stock available. The reply was not acceptable as the reasons for offering of lower quantity in tenders and permitting quantity in excess of tendered quantity were not recorded and this resulted in loss to the CSMs, which calls for fixing of responsibility.

3.1.7.2 Sale of alcohol products

Alcohol products, stored for more than three months would deteriorate in quality and required re-distillation to make it saleable with resultant process loss of four to five *per cent*.

It was, however, seen that in one test checked distillery unit accumulated alcohol products beyond three months was disbursed with delay ranging from six to 14 months during 2013-14 to 2015-16 resulting in lesser value[54] of realisation than the cost of production which resulted in loss of ₹ 9.05 crore during 2013-14 to 2015-16 to the CSM.

Thus, absence of prompt disposal of the alcohol products within the potential storage period of three months led to deterioration of its quality and short realisation of revenue to the already financially strained CSM.

Government stated (November 2016) that the delay in disposal was due to dependence on the limited license holders to purchase the bulk quantity and periodicity of two months fixed during October 2000. It was also stated that necessary steps would be taken to modify the periodicity of tendering from the present two months.

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54 As against the cost of production of ₹ 25,290, ₹ 57,940 and ₹ 37,170 during 2013-14, 2014-15 and 2015-16, the average sale realisation per KLPD was ₹ 29,490, ₹ 32,500 and ₹ 33,121 respectively.

3.1.7.3 Sale of bagasse

Bagasse Sales Committee approved the tenders for sale of bagasse every year. The higher bidder quoted (November 2014) the approved minimum price of ₹ 2,250 per MT for 2014-15, but the same was not accepted and the Committee demanded higher price at ₹ 2,260 per MT during negotiation considering the higher demand for the product. As the bidder did not agree for higher price, the tender was cancelled (December 2014). However, for the same quantity the Committee approved (February 2015) the offer (without inviting retender) of ₹ 1,900 per MT in favour of Tamil Nadu Newsprint and Papers Limited resulting in loss of ₹ 47.75[55] lakh in the three test checked CSMs in contravention of procedure prescribed in the Policy Note of GoTN for 2014-15.

Government replied (November 2016) that the lower rate was approved to dispose the accumulated stock in the CSMs to avoid storage problems in view of continuous crushing and being a Government organisation sale was made by taking decision at mill level. The reply was not acceptable as the rate quoted by the first bidder was equal to the approved minimum price and the fact of accumulation of stock was foreseeable. Finalisation of rates without tender was in contravention of the prescribed procedure.

3.1.7.4 Tender violations not monitored

The tender conditions for the sale of molasses stipulated that if the allottee fails to lift the molasses within the permitted time, the Earnest Money Deposit (EMD) and Security Deposit (SD) remitted by the allottee would be forfeited without notice and the tender would be cancelled. The loss arising due to retender of the balance quantity would also be recovered from the cancelled tenderer.

Scrutiny of records, however, revealed that allotted quantity of 19,412 MT of molasses was not lifted (nine *per cent* of the allotment) by three[56] tenderers during 2013-14 to 2015-16. No action had been initiated to recover the EMD and SD. COS also failed to monitor the same.

Government stated (November 2016) that an amount of ₹ 78.78 lakh pertaining to allotted quantity of 13,103 MT of molasses was adjusted from EMD/SD from the defaulters and action on the balance quantity was pending in court of law.

3.1.8 Internal control

3.1.8.1 Ineffective enforcement of the Sugar Order

Clause 6 of the Sugar Order empowered the COS to link the sugarcane grower to a mill and prohibit or regulate export of sugarcane from any area by granting specific permits. Audit scrutiny of corporate plans of six test checked CSMs revealed that unregistered cane area of 12,643 acre were not linked to

[55] Kallakurichi I (15,124 MT sold at ₹ 2,030 per MT); Madurantakam (1,000 MT at ₹ 1,651 per MT) and Tiruttani (5,190 MT sold at ₹ 2,086 per MT).

[56] January 2014, December 2014 and February 2016.

the respective mills to improve cane supply for crushing resulting in ineffective enforcement of the Sugar Order to ensure adequate supply of sugarcane for crushing in CSMs.

Government replied (November 2016) that the unregistered sugarcane farmers evinced less interest in supplying to the CSMs and expected early payments for their product. The reply was not acceptable as COS is authorised to regulate the movement of sugarcane in the area and non-implementation of measures to make CSMs financially self sustainable as discussed in earlier paragraphs.

3.1.8.2 Inadequate monitoring of the recommendation of Expert Committee

Based on the recommendation of the Expert Committee for taking measures to ensure financial self sustainability (Paragraph No.3.1.3.1), GoTN directed (March 2014) the COS to submit periodical reports indicating the progress made on the implementation of the measures *viz.*, testing of new cane varieties, good seed nursery programme and addition of combustion catalyst in bagasse by CSMs. However, no such reports were furnished by the CSMs to GoTN (August 2016). COS called for the details from the respective CSMs at the instance of audit, indicating the absence of adequate monitoring. The COS replied that the details would be obtained from the respective CSMs. Absence of periodical reporting resulted in non-monitoring of the envisaged measures.

3.1.9 Conclusion

The Commissioner of Sugar is responsible for monitoring the functioning of the co-operative sugar mills by regulating movement of sugarcane. The audit of the management of co-operative sugar mills in the State revealed that COS failed to consider the earlier years' productivity while fixing the targets for cane crushing due to faulty planning. The CSMs suffered losses of ₹ 1,095 crore during 2013-14 to 2015-16, due to high cost of production, coupled with interest burden of ₹ 963.73 crore on the borrowings, due to which CSMs became financially weak. The measures recommended for attaining financial self sustainability were not effectively implemented. The objective of nursery programme to ensure the development of quality seeds for bulk plantations was not fulfilled, which impacted the optimum sugarcane production for crushing by CSMs. Utilisation of over-aged cane for crushing, non-adherence to prescribed norms in production activities and delay in completion of diversification and modernisation programme impacted the effective sugar recovery and resulted in revenue loss of ₹ 33.49 crore and excess expenditure of ₹ 47.98 crore. Due to lack of proper monitoring, above deficiencies were yet to be corrected. Some deficiencies continued to exist despite being pointed out in the CAG's Audit Report for the year 2008-09.

HIGHWAYS AND MINOR PORTS DEPARTMENT

3.2 Non-utilisation of Government of India grant

Non-adherence to guidelines in preparation of estimates for execution of road works resulted in non-utilisation of Government of India grant of ₹ 1.40 crore besides additional burden to the State exchequer.

Pradhan Mantri Gram Sadak Yojana (PMGSY) guidelines (November 2004) envisaged the executing agency to follow a well-established procedure for tendering through competitive bidding for all the projects. The guidelines also emphasised the State Governments to realistically assess the bid capacity of the tenderers to ensure timely completion of the projects with quality.

Director of Rural Development and Panchayat Raj, Government of Tamil Nadu (GoTN), Nodal Officer for implementation of the PMGSY in the State, had issued directions (December 2007) for conducting the inspection of roads by the departmental officials while preparing proposal for sanction and to ensure feasibility of the work.

The Government of India (GOI) accorded (February 2009) sanction to the proposals for road works under PMGSY submitted by GoTN under Phase VII. Consequently, GoTN accorded (March 2009) Administrative Sanction for taking up 1,591 rural road works at a cost of ₹ 858.99 crore, which included 75 road works in 33 packages to be executed by Highways Department for ₹ 49.21 crore.

Superintending Engineer, National Highways Division, Chennai (SE) awarded (June 2010) three works sanctioned for ₹ 1.48 crore under one package to a single bidder, for completion in eight months. The contractor completed one work and partially completed (four *per cent* - ₹ 3.18 lakh) other two works[57] despite grant of extension of time till August 2011.The contract was cancelled (June 2011) by the SE due to slow progress of work and orders issued for recovery of security deposit. The incomplete two works were deleted (February 2013) from PMGSY for reasons not on record. The bank guarantee submitted by the contractor towards security deposit was not renewed before expiry of its validity. The Department recovered (April 2016) ₹ one lakh and the balance amount of ₹ 2.71 lakh was yet to be recovered (December 2016).

Similarly, the work relating to the up-gradation of Elambakkam – Koovam Road sanctioned for ₹ 12.81 lakh under PMGSY was awarded (July 2010) to the lowest tenderer for completion in nine months. During inspection (December 2010) of the work by the Quality Monitor of the scheme, it was observed that the existing provision in the estimate was inadequate in view of the clayey soil of the site. Accordingly, revision of estimates with additional provisions was suggested for this work. As change of scope of work with additional provisions had involved additional cost to be borne by the State Government, the work was deleted from PMGSY.

[57] GNT Road –Iyyanallur Road – Km 3/0 – 5/6 - ₹ 64.40 lakh; GNT Road – SR Kandigai Road Km 0/0 -1/4 - ₹ 24.53 lakh.

Further, the work in respect of the up-gradation of Pakkam-Natambedu Road sanctioned by GOI under PMGSY (December 2012) for ₹ 38.54 lakh and awarded (January 2014) was also recommended for deletion from the PMGSY by the Quality Monitor of the scheme during inspection due to erroneous preparation of the estimates for execution of road work by the Divisional Engineer with the approval of Superintending Engineer, with a width of 3.75 meter as against the existing road width of 7.00 meter.

The GoTN accorded (October 2012 and July 2015) Administrative Sanction for execution of these deleted four works out of State Government's funds under the Comprehensive Road Infrastructure Development Programme, which were actually slated for execution with GOI's funds under PMGSY. Of these four works, three works were completed between May to July 2013 at the cost of ₹ 2.97[58]crore and the fourth work was in progress (May 2016).

We observed as under from the scrutiny of records;

- Two works were awarded to a single tenderer without assessing his bid capacity to execute the above works;
- The contractor failed to ensure timely completion of the work which was against the PMSGY guidelines;
- Non-execution of the above works resulted in their deletion from the PMGSY resulting in non-utilisation of GOI grant of ₹ 88.93 lakh;
- The department failed to make recovery of security deposit of ₹ 2.71 lakh due to its failure to renew the validity of bank guarantee in time;
- Lack of proper field inspection led to preparation of erroneous estimates for two works and consequent deletion of these works resulting in non-utilisation of GOI grant of ₹ 51.45 lakh.
- The field officials failed to maintain proper details about the width of the road to enable correct preparation of estimates resulting in non-execution of works.

Thus, non-adherence of PMGSY guidelines about timely completion of work and directions in preparation of estimates resulted in non-availing of GOI grant to the tune of ₹ 1.40 crore and incurring the expenditure from State funds besides delayed achievement of the objective of providing better roads to the public, which calls for fixing of responsibility of the defaulting officials for their lapses indicated above.

Government replied (August 2016) that the change in scope of work requiring additional provisions was necessitated due to damages in the road works caused by traffic and monsoon rains. It was also stated that erroneous preparation of the road width was due to occupation of jungle bushes in the road during the time of preparation of estimates. The Government reply was not correct as additional provisions in the estimates were recommended due to soil conditions and not owing to road condition.

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[58] GNT Road –Iyyanallur Road – Km 3/0 – 5/6 - ₹ 1.43 crore; GNT Road – SR Kandigai Road Km 0/0 -1/4 - ₹ 1.37 crore; Elambakkam – Koovam Road – Km-4/4 – 5/0 - ₹ 17.11 lakh.

3.3 Non-invoking of defect liability clause

Failure to rectify the defects in the widened portion invoking the defect liability clause necessitated rebuilding of the entire stretch and additional burden of ₹ 1.83 crore to the Government besides causing inconvenience to the road users for two years.

Clause 4.1 of commercial conditions of contract stipulates that any defects noticed in the major works within 36 months (defects liability period) from the completion of the work had to be rectified by the contractor at his own cost.

Government of Tamil Nadu (GoTN) accorded (September 2009) Administrative Sanction (AS) for widening road[59] under Comprehensive Road Infrastructure Development Programme (CRIDP) for ₹ 1.15 crore. The work was commenced (January 2010) and completed by the contractor in January 2011, with a defect liability period upto January 2014.

During the Conference of District Collectors (November 2011), it was highlighted that due to the movement of heavy loaded commercial vehicles, the condition of roads in the Ariyalur District had deteriorated well ahead of their designed life period. Accordingly, GoTN sanctioned (February 2012) ₹ 50 lakh for conducting a study of design of roads in high density vehicle corridors in the District and preparation of Detailed Project Report (DPR) on the restoration of roads. The DPR indicated (October 2012) that 42 km of roads in the District were in heavily damaged condition which included a portion (7.6 km) of the stretch in Virudhachalam-Madhanathur road (km 41/0-48/6) covered in the defect liability period. Based on the proposals (November 2012) of Chief Engineer (Construction and Maintenance), Chennai (CE), GoTN accorded (July 2013) AS for ₹ 86.45 crore for strengthening of 42 km of the roads and for execution in two phases during 2013-14 and 2014-15.

The work of rebuilding of the stretch from km 44/0 -46/4 for ₹ 4.00 crore was sanctioned under CRIDP. Superintending Engineer (SE) accorded (August 2013) Technical Sanction for ₹ 3.92 crore. The work was awarded (November 2013) to the lowest tenderer and completed (September 2014) with an expenditure of ₹ 3.57 crore.

Similarly, GoTN accorded (October 2013) sanction for rebuilding the stretch for km 41/0 - 44/0 for ₹ 7.24 crore. SE accorded (November 2013) Technical Sanction for ₹ 7.24 crore. The work was awarded (February 2014) to the lowest tenderer and completed (October 2014) with an expenditure of ₹ 6.47 crore.

From the scrutiny of records, we observed as under:

- The department failed to invoke the defect liability clause despite being aware (November 2011) of the deteriorated condition of the roads.
- Detailed Project Report had also indicated (October 2012) that there was drop in the pavement edges and shoulders of about three to seven

[59] Branching from km 6/8 of Virudhachalam – Tholuthur road to Madhanathur road (via) Jayankondam km 39/0-46/4.

centimetre in the stretch km 43/0-48/6 due to plying of vehicles over the pavement edges while overtaking.

- The estimates (August 2013 and November 2013) of the works had also indicated that the road was badly damaged with broken edges, pot holes, patches, cracks etc.
- Department failed to rectify these defects of shoulders and edges in the widened area, through the contractor invoking the defect liability clause, resulting in sinking and damage of the road in the stretch.
- Failure to rectify defects necessitated rebuilding the road stretch incurring an expenditure of ₹ 10.04 crore. The total expenditure included proportionate expenditure of ₹ 1.83 crore incurred in the widened portion of the stretch, during the currency of the defect liability period, which was additional burden to the GoTN.

Thus, failure of the Highways Department to rectify the defects in the widened portion of the road stretch invoking the defect liability clause had necessitated rebuilding of the entire stretch and additional burden of ₹ 1.83 crore to the Government besides causing inconvenience to the road users for two years.

Government replied (September 2016) that the central portion of the road was damaged due to heavily intensified traffic and premature failure factor, inviting public criticism. Hence, rebuilding of the road including the widened portion was undertaken to ensure correct cross profile for safe movement of traffic. The reply was not acceptable as premature failure in the central portion of the existing road indicated absence of proper field study before taking up the widening work and was thus a fit case for invoking defect liability clause.

3.4 Non-enforcement of defect liability clause

Preparation of estimates in contravention to guidelines and non-enforcement of defect liability clause resulted in avoidable expenditure of ₹ 1.27 crore towards Flood Damage Repair works besides premature execution of Periodical Renewal work.

The guidelines for selection of National Highway stretches for Improvement to Riding Quality Programme (IRQP) and Periodical Repairs (PR) (2002) envisaged provision of 25 mm Semi Dense Bituminous Concrete (SDBC)/Bituminous Concrete (BC) for PR works, where the traffic volume is very high and the road surface condition is reasonably fair for preservation of road surface. In respect of road stretches, showed signs of distress due to growing traffic and the surface of the road was uneven/cracked, IRQP guidelines envisaged laying of minimum 50 mm Bituminous Macadam (BM) and 25 mm SDBC. The guidelines also provided for improving the stretch, which was not strengthened for more than five years.

Chief Engineer (National Highways) Chennai (CE) forwarded (January 2014) proposal for executing PR in NH 45 C (Vikravandi – Kumbakonam - Thanjavur (VKT) road) to Government of India (GOI) for a total length of 31.2 km for ₹ 9.53 crore under IRQP. It was justified that the stretch, previously renewed during 2008-09, was heavily damaged in November 2013 monsoon and road developed lot of pot holes, cracks and sunken portions due to heavy intensity of traffic.

GOI accorded (January 2014) Administrative Approval (AA) of ₹ 9.50 crore, which included the reaches[60] of 14.2 km for ₹ 4.37 crore. Technical Sanction for the work was accorded (February 2014) for ₹ 9.50 crore by the CE for providing 50 mm BM for patching the pot holes and 30 mm of BC as wearing course for entire stretch. Tenders were invited (February 2014) and agreement was entered (February 2014) with the lowest tenderer for ₹ 8.49 crore for completion within six months. The agreement provided for rectification of the defects developed in the work executed by the contractor through defect liability clause for a period of three years from the date of completion and for taking risk insurance policy to guard against the damages by floods, earthquake, etc. The work commenced in February 2014 was completed (July 2014) with an expenditure of ₹ 8.39 crore, with defect liability period up to June 2017.

CE forwarded (10 December 2015) proposal for Flood Damage Repair (FDR) work to GOI for the same stretch of 14.2 km for ₹ 1.27 crore, justifying the road being severely damaged by the unprecedented rains (December 2015) and continuous heavy traffic, for providing Wet Mix Macadam (WMM), 50 mm BM and Open Graded Premix Carpet for the portions in the damaged stretch. CE also stated (December 2015) that the restoration of the road was required considering the severe damages to the road in the floods.

Simultaneously and before the receipt of sanction from GOI for FDR work, CE also proposed (12 December 2015) for execution of PR work for the same stretch by providing Granular Sub-base and WMM for 300 m and laying of 50 mm BM and 30 mm BC for the entire stretch of 14.2 km at ₹ 7.64 crore.

GOI accorded (December 2015) AA for FDR works for ₹ 1.27 crore[61]. Divisional Engineer, National Highways, Chennai accorded (December 2015) Technical Sanction and invited tenders. The work was awarded (12 January 2016) to the lowest tenderer and completed (27 January 2016) at an expenditure of ₹ 1.27 crore.

Before completion of the FDR work, Department invited (22 January 2016) tenders for execution of PR work of the same stretch without the sanction from GOI. Subsequently, GOI accorded (February 2016) AA for PR work for ₹ 7.38 crore and CE accorded (February 2016) Technical Sanction. The contract was awarded (19 February 2016) to the same contractor, who had undertaken FDR work being the lowest tenderer for ₹ 6.58 crore for completion within six months. The work commenced in February 2016 was completed in April 2016 for ₹ 6.56 crore.

We observed as under from the scrutiny of records:

- Though the stretch had heavy traffic and was heavily damaged with lot of pot holes / sunken portions due to rains and was previously renewed only during 2008-09, the technical estimate of PR work was approved

[60] Km 0/0-4/0, 7/0-8/0, 9/0-12/0, 14/0-20/2 = Total 14.2 km.

[61] Km 0/0-4/0 - ₹ 40.56 lakh; km 7/0-8/0 9/0-12/0 14/0-15/0 – ₹ 45.60 lakh; km 15/0-20/2 - ₹ 41.10 lakh.

(February 2014) only for laying of patch work and 30 mm BC, in contravention of IRQP guidelines.

- The road stretch was damaged within 18 months from the completion of PR work during December 2015 floods, which was within the defect liability period as per the agreement signed with the contractor. Though, it was the duty of the contractor to rectify the damaged work, yet it was done by the department through another contractor, as FDR works.
- As per agreement signed with the contractor, it was incumbent on the part of the department to get the work done at the risk and cost of the contractor by invoking the defect liability clause as the work was damaged during defect liability period. But the department failed to act per the agreement and instead incurred an additional avoidable expenditure of ₹ 1.27 crore on rectification work during the currency of defect liability period without invoking the said clause.
- Though the department had simultaneously forwarded proposals for both FDR and PR works within one week citing damages due to floods, invitation of tenders for PR work, without GOI sanction, during the execution of FDR work indicated premature execution of PR work, within one month from the completion of FDR work and 18 months from the completion of first PR work, incurring an expenditure of ₹ 6.56 crore.

Thus, preparation of estimates and execution of work in contravention to IRQP guidelines and non-enforcement of defect liability clause resulted in incurring additional avoidable expenditure of ₹ 1.27 crore towards FDR works, besides premature execution of second PR work for ₹ 6.56 crore within 18 months from the original PR work.

Government replied (August 2016) that the defect liability clause was erroneously included as three years instead of one year in the agreement considering the work executed in the first PR work. It was also stated that the PR work was executed prematurely to cater to the needs of the pilgrims movement to attend the local festival held once in 12 years as decided in the review meeting headed by the Chief Secretary of the State (January 2016). The reply was not acceptable as the tender documents and agreement clearly provided for defect liability clause of three years and the rates were quoted accordingly. Further, the fact remains that the proposal for PR work was forwarded in December 2015 itself, well before the review meeting.

3.5 Delay in according Revised Administrative Sanction

Delay in according Revised Administrative Sanction resulted in avoidable expenditure of ₹ 1.79 crore in the construction of High Level Bridge across Palar River.

With a view to expedite the issue of Revised Administrative Sanction (RAS) and to reduce delays in implementation of projects, Government of Tamil Nadu (GoTN) constituted (December 2008) a 'Committee for RAS' with five[62] members. The Committee was required to consider the proposals and submit its recommendations to the Government within three days on receipt of proposals from the Department, for issue of final orders. Government while permitting (December 2008) the Chief Engineers to invite tenders pending receipt of RAS to avoid delay in entrustment of works to the contractors, restricted issue of work orders prior to issue of RAS.

The audit scrutiny of records revealed that Chief Engineer (Highways), (CE) NABARD and Rural Roads, Chennai submitted a proposal (June 2010) for construction of submersible bridge[63] across Palar River in Vaniyambadi Municipal limits at a cost of ₹ 3.90 crore without getting the approval from the CE (H), Designs and Investigation in respect of the design of submersible bridge. Based on the proposal, GoTN accorded (August 2010) Administrative Sanction for the work of construction of submersible bridge. However, after field investigation and based on the site conditions, CE, (Design and Investigation), Chennai, prepared (November 2010) the drawings and quantity estimate for construction of High Level Bridge[64] (HLB) instead of submersible bridge. Based on the approved design, estimate was prepared (December 2010) for ₹ 7.00 crore and the same was technically approved (January 2011) by CE, NABARD and Rural Roads.

We further observed that the department submitted (January 2011) proposal for RAS due to change in the scope of work i.e., High Level Bridge instead of Submersible Bridge and the same was approved by RAS Committee in February 2011. CE, NABARD and Rural Roads communicated the recommendations of RAS committee to Government (February 2011). However, the GoTN accorded the RAS for ₹ 7.00 crore only in April 2012 i.e., after a gap of 14 months.

The department invited (February 2011) tenders for construction of HLB and the lowest bid was approved (March 2011) for ₹ 6.66 crore[65] (7.50 *per cent* above estimate rate of 2010-11) which was valid till 28 May 2011. Pending approval of RAS, the department requested (May 2011) the bidder to extend the validity period of the offer beyond 28 May 2011. The validity of offer was extended and accepted twice, till 28 November 2011, but the bidder refused to extend its validity beyond this date. Owing to the refusal of contractor to extend the validity of tender beyond 28 November 2011, the tender was cancelled (April 2012) and fresh tenders were invited (May 2012) after obtaining the RAS for ₹ 7.00 crore. The work of construction of HLB was awarded to the lowest bidder for ₹ 8.57 crore (38.36 *per cent* above estimate rate of 2010-11) and an agreement was entered (July 2012) for completion of work within 18 months. The HLB work commenced in July 2012 was completed in September 2013 at a cost of ₹ 8.45 crore.

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62 (i) Representative of Finance Department; (ii) Representative of Highways and Minor Ports Department; (iii) Chief Engineer (General), (iv) Chief Engineer (Design and Investigation) and (v) Chief Engineer of concerned wings of Highways Department.

63 Submersible bridge is a bridge which gets submerged during high floods in monsoon for some duration but is available for traffic otherwise.

64 High Level Bridge is a bridge having its Bottom of Deck fixed above the Maximum Flood Level taking into account the vertical clearance.

65 Value put to tender ₹ 6.20 crore x 7.50 per cent = ₹ 6.66 crore.

Due to increase in the tender percentage and involvement of additional work, CE requested (August 2013) for second RAS for ₹ 9.52 crore which was accorded (August 2015) by GoTN. The final bill for a total expenditure of ₹ 8.95 crore towards construction of HLB was paid in October 2015.

We observed as under from the scrutiny of the records:

- Though RAS Committee had submitted its recommendations to the GoTN within one month after receipt from the department, (delay of 27 days against permitted 3 days) the GoTN had taken 14 months to accord its approval for RAS thereby defeating the very purpose of the issue of orders by the Government in 2008 for ensuring speedy and timely execution of work.
- CE, Highways had submitted proposal to GoTN for construction of submersible bridge without getting approval from the CE, Design and Investigation about the design of the bridge and without ensuring field investigation for the type of the bridge required which resulted in abandonment of the initial proposal to construct submersible bridge, resulting in the need for RAS for HLB.
- Due to delay of 14 months in according approval to the RAS by the GoTN despite extension of the validity of tender twice by the first bidder, fresh tenders had to be invited for the construction of HLB. The execution of HLB work due to above delays entailed avoidable expenditure of ₹ 1.79 crore (₹ 8.45 crore – ₹ 6.66 crore = ₹ 1.79 crore).

Thus, the above lapses on the part of the officials of the department and delay in according its approval by the GoTN, resulted in the award of work to another contractor at an avoidable expenditure of ₹ 1.79 crore.

Government replied (June 2016) that the delay in according approval to the RAS was attributed to the enforcement of model code of conduct during Tamil Nadu Legislative Elections, 2011 and subsequent administrative procedure involved. The reply was not acceptable as the model code of conduct was in force only upto April 2011 and the previous offered rate was valid till 28 November 2011 but it could not be approved due to delay in granting RAS.

AGRICULTURE DEPARTMENT

3.6 Duplication in selection of blocks

Duplication in selection of blocks, absence of weather forecasting data and availability of incomplete and unreliable weather data in the server resulted in avoidable extra expenditure of ₹ 1.42 crore and blocking of funds of ₹ 1.03 crore besides non-achievement of the envisaged objective.

Tamil Nadu Agriculture University (TNAU) proposed (December 2007) the establishment of Automatic Weather Station[66] (AWS) in 224 out of 385 blocks of the State with the objective to gather real time data for generating weather forecast for farming decisions. Government of Tamil Nadu (GoTN) accorded

[66] AWS is a meteorological station at which observations are made and transmitted automatically. It is cheaper and best way of getting real-time weather data which will help to develop location specific forecast for farm management decisions.

(March 2008) Administrative Sanction (AS) of ₹ 16.90 crore for the same. During a co-ordination meeting[67] (August 2008) with Indian Meteorological Department (IMD), it was decided to exclude 31 blocks in which AWS were to be installed by IMD to avoid duplication in establishment of AWS. The meeting also recommended for finalisation of modalities for sharing of data.

TNAU invited (July 2008) tenders and the work of establishment of 224 AWS was awarded (April 2009) for ₹ 14.88 crore. The establishment of 224 AWS was completed in March 2010 incurring an expenditure of ₹ 14.74 crore.

Based on the proposals (November 2010 and March 2011) submitted by TNAU, GoTN accorded (January 2011 and October 2011) AS for establishment of AWS in the remaining 161 Blocks of the State at a cost of ₹ 12.94 crore. TNAU invited (February 2012) tenders for establishment of 161 AWS. The work was awarded (October 2012) to the lowest tenderer for completion within six months i.e., by April 2013 at a cost of ₹ 8.81 crore. However, the work was completed only in March 2015, incurring an expenditure of ₹ 7.39 crore, due to delay in selection of sites and import of components by the contractor.

The real time data from AWS was stored in the central server of TNAU and data from global weather network was downloaded through dedicated leased lines. The processed data was uploaded for benefit of farming community. The dedicated leased lines facility was available till 31 March 2014 with Airtel Internet service provider. Tenders floated for extension of facility was cancelled due to the decision to procure services from Bharat Sanchar Nigam Limited and tenders were finalised by 31 March 2016.

In the meantime, TNAU proposed (October 2012) for Development of Agro Advisory services using block level AWS Data to automatically generate and disseminate advisories to farmers through mobile phones besides hosting the data on the website. The Project contemplated procurement of servers and development of software. GoTN sanctioned (December 2012) ₹ 3.50 crore for the same. TNAU incurred (March 2014) ₹ 1.03 crore for procurement of hardware and contractual services for consolidation of basic data on cropping system, crop preferences, etc. The delayed consolidation of basic data and approval of technical specifications of the software led to non-finalisation of tenders for development of software even after 42 months from sanction (June 2016).

TNAU also entered (August 2013) into Annual Maintenance Contract (AMC) for 224 AWS at a cost of ₹ 1.73 crore for two years for maintenance of AWS in working condition and to ensure receipt of data to the central server for uploading in the web.

We observed as under from the scrutiny of records:

- Despite the decision taken during co-ordination meeting (August 2008) to avoid duplication of establishment of AWS in the same blocks by IMD and Agriculture Department, establishment of 31 additional AWS

[67] Meeting on the establishment of AWS was chaired by Agriculture Production Commissioner and attended by Deputy Director General, Regional Meteorological Centre, Chennai, Commissioner of Agriculture and Professor and Head, Agro Climatic Research Centre, TNAU.

in the blocks where AWS had already been installed by IMD, resulted in avoidable extra expenditure of ₹ 1.42 crore[68], which indicated failure of the TNAU officials to perform their assigned duties.

- Delay in finalisation of dedicated leased line with the service provider had resulted in non-availability of the weather forecasting facility of the data collected from AWS, from April 2014 to June 2016 thereby depriving the farmers of using the data collected from the AWS for their benefit.
- The objective to provide weather based Agro Advisory services to the farmers through mobile phones remained unachieved even after 42 months from the sanction of ₹ 3.50 crore and incurring an expenditure of ₹ 1.03 crore towards procurement of hardware and other contractual services due to the delay in consolidation of the basic data required for the development of the software.
- Despite the conditions of AMC, test check of data analysis revealed that no data was received from 16 out of 224 AWS during the entire AMC period due to theft of some parts of AWS and damage of solar panels, resulting in additional expenditure of ₹ 12.36 lakh[69] besides undue benefit to the contractor.

The AWS weather data indicating air temperature, humidity, wind speed and direction, soil moisture and temperature, rainfall, etc, uploaded in the central server of TNAU for the period from January 2010 to July 2015 was obtained and a test check of the data pertaining to 271 out of 385 blocks (3,13,044 records) carried out revealed the following:

- The data relating to 211 AWS was not available continuously for a period of three to 54 months. The data was not available for more than 12 months in respect of 81 out of 211 AWS (38 *per cent*). Further, no data on weather variable like temperature, humidity, soil moisture, etc. was available in eight to 41 *per cent* of records indicating incomplete weather forecasting to the farming community.
- Abnormal values of temperature more than 60^0 C and minus 40^0 C in 995 records, soil moisture of more than 100 *per cent* in 2,387 records, soil temperature of more than 80^0 C and minus 40^0 C in 22,421 records, solar radiation and atmospheric pressure was in deviation of the range prescribed in 99,667 and 16,213 records respectively, were captured. Uploading of data with abnormal values indicated communication of unreliable weather data to the farmers.

Thus, duplication in selection of blocks for installation of AWS in 31 blocks, delay in completion of weather based Agro Advisory services to the farming community, absence of weather forecasting data and incomplete and unreliable weather data in the server resulted in avoidable expenditure of ₹ 1.42 crore and blocking of funds in procurement of hardware of ₹ 1.03 crore besides non-achievement of the envisaged objective of the project.

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68 31 AWS* ₹ 4.59 lakh = ₹ 1.42 crore.

69 AMC for 224 AWS = ₹ 1.73 crore. AMC for 16 AWS = ₹ 1.73 crore / 224 * 16 = ₹ 12.36 lakh.

Government replied (October 2016) that the data transmitted through satellites by IMD and through servers by TNAU cannot be synchronised and hence installation of additional AWS was undertaken. The non-availability of weather forecasting data was due to cancellation of approved tender and finalisation of tender from Bharat Sanchar Nigam Limited and it was also stated that during the period weather forecast from IMD was uploaded in the server twice a week. With regard to incomplete and unreliable data it was stated that the same was due to technical issues like signal strength of the sim card, sensor issues and lack of experience and the same would be corrected in future.

The reply was not acceptable as the data could be synchronized as it was admitted that the weather forecasting data obtained from IMD was uploaded in the TNAU server, for two days in a week, during the period of non-finalisation of contract for leased line. Further, the TNAU failed to finalise the modalities for sharing of the data as recommended by the Co-ordination Committee.

3.7 Construction of godowns without adequate height

Non-adherence of GOI instructions and construction of godowns without adequate height and absence of three phase power supply to operate Seed Processing Units resulted in non-availing of GOI grant of ₹ 8.60 crore and blocking of funds of ₹ 4.66 crore, besides non-achievement of the envisaged objective.

Commissioner of Agriculture (COA) submitted (July 2011) a proposal to Government of India (GOI) for ₹ 16.75 crore to strengthen the seed processing infrastructure facilities of the State for distribution of quality seeds to farmers, under Seed Village Scheme (SVS). The proposal envisaged procurement of 10 Seed Processing Units (SPUs) (₹ 30 lakh per unit), construction of 10 godowns with the capacity of 500 MT (₹ 22.50 lakh per godown), to accommodate these SPUs and construction of 46 seed godowns with the capacity of 1,000 MT (₹ 25 lakh per godown) to store the processed seeds.

Government of India accorded (February and March 2012) approval for ₹ 14.98 crore against the proposal of COA for ₹ 16.75 crore under SVS and released (February and March 2012) ₹ 6.37 crore to the Government of Tamil Nadu (GoTN) subject to the condition that the GoTN will ensure submission of quarterly physical and financial progress to GOI. The GoTN accorded administrative approval and further released (April 2012 and November 2012) ₹ 6.37 crore to COA.

Commissioner of Agriculture submitted (April 2012) a proposal under the Centrally Sponsored Scheme named as National Agriculture Development Programme (NADP) for ₹ 11.92 crore for procurement of 25 SPUs and construction of 25 godowns having 1,000 MT capacity, to accommodate SPUs for distribution of quality seeds to farmers. After approval of the proposal (April 2012), GOI released (June 2012) ₹ 11.92 crore which was further released by GoTN (July 2012) to the COA.

Further, the Commissioner of Agriculture requested (May 2012) the Public Works Department (PWD) for preparation of type design with required[70] measurements for the construction of godowns to accommodate these 35 SPUs (10 under SVS and 25 under NADP) having approximate height of 24 feet. It is pertinent to note that as per the order of the GoTN (July 2012), the Agriculture Department was responsible for ensuring technical and quality control aspects of the construction of godowns and procurement of SPUs. The type design[71] prepared (September 2012) by PWD was forwarded to Agriculture Department for countersignature for ensuring its correctness with reference to the technical requirements.

We observed that the work relating to construction of godowns was awarded (December 2012 to June 2015) to various contractors and the construction of godowns[72] was completed between July 2013 to July 2016 incurring expenditure of ₹ 9.26 crore. It was, however, noticed that the Agriculture Department constructed only 10 out of 46 seed godowns with 1,000 MT capacity under SVS due to short release of funds. Moreover, the sites were handed over for construction of godowns with delays ranging from one month to 15 months from the preparation of type design due to delay in transfer of land sites from other Departments.

We further noticed that the Commissioner of Agriculture procured 35 SPUs at the lowest rate of ₹ 26.50 lakh per unit, between November 2013 and October 2015 after following tendering process.

Details of execution of works under these two schemes were as under:

Seed Village Scheme (SVS)		National Agriculture Development Programme (NADP)		Remarks
Proposal	**Procurement/ construction**	**Proposal**	**Procurement / construction**	
To purchase 10 SPUs	10 SPUs were purchased	To purchase 25 SPUs	25 SPUs were purchased	Two SPUs out of 10 purchased under SVS and three SPUs out 25 purchased under NADP scheme were not utilised due to non-installation of three phase power supply connection.
To construct 10 godowns to accommodate SPUs	10 godowns were constructed	To construct 25 godowns to accommodate SPUs	25 godowns were constructed	Eight godowns[@] out of 25 godowns were constructed having height of 13-14 feet as against the required height of 26 feet.
To construct 46 seed godowns for storing processed seeds	Only 10 Seed godowns were constructed			Only 10 godowns were constructed due to short release of funds.

[@] Out of eight SPUs, two were installed at alternate sites and six SPUs were kept idle till date due to inadequate height of godowns.

From the above table it may be seen that out of 35 godowns constructed for SPUs under SVS and NADP scheme, eight were defective in height and five

70 (i) Approximate size for godown housing SPU and seed storage 1,000 MT- 100 feet x 30 feet as size of the SPU design was 40feet x 20 feet x 24 feet height.

71 A-2379 and Drg No 1 with the height of the building as eight metre (26 feet).

72 35 godowns for accommodating SPUs i.e. 10 under SVS and 25 under NADP besides 10 out of 46 godowns for storing seeds.

were not utilised due to non-installation of three phase power supply connection. The remaining 22 godowns were in operation.

We observed the following lapses from the scrutiny of records:

- Though GOI had released funds under SVS during March 2012, delay in handing over of site for construction of SPU godowns resulted in delay in supply of SPUs and postponement of the attainment of the objective of the scheme by more than two years from the date of release due to failure of the Agriculture department in ensuring timely availability of land sites.

- Despite specific instructions of the GOI, the Agriculture Department did not submit the periodical physical and financial progress reports to GOI under SVS for release of balance funds under the scheme which resulted in non-receipt of GOI funds of ₹ 8.60 crore[73] and non-construction of 36 out of 46 approved seed godowns to store the processed seeds for supply to farmers.

- Eight godowns under NADP scheme were constructed involving an expenditure of ₹ 1.95 crore having height of 13 and 14 feet to accommodate SPUs as against the required height of 24 feet. Failure of the officials of the PWD to make appropriate type design as per prescribed specifications and the careless attitude of the officials of Agriculture Department to ensure adherence of technical specification despite specific instructions issued by the GoTN led to defective construction of godowns.

- Six out of eight SPUs procured at a cost of ₹ 1.59 crore (₹ 79.50 lakh already paid to the supplier and committed liability of ₹ 79.50 lakh for payment at the time of installation) were lying idle since their procurement till date (January 2017) due to inadequate height of the godowns. The balance two SPUs were installed (January 2015) at alternate sites in Tiruvallur and Tiruvannamalai Districts, in addition to the existing processing units thereby depriving the benefit of processing the seeds in the envisaged areas.

- Due to the absence of three phase electricity connection in the godowns, five installed SPUs, as indicated in the above table, could not become operational due to which the intended benefits could not be derived.

Thus, non-adherence to instructions of GOI, preparation of defective type design of godowns leading to construction of eight godowns with grossly inadequate height and absence of three phase power supply in five godowns, resulted in non-receipt of balance GOI grants of ₹ 8.60 crore and blocking funds of ₹ 4.66 crore[74] for two years besides non-achievement of the objective of strengthening the infrastructure facilities of Seed Processing Units in the State.

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73 GOI approval ₹ 14.98 crore – GOI funds released ₹6.37 crore = ₹8.60 crore.

74 SPUs ₹ 0.79crore; godowns ₹ 1.95 crore; SPUs and godowns ₹ 1.92 crore.

While accepting audit observations, the Government replied (June 2016) that Public Works Department has been requested to rectify the height defects and on completion of the rectification works, the erection of SPUs would be undertaken. Government further stated (October 2016) that necessary steps would be taken to obtain the balance amount of ₹ 8.60 crore from GOI after submission of Utilisation Certificate to GOI by the implementing agency.

Since the overall objectives of both the schemes could not be achieved, we recommend the Government to fix the responsibility of the concerned officials of the PWD and Agriculture department for their lapses as indicated above.

PUBLIC WORKS DEPARTMENT

3.8 Non-adherence to Standard Schedule of Rates

Non-adherence to the Standard Schedule of Rates to determine the quantity of materials for the construction of spurs led to additional expenditure of ₹ 2.38 crore.

Standard Schedule of Rates of Public Works Department (2010-11) prescribed deduction of 40 *per cent* for the quantity of voids[75] while adopting stack measurements[76] of the chiseled hard rock and for making payments either on the basis of solid measurements or after deducting 40 *per cent* of stack measurements, whichever is less.

Based on the proposals of Chief Engineer (Plan Formulation), Public Works Department (Water Resources Department) (PWD-WRD) (CE), Government of Tamil Nadu accorded (November 2010) administrative sanction to carry out flood protection work (18 packages) for ₹ 232.73 crore[77] in Cuddalore and Villupuram districts under Flood Management Programme with 75 *per cent* Government of India assistance and the balance from the State funds. This included construction of 79 numbers of spur[78] with side filling utilising hard blue granite stone weighing 50 to 150 kg to protect the foundation of the groynes and the river beds from erosion in Vellar Basin Division, Vridhachalam and Special Project Division, Cuddalore.

The technical sanction for the work was accorded (November 2010) by CE, Chennai Region estimating the total area required for filling with hard granite stones around the spurs as 48,025 cu m to act as a flood protection barrier. The contract for construction of spurs and supply of hard granite stones (including conveyance and labour charges) was awarded (January and February 2011) to the lowest tenderer. The agreement was entered into with the contractor which provided for pre-weighing and post-weighing measurements of the granite stones to determine the solid weight of stones utlised in the work and for

75 Empty space between stones.

76 Arrangement of material in a particular shape and measurement of area occupying the materials.

77 G.O.Ms.No.326 Public Works Department, dated 10 November 2010 (six packages - ₹ 68.41 Crore); G.O.Ms.No.329 Public Works Department, dated 11 November 2010 (12 packages - ₹ 164.32 Crore).

78 Spurs protected the river bank by keeping the flow away from it. The spurs consisted of construction of cement concrete groynes.

payments on the basis of these measurements. The construction of spurs and supply of hard granite stones was completed (March 2012) incurring an expenditure of ₹ 28.59 crore.

From the scrutiny of records, we observed as under:

- The payments to the contractor for the granite stones supplied for the work was not made on the basis of solid weight arrived after pre-weighing and post-weighing measurements, as specified in the agreement conditions, but based on the stack measurements.
- Department failed to deduct the prescribed 40 *per cent* towards voids from the stack measurements, as specified in the Standard Schedule of Rates, while determining the weight of granite stones utilised for the work.
- Failure to consider the area of voids in the stack measurement resulted in excess payment of ₹ 2.38 crore to the contractor towards 50,349 MT of granite stones which were not supplied for the work as detailed in the following table, which warrants recovery of excess payment from the contractor.

Table: 3.1 Details of excess usage of Stones and cost of excess stone utilised in Spur

Package Number	Area to be filled with stone (in cum)	Weight of the required stone with voids (in MT)	Weight adopted by the Department without voids (in MT)	Stone utilised as per Measurement book (in MT)	Difference between actually used and requirement considering of voids (in MT)	Rate quoted in the agreement for stones (in ₹ per MT)	Cost of excess utilised stone (in ₹)
1	2	3 (2x1.59)	4	5	6 (5-3)	7	8 (6x7)
Vriddhachalam							
TN-02 Package-3	1,800	2,862	4,680	4,670	1,808	410	7,41,280
TN-03 Package-1	5,566	8,850	14,758	14,668	5,818	500	29,09,000
TN-03 Package-2	3,944	6,271	10,453	10,453	4,182	600	25,09,200
TN-03 Package-3	5,589	8,887	14,817	14,810	5,923	506	29,97,038
TN-03 Package-4	8,649	13,752	22,924	22,922	9,170	475	43,55,750
TN-03 Package-11	2,532	4,026	6,710	6,679	2,653	500	13,26,500
TN-03 Package-12	5,828	9,267	15,445	15,445	6,178	475	29,34,550
Cuddalore							
TN-02 Package-1	10,750	17,093	27,950	27,946	10,853	420	45,58,260
TN-02 Package-4	2,901	4,613	7,543	7,915	3,302	388	12,81,176
TN-03 Package-8	464	738	1,230	1,200	462	300	1,38,600
Total	**48,025**	**76,359**	**1,26,510**	**1,26,708**	**50,349**		**2,37,51,354**

(Source: Details furnished by Department)

- Department had correctly followed the prescribed procedure of reduction of 40 *per cent* towards voids for payments to contractors for supply of granite stones adopting stack measurements in two coastal protection works executed in the same Vridhachalam Division. Similar action was not taken by the department in the instant case.

Thus, adoption of stack measurements in violation to the agreement conditions, failure to deduct prescribed 40 *per cent* towards voids in allowing payments based on stack measurements resulted in excess payment of ₹ 2.38

crore to the contractor towards granite stones which were not supplied for the work, for which responsibility needs to be fixed.

We referred (November 2016) the matter to Government and their reply was awaited (January 2017). Chief Engineer, WRD replied (November 2016) that the deduction of 40 *per cent* towards voids was considered to determine the rate for one MT of granite stones in the estimates and hence not deducted from the stack measurements. The reply of the Department was not acceptable as the payments were required to be made to the contractor on the basis of agreement and not on the basis of estimates prepared by the Department.

Chennai
Dated 22 March 2017

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

Countersigned

New Delhi
Dated 29 March 2017

(SHASHI KANT SHARMA)
Comptroller and Auditor General of India

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)	104	306
	Public Works Department (Buildings)	135	359
2	Highways and Minor Ports	222	687
3	Environment and Forests	119	430
4	State Autonomous Bodies	38	194
5	Agriculture	204	667
6	Animal Husbandry	35	67
	Dairy Development	11	29
	Fisheries	24	71
7	Handlooms and Textiles	48	196
	Khadi and Village Industries	2	10
	Sericulture	3	5
8	Industries	39	83
	Micro, Small and Medium Enterprises	2	7
9	Tourism	19	37
Total		**1,005**	**3,148**

Annexure 2
(Referred to in Paragraph 2.6.2)
List of Project Based Activities not submitted to GOI for release of funds

Sl No.	Name of the Project	Project cost (₹ in crore)
1	Training / study tour of technical staff / field functionaries (outside India)	1.50
2	Integrated Post Harvest Management (Pre-cooling unit)	0.12
3	Refer van	0.06
4.	Bio-Control Lab	0.40
5.	Integrated Post Harvest Management (Pre-cooling unit)	1.20
6.	Integrated Post Harvest Management (Cold storage unit)	0.02
7.	Integrated Post Harvest Management (Refer vans / containers)	0.29
8.	Whole Sale Markets (Credit Linked back-ended)	1.00
9.	Bio Control Lab (Private Sector)	0.80
10.	Organic Farm	0.60
11.	Organic Certification	0.30
12.	Training / study tour of technical staff / field functionaries (outside India)	0.50
13.	Integrated Post Harvest Management (Pre-cooling unit)	0.72
14.	Integrated Post Harvest Management (Pre-cooling unit)	4.80
15.	Integrated Post Harvest Management (Cold storage unit)	4.20
16.	Whole Sale Markets	0.08
17.	Proposals for pepper	2.29
18.	Organic Farm	1.60
19.	Organic Certification	1.20
20.	Front Line Demonstration	0.25
21.	Integrated Post Harvest Management (Cold Storage-Type 2)	0.04
22.	Integrated Post Harvest Management (Cold Storage-Type 2 with Add on technology)	
23.	Technology induction and modernization of cold chain	0.02
24.	Integrated Post Harvest Management (Ripening chamber)	0.44
25.	Centre of Excellence	11.00
26.	Training / study tour of technical staff / field functionaries (outside India)	0.90
Total		**34.33**

Annexure 3
(Referred to in Paragraph 2.8.2.3)
Details of the area of new gardens created for perennial crops, fruits and flowering crops

Year	Raising of plantation				First year maintenance				Second year maintenance			
	Target		Achievement		Target		Achievement		Target		Achievement	
	P	F	P	F	P	F	P	F	P	F	P	F
2011-12	47,100	78.78	40,863	32.45	16,699	6.74	15,379	2.63	0	0	0	0
2012-13	8,730	14.74	6,481	21.63	11,329	5.61	10,227	9.28	820	0.64	665	0.51
2013-14	10,215	17.74	10,205	18.89	4,059	1.62	3,651	1.73	2,575	1.74	2,364	1.56
2014-15	12,924	17.11	12,714	18.01	4,202	1.85	4,014	2.02	0	0	0	0
2015-16	12,318	22.31	12,169	22.01	0	0	0	0	0	0	0	0
Total	**91,285**	**150.68**	**82,432**	**112.99**	**39,220**	**15.82**	**33,271**	**15.66**	**3,395**	**2.38**	**3,029**	**2.07**

(P – Physical; F – Financial)
(P – Physical (in ha); F – Financial (₹ in crore))

Annexure 4
(Referred to in Paragraph 2.8.2.3)
The targets and achievements of raising and maintenance of perennial crops

Year	Raising of plantation				First year maintenance				Second year maintenance			
	Target		Achievement		Target		Achievement		Target		Achievement	
	P	F	P	F	P	F	P	F	P	F	P	F
2011-12	17,150	28.84	14,174	9.97	-	-	-	-	-	-	-	-
2012-13	6,064	7.68	3,793	12.36	11,294	5.58	10,192	9.25	-	-	-	-
2013-14	4,350	6.37	4,337	6.59	4,059	1.62	3,651	1.73	2,575	1.74	2,364	1.56
2014-15	4,544	4.43	4,665	5.36	4,202	1.85	4,014	2.02	0	0	0	0
2015-16	--	--	---	--	0	0	0	0	0	0	0	0
	32,108	**47.32**	**26,969**	**34.28**	**19,555**	**9.05**	**17,857**	**13.00**	**2,575**	**1.74**	**2,364**	**1.56**

(Source: detailed furnished by TANHODA)
(P – Physical (in ha); F – Financial (₹ in crore))

The targets and achievements of raising and maintenance of non-perennial crops

Year	Raising of plantation				First year maintenance			
	Target		Achievement		Target		Achievement	
	P	F	P	F	P	F	P	F
2011-12	10,100	19.98	8,960	5.01	--	--	--	--
2012-13	800	3.20	852	3.86	35	0.03	35	0.03
2013-14	1,200	3.74	1,200	3.74	0	0	0	0
2014-15	585	1.49	339	0.86	0	0	0	0
2015-16	--	--	--	--	0	0	0	0
Total	**12,685**	**28.41**	**11,351**	**13.47**	**35**	**0.03**	**35**	**0.03**

(Source: detailed furnished by TANHODA)
(P – Physical (in ha); F – Financial (₹ in crore))

Annexure 5

(Referred to in Paragraph 3.1.4.1)

The targets and achievements of development of sugarcane sett through nurseries

(Area in acre)

Name of CSM	Year	Nursery area						Plantation area		
		Primary		Secondary		Commercial		Area utilisable for bulk plantation using sugarcane sett developed from commercial nursery	Actual area utilised for development of Bulk Plantation	
		T	A	T	A	T	A		T	A
1	2	3	4	5	6	7	8	9	10	11
Amaravathi	2012-13	12	9.10 (76)	70	65.95 (94)	600	147.75 (25)	1,034.25	4,900	672 (14)
	2013-14	12	9.80 (82)	70	58.75 (84)	600	350.75 (58)	2,455.25	5,000	240 (5)
	2014-15	12	11.10 (93)	70	71.15 (102)	600	352.70 (59)	2,468.90	4,900	4,289 (88)
Kallakurichi I	2012-13	15	15.90 (106)	105	110.85 (106)	735	914 (124)	6,398.00	6,600	4,166 (63)
	2013-14	15	16.95 (113)	105	117.10 (112)	735	605.05 (82)	4,235.35	8,400	3,943 (47)
	2014-15	15	16.75 (112)	105	120.00 (114)	735	548.30 (75)	3,838.10	8,000	3,990 (49)
Madurantakam	2012-13	25	17.50 (70)	150	62.80 (42)	1,000	170.75 (17)	1,195.25	6,000	1,058 (18)
	2013-14	25	27.55 (110)	150	79.05 (53)	1,000	645.00 (65)	4,515.00	5,500	2,040 (37)
	2014-15	25	24.45 (98)	150	114.20 (76)	1,000	607.70 (61)	4,253.90	6,000	1,981 (33)
National	2012-13	20	21.10 (105)	140	126.25 (90)	900	538.95 (60)	3,772.65	7,700	1,292 (17)
	2013-14	20	20.05 (100)	140	119.55 (85)	900	374.55 (42)	2,621.85	7,800	940 (12)
	2014-15	20	20.25 (101)	140	133.90 (96)	900	584.50 (61)	4,091.50	7,000	1,852 (26)
NPKRR	2012-13	25	24.60 (98)	250	226.30 (91)	1,050	316.45 (30)	2,215.15	6,050	1,168 (19)
	2013-14	25	25.40 (102)	250	193.25 (77)	1,050	531.65 (51)	3,721.55	5,500	968 (18)
	2014-15	25	19.20 (77)	250	124.15 (50)	1,050	317.85 (30)	2,224.95	6,000	786 (13)
Tiruttani	2012-13	25	25.00 (100)	150	148.35 (99)	1,000	847.70 (85)	5,933.90	7,150	3,370 (47)
	2013-14	25	25.10 (100)	150	150.75 (101)	1,000	616.10 (62)	4,312.70	8,550	4,755 (56)
	2014-15	25	25.60 (102)	150	149.75 (100)	1,000	581.25 (58)	4,068.75	8,500	2,943 (35)
							Total	**63,357**	**1,19,550**	**40,453**
Average achievement			**97 *per cent***		**87 *per cent***		**58 *per cent***			**34 *per cent***

(T – Target; A- Achievement)

Annexure 6
(Referred to in Paragraph 3.1.4.3)
The details of procurement of non-optimum age sugarcane

CSM	Year	Total Cane procured (MT)	Over-aged cane (> 13 months) (MT)	Percentage of non-optimum age cane to total procurement
Amaravathi	2013-14	71,395	6,910	10
	2014-15	72,112	36,260	50
	2015-16	80,214	6,902	9
Kallakurichi I	2013-14	3,40,323	1,13,698	33
	2014-15	2,88,827	2,44,932	85
	2015-16	3,44,471	2,85,399	83
Madurantakam	2013-14	1,16,085	56,562	49
	2014-15	1,80,579	32,910	18
	2015-16	1,86,622	1,21,964	65
National	2013-14	1,28,498	11,429	9
	2014-15	2,05,254	37,131	18
	2015-16	2,34,370	1,23,502	53
Tiruttani	2013-14	2,96,490	1,39,724	47
	2014-15	2,52,490	2,36,381	94
	2015-16	2,35,628	1,90,844	81
NPKRR	2013-14	1,73,505	85,381	49
	2014-15	1,19,444	86,801	73
	2015-16	67,183	55,085	82

Annexure 7
(Referred to in Paragraph 3.1.4.3)
The details of sugarcane crushed, sugar produced and short recovery of sugar

Name of the CSM	Year	cane crushed (MT)	Sugar produced (Quintals)	Recovery at 9.5 *per cent* (Quintals)	Short recovery (Quintals)	Rate (₹ per Quintals)	Value of short recovery (₹ in lakh)
Kallakurichi I	2013-14	3,40,323	2,49,100	3,23,307	74,207	3,165.68	2,349.15
	2014-15	2,88,827	2,19,150	2,74,386	55,236	3,151.32	1,740.65
	2015-16	3,44,471	2,78,600	3,27,247	48,647	2,815.25	1,369.55
Tiruttani	2013-14	2,96,491	2,40,080	2,81,666	41,586	3,051.86	1,269.16
	2014-15	2,52,490	2,17,770	2,39,866	22,096	3,113.23	687.88
	2015-16	2,35,628	2,01,366	2,23,847	22,481	2,842.66	639.05
National	2013-14	1,28,498	1,16,810	1,22,073	5,263	3,073.31	161.75
	2014-15	2,05,254	1,77,297	1,94,991	17,694	3,091.52	547.02
	2015-16	2,38,539	2,06,700	2,26,612	19,912	2,827.46	563.01
Madurantakam	2013-14	1,16,084	95,920	1,10,280	14,360	3,161.41	453.97
	2014-15	1,80,579	1,42,530	1,71,550	29,020	3,111.01	902.82
	2015-16	1,88,255	1,49,978	1,78,842	28,864	2,836.29	818.67
Amaravathi	2013-14	71,395	63,600	67,825	4,225	3,057.42	129.18
	2014-15	72,112	56,750	68,506	11,756	3,201.51	376.38
	2015-16	1,22,668	1,06,125	1,16,535	10,410	2,572.37	267.77
NPKRR	2013-14	1,73,505	1,33,000	1,64,830	31,830	3,024.33	962.44
	2014-15	1,19,444	65,350	1,13,472	48,122	3,125.03	1,503.82
	2015-16	67,183	27,250	63,824	36,574	2,679.29	979.91
Total		**34,41,746**	**27,47,376**	**32,69,659**	**5,22,283**		**15,722.18**

(Quantity for sugarcane crushed was taken upto June 2016 for the crushing season of 2015-16)

Annexure 8
(Referred to in Paragraph 3.1.5)
The details of revenue loss due to manufacturing loss

Sl. No.	Name of the CSM	Year	Quantity of cane crushed (MT)	Percentage of excess loss	Quantity of sugar lost (MT)	Rate per MT(in ₹)	Value of sugar lost (₹ in lakh)
1	2	3	4	5	6 (4 * 5)	7	8 (6 * 7)
1	Amaravathi	2013-14	71,395	0.21	149.93	30,570	45.83
		2014-15	72,112	0.23	165.86	32,010	53.09
		2015-16	1,22,668	0.17	208.54	25,670	53.53
2	Ambur	2013-14	93,176	0.25	232.94	29,580	68.90
		2014-15	1,22,644	0.13	159.44	30,740	49.01
		2015-16	90,852	0.38	345.24	28,940	99.91
3	Cheyyar	2013-14	2,39,425	0.01	23.94	30,170	7.22
		2014-15	2,32,867	0.02	46.57	31,340	14.60
		2015-16	2,12,469	0.10	212.47	27,720	58.90
4	Chengalrayan	2013-14	3,45,388	0.31	1,070.70	31,280	334.92
		2014-15	1,73,376	0.81	1,404.35	31,220	438.44
		2015-16	48,684	0.45	219.08	31,220	68.40
5	Dharmapuri	2013-14	91,341	0.13	118.74	30,030	35.66
		2014-15	81,063	0.03	24.32	31,190	7.59
6	Kallakurichi I	2013-14	3,40,323	0.12	408.39	26,000	106.18
		2014-15	2,88,827	0.04	115.53	26,520	30.64
		2015-16	3,44,471	0.03	103.34	26,910	27.81
7	Kallakurichi II	2013-14	4,63,528	0.01	46.35	36,530	16.93
		2015-16	4,06,513	0.02	81.30	30,500	24.80
8	MRK	2013-14	2,84,074	0.15	426.11	31,220	133.03
		2014-15	2,29,589	0.07	160.71	28,280	45.45
		2015-16	2,38,779	0.02	47.76	32,210	15.38
9	Madurantakam	2013-14	1,16,084	0.20	232.17	32,610	75.71
		2014-15	1,80,579	0.18	325.04	31,110	101.12
		2015-16	1,88,255	0.16	301.21	28,360	85.42
10	NPKRR	2013-14	1,73,505	0.14	242.91	29,250	71.05
		2014-15	1,19,444	0.61	728.61	29,000	211.3
		2015-16	67,183	0.53	356.07	35,040	124.77
11	National	2013-14	1,28,498	0.25	321.25	30,530	98.08
		2014-15	2,05,254	0.17	348.93	25,240	88.07
		2015-16	2,38,539	0.18	429.37	30,500	130.96
12	Salem	2013-14	1,77,583	0.05	88.79	26,000	23.09
		2014-15	3,59,633	0.03	107.89	26,000	28.05
		2015-16	3,47,437	0.06	208.46	26,000	54.20
13	Tiruttani	2013-14	2,96,491	0.12	355.79	29,490	104.92
		2014-15	2,52,490	0.14	353.49	29,630	104.74
		2015-16	2,35,628	0.16	377.00	28,730	108.31
14	Vellore	2013-14	2,04,063	0.10	204.06	30,580	62.40
		2014-15	1,78,951	0.17	304.22	30,610	93.12
		2015-16	82,154	0.18	147.88	32,120	47.50
	TOTAL				**11,296.61**		**3,349.02**

Annexure 9
(Referred to in Paragraph 3.1.5)
The details of excess expenditure on repairs and maintenance cost

Sl No.	Name of the CSM	Norms / MT	Crushing season 2013-14				Crushing season 2014-15				Crushing season 2015-16			
			Quantity of cane crushed (in MTs)	Actual	Excess per MT (in ₹)	Total excess expenditure (₹ in lakh)	Quantity of cane crushed (in MTs)	Actual	Excess per MT (in ₹)	Total excess expenditure (₹ in lakh)	Quantity of cane crushed (in MTs)	Actual/MT	Excess per MT (in ₹)	Total excess expenditure (₹ in lakh)
1	2	3	4	5	6 (5 - 3)	7 (4 * 6)	8	9	10 (9 - 3)	11 (8 * 10)	12	13	14 (13 - 3)	15 (12 * 14)
1	Ambur	30	93,176	65.46	35.46	33.04	1,22,644	40.50	10.50	12.88	90,852	56.81	26.81	24.36
2	Amaravathi	30	71,395	95.32	65.32	46.64	72,112	125.77	95.77	69.06	1,22,668	101.90	71.90	88.20
3	Salem	26	1,77,583	123.34	97.34	172.86	3,59,633	69.19	43.19	155.33	3,47,437	37.19	11.19	38.88
4	Kallakurichi-I	30	3,40,323	53.43	23.43	79.74	2,88,827	56.87	26.87	77.61	3,44,471	46.18	16.18	55.74
5	National	30	1,28,498	105.03	75.03	96.41	2,05,254	66.38	36.38	74.67	2,38,539	61.17	31.17	74.35
6	Dharmapuri	30	91,341	114.80	84.80	77.46	81,063	78.35	48.35	39.19	1,66,232	38.61	8.61	14.31
7	Tirupattur	30	87,238	118.07	88.07	76.83	70,673	144.50	114.50	80.92	1,07,408	86.76	56.76	60.96
8	Vellore	30	2,04,063	57.44	27.44	55.99	1,78,951	63.05	33.05	59.14	82,154	116.33	86.33	70.92
9	Chengalrayan	30	3,45,388	68.97	38.97	134.60	1,73,376	108.46	78.46	136.03	48,684	159.61	129.61	63.10
10	Tiruttani	30	2,96,491	59.21	29.21	86.61	2,52,490	32.80	2.80	7.07	2,35,628	85.93	55.93	131.79
11	NPKRR	30	1,73,505	89.63	59.63	103.46	1,19,444	126.45	96.45	115.20	67,183	279.79	249.79	167.82
12	MRK	28	2,84,074	45.85	17.85	50.71	2,29,589	44.47	16.47	37.81	2,38,779	31.22	3.22	7.69
13	Cheyyar	28	2,39,425	41.72	13.72	32.85	2,32,867	44.80	16.80	39.12	2,12,469	45.34	17.34	36.84
14	Subramanya Siva	28	1,82,336	122.00	94.00	171.40	1,53,201	79.92	51.92	79.54	1,98,495	45.14	17.14	34.02
15	Kallakurichi-II	26	4,63,528	47.90	21.90	101.51	5,21,505	42.30	16.30	85.01	4,06,513	32.81	6.81	27.68
16	Madurantakam	30	1,16,084	79.02	49.02	56.90	1,80,579	122.36	92.36	166.78	1,88,255	97.90	67.90	127.83
	TOTAL		**32,94,448**			**1,377.00**	**32,42,208**			**1,235.37**	**30,95,767**			**1,024.49**
	Grand Total										**96,32,423**			**3,636.86**

Annexure 10
(Referred to in Paragraph 3.1.5)
The details of excess expenditure on power consumption

Sl. No.	Name Of CSMs	Crushing season	Cane Crushed (MT)	Actual Consumption of power (Units/MT)	Normative consumption of power (Units/MT)	Difference in power consumption (Units/MT)	Excess Units consumed	Rate / unit (in ₹)	Excess expenditure (₹ in lakh)
1	2	3	4	5	6	7 (5 - 6)	8 (4 * 7)	9	10 (8 *9)
1	Ambur	2014-15	1,22,644	22.03	20	2.03	2,48,967.32	6.35	15.81
		2015-16	90,852	24.69	20	4.69	4,26,095.88	6.35	27.06
2	Amaravathi	2014-15	72,112	21.28	20	1.28	92,303.36	6.35	5.86
3	Chengalrayan	2015-16	48,684	47.35	30	17.35	84,466.74	11.00	92.91
4	Dharmapuri	2013-14	91,341	22.93	20	2.93	2,67,629.13	5.50	14.72
		2014-15	81,063	21.81	20	1.81	1,46,724.03	6.35	9.32
5	Madurantakam	2014-15	1,80,579	32.21	30	2.21	3,99,079.59	6.35	25.34
		2015-16	1,88,255	35.90	30	5.90	11,10,704.50	6.35	70.53
6	National	2013-14	1,28,498	23.70	20	3.70	4,75,442.60	5.50	26.15
		2014-15	2,05,254	23.47	20	3.47	7,12,231.38	6.35	45.23
		2015-16	2,38,539	22.61	20	2.61	6,22,586.79	6.35	39.53
7	NPKRR	2013-14	1,73,505	41.27	30	11.27	19,55,401.40	5.50	107.55
		2014-15	1,19,444	41.74	30	11.74	14,02,272.60	6.35	89.04
		2015-16	67,183	40.22	30	10.22	6,86,274.35	6.35	43.58
8	Tirupattur	2013-14	87,238	21.60	20	1.60	1,39,580.80	5.50	7.68
		2014-15	70,673	21.57	20	1.57	1,10,956.61	5.50	6.10
9	Tiruttani	2013-14	2,96,491	29.84	20	9.84	29,17,471.40	5.50	160.46
		2014-15	2,52,490	29.53	20	9.53	24,06,229.70	6.35	152.80
		2015-16	2,35,628	29.34	20	9.34	22,00,765.50	6.35	139.75
10	Vellore	2013-14	2,04,063	21.67	20	1.67	3,40,785.21	5.50	18.74
		2014-15	1,78,951	23.10	20	3.10	5,54,748.10	6.35	35.23
		2015-16	82,154	25.48	20	5.48	4,50,203.92	6.35	28.59
	TOTAL								**1,161.98**

Glossary

Sl. No.	Abbreviation	Description
1	AA	Administrative Approval
2	AAP	Annual Action Plan
3	AERC	Agro Economic Research Centre
4	AMC	Annual Maintenance Contract
5	APC	Agriculture Production Commissioner and Principal Secretary to Government
6	AS	Administrative Sanction
7	ATNs	Action Taken Notes
8	AWS	Automatic Weather Station
9	BC	Bituminous Concrete
10	BM	Bituminous Macadam
11	C&AG/CAG	Comptroller and Auditor General of India
12	CE	Chief Engineer
13	CHPC	Commissioner of Horticulture and Plantation Crops
14	COA	Commissioner of Agriculture
15	COE	Centre of Excellence
16	COPU	Committee on Public Undertakings
17	COS	Commissioner of Sugar
18	CPCB	Central Pollution Control Board
19	CRIDP	Comprehensive Road Infrastructure Development Programme
20	CSAP	Comprehensive State Agriculture Plan
21	CSMs	Co-operative Sugar Mills
22	cu m	Cubic metre
23	DHPC	Director of Horticulture and Plantation Crops
24	DMC	District Mission Committee
25	DPC	Duties, Powers and Conditions of Service
26	DPR	Detailed Project Report
27	E&RSA	Economic and Revenue Sector Audit
28	EMD	Earnest Money Deposit
29	FDR	Flood Damage Repair
30	FRP	Fair Remunerative Price
31	GOI	Government of India
32	GoTN	Government of Tamil Nadu
33	ha	Hectare

34	HLB	High Level Bridge
35	ICCOA	International Competence Centre of Organic Agriculture
36	IMD	Indian Meteorological Department
37	IPHM	Integrated Post Harvest Management
38	IR	Inspection Report
39	IRQP	Improvement to Riding Quality Programme
40	KLPD	Kilo Litre Per Day
41	Km	Kilo metre
42	LMT	Lakh Metric Tonne
43	m	Metre
44	MIDH	Mission for Integrated Development of Horticulture
45	MT	Metric Tonne
46	NABARD	National Bank for Agriculture and Rural Development
47	NADP	National Agriculture Development Programme
48	NHM	National Horticulture Mission
49	PAC	Public Accounts Committee
50	PD	Personal Deposit
51	PDS	Public Distribution System
52	PMGSY	Pradhan Mantri Gram SadakYojana
53	PR	Periodical Renewal
54	PWD	Public Works Department
55	RAS	Revised Administrative Sanction
56	SAP	State Advisory Price
57	SC/ST	Scheduled Castes/Scheduled Tribes
58	SD	Security Deposit
59	SDBC	Semi Dense Bituminous Concrete
60	SDF	Sugar Development Fund
61	SE	Superintending Engineer
62	Sq km	Square kilometre
63	sq m	Square metre
64	SLEC	State Level Executive Committee
65	SHF	State Horticulture Farm

66	SHM	State Horticulture Mission
67	SHMD	State Horticulture Mission Document
68	SPU	Seed Processing Unit
69	SVS	Seed Village Scheme
70	SWOC	Strength, Weakness, Opportunities and Challenges
71	TANHODA	Tamil Nadu Horticulture Development Agency
72	TNAU	Tamil Nadu Agricultural University
73	TNCSF	Tamil Nadu Co-operative Sugar Federation Limited
74	TNSAMB	Tamil Nadu State Agriculture Marketing Board
75	UC	Utilisation Certificate
76	WMM	Wet Mix Macadam
77	WRD	Water Resources Department