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Report of the
Comptroller and Auditor General
of India

for the year ended 31 March 2009

(Civil)

Government of Tamil Nadu

AUDIT REPORT (CIVIL) - TAMIL NADU - 2008-2009



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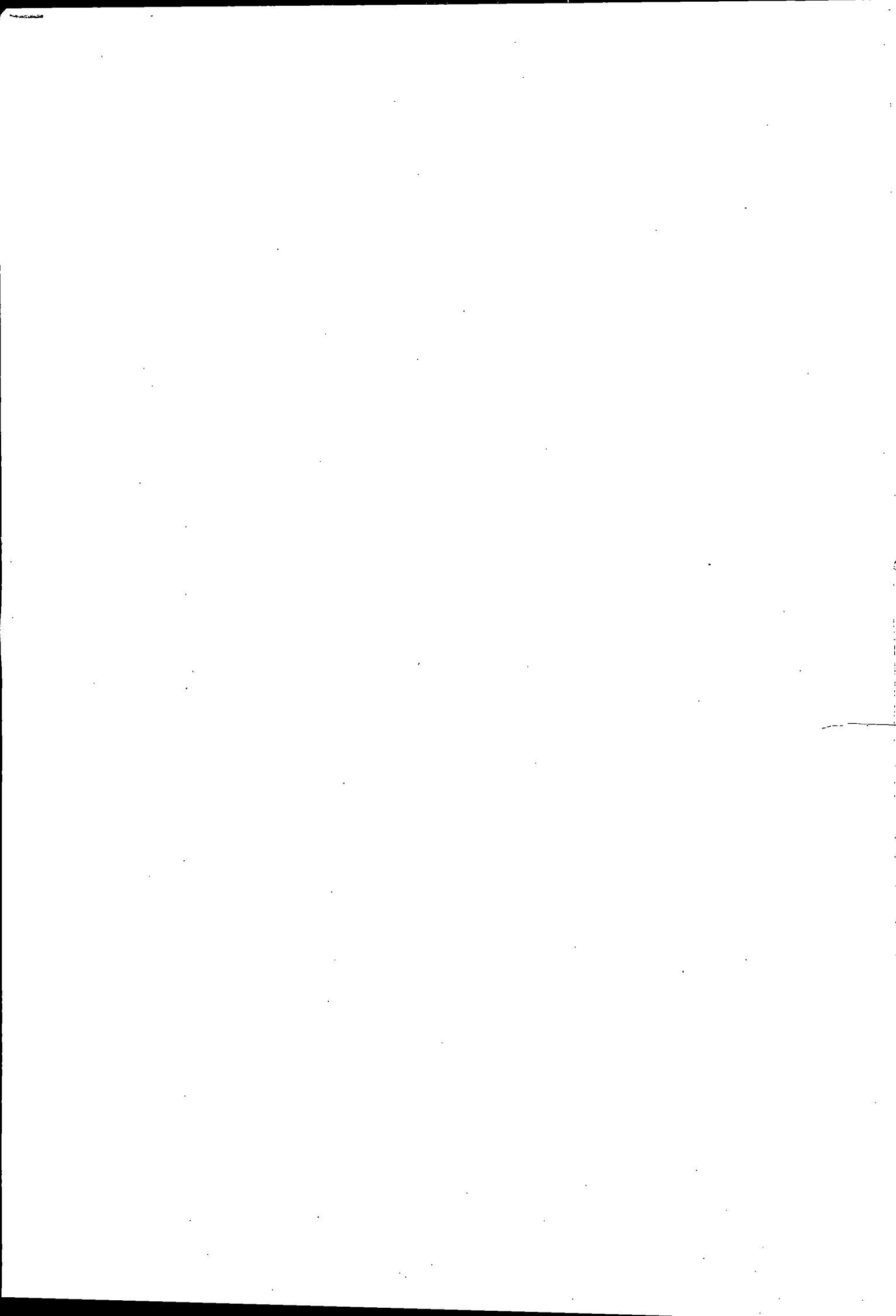


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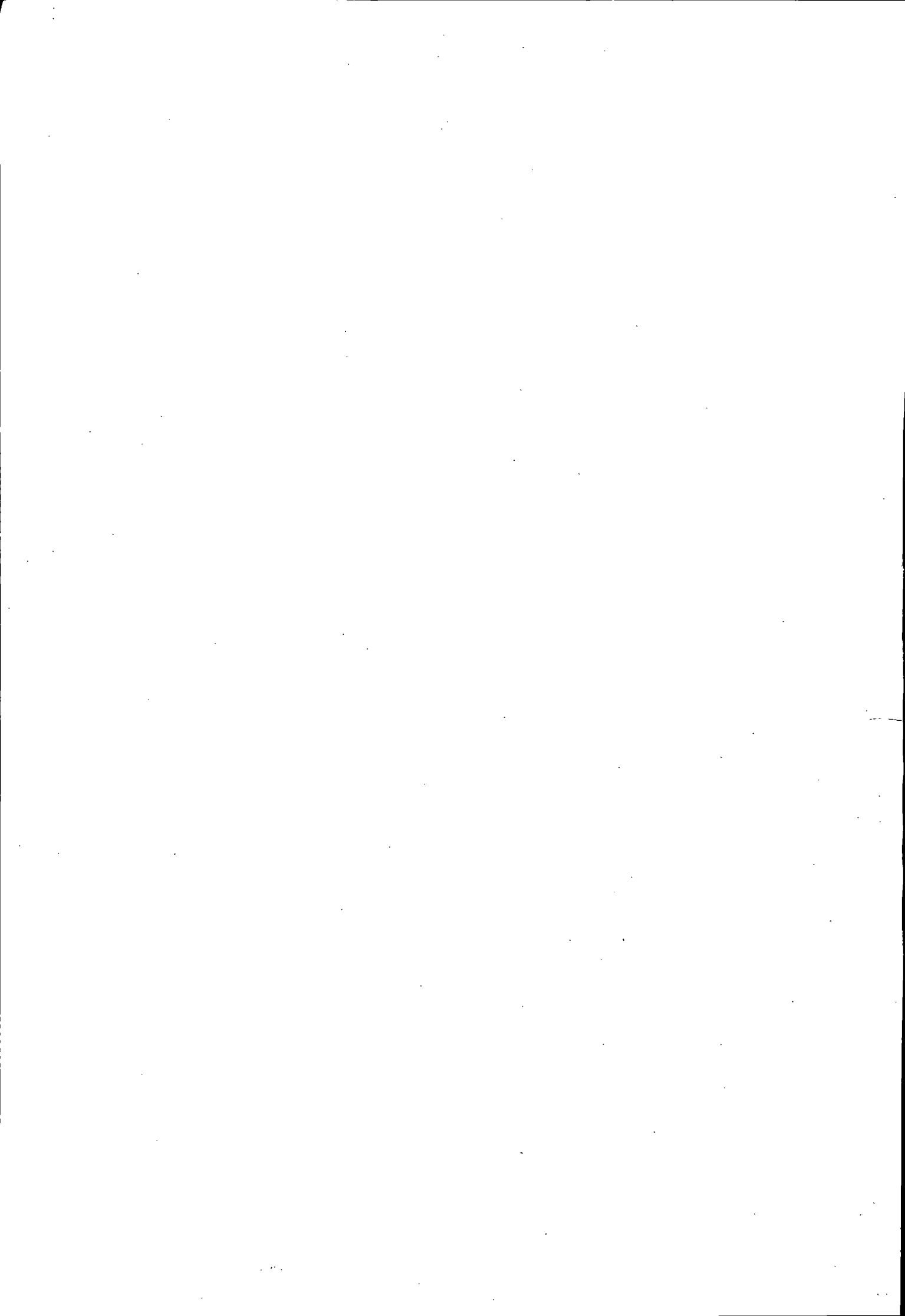
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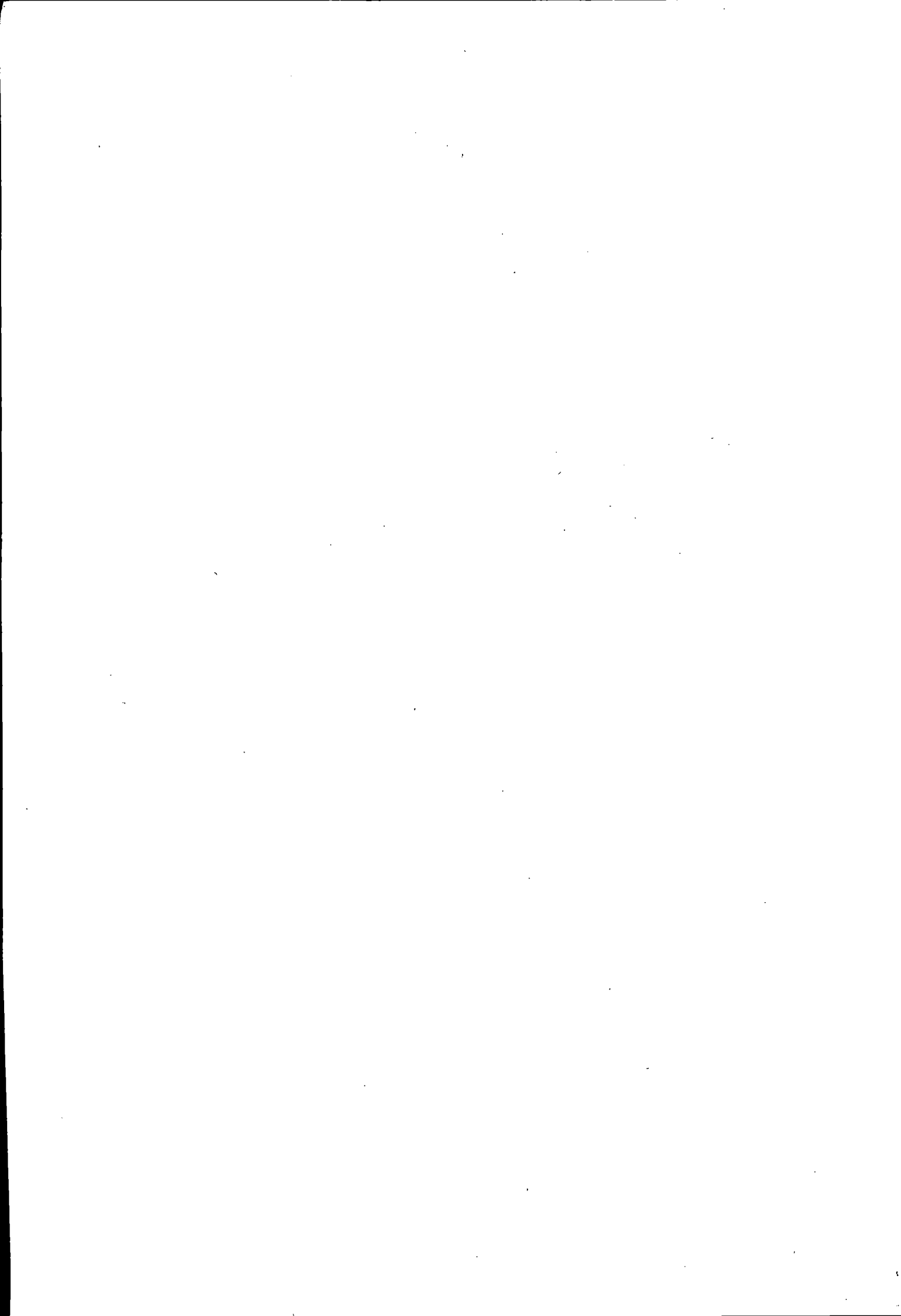
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PREFACE

1. This Report has been prepared for submission to the Governor under Article 151 of the Constitution of India.
2. Chapter-I deals with the findings of performance audit in Agriculture; Health and Family Welfare; Industries and Revenue Departments. Chapter-II deals with findings of transaction audit in Adi-Dravidar and Tribal Welfare; Agriculture; Animal Husbandry, Dairying and Fisheries; Finance; Health and Family Welfare; Highways; Municipal Administration and Water Supply; Public Works; Rural Development and Panchayat Raj; School Education and Tourism and Culture Departments. Chapter-III deals with the integrated audit of the Fisheries Department.
3. Reports containing (a) observations arising out of audit of Statutory Corporations, Boards and Government Companies, (b) observations on revenue receipts of the State Government, (c) observations relating to local bodies and (d) observations on the finances of the State Government are being presented separately.
4. The cases mentioned in this Report are among those which came to notice in the course of test audit of accounts during the year 2008-09 as well as those which had come to notice in earlier years but could not be dealt with in previous Reports. Matters relating to the period subsequent to 2008-09 have also been included, wherever necessary.



OVERVIEW



OVERVIEW

This Audit Report has three chapters. The first chapter has four reviews (including one on information technology) dealing with the results of performance audit of selected programmes and schemes of the Government. The second chapter has 14 audit paragraphs arising from the audit of financial transactions of the Government. The third chapter contains results of integrated audit of a Government Department.

Audit has been conducted in accordance with the Auditing Standards prescribed for the Indian Audit and Accounts Department. Audit samples have been drawn based on statistical sampling methods as well as on judgement basis. The specific audit methodology adopted for programmes and schemes has been mentioned in the reviews. Audit conclusions have been drawn and recommendations made, taking into consideration the views of the Government, wherever received.

A summary of the important findings is given below :

1. Management of Co-operative Sugar Mills

Co-operative Sugar Mills (CSMs) play a vital role in improving economic conditions in rural areas of Tamil Nadu, where the livelihood of 4.23 lakh sugar cane producing farmers are dependent on these mills. There are 15 CSMs in the State. The Commissioner of Sugar regulates, monitors and supervises these CSMs and also implements all Government schemes related to them.

A performance audit of the management of CSMs covering the period from 2004-05 to 2008-09 revealed the poor financial status of the CSMs. Accumulated losses of CSMs in the State were Rs 1,475 crore. Diversion of sugar cane from the CSMs to other mills resulted in additional transportation cost of Rs 1.25 crore for the six test-checked CSMs. Failure to adhere to the required technical parameters in the sugar manufacturing process and deficiencies in the upkeep of machinery led to low sugar recovery rates, contributing to a total loss of Rs 12.97 crore during the period 2004-09. Twenty three *per cent* of the time loss in excess of norms in the test-checked CSMs was mainly due to mechanical breakdowns. Sub-optimal operational efficiency of the mills resulted in loss of revenue of Rs 4.35 crore in the sale of bagasse. Due to high upset prices and poor attendance at sugar auctions for sale of free sugar conducted by the Tamil Nadu Co-operative Sugar Federation, free sugar was converted into levy sugar, leading to a total loss of Rs 8.40 crore for the CSMs.

(Paragraph 1.1)

2. National Rural Health Mission

The National Rural Health Mission (NRHM) was launched in April 2005 by the Government of India to bring about significant improvements in the health status of the rural population. The Mission sought to provide universal access to equitable, affordable and quality health care facilities in rural areas.

A performance audit of the implementation of NRHM revealed that though baseline surveys were completed, Perspective Plans for the Mission, Annual Plans for districts, blocks and villages were not prepared regularly. Rupees 62 crore, meant for activities such as hiring private anaesthetists and paediatricians and providing facilities for basic emergency obstetrics and newborn care were not utilised in the seven test-checked districts. Funds amounting to Rs 53.95 crore were diverted from NRHM's funds to various State and Central schemes during 2006-09. Block Primary Health Centres, Primary Health Centres and Health Sub Centres were not provided with adequate staff as per Indian Public Health Standards. None of the 21 test-checked Block Primary Health Centres in the seven districts had blood storage facilities, 18 of the 21 Block Primary Health Centres and 41 of the 42 test-checked Primary Health Centres did not have casualty rooms and 39 of the 42 Primary Health Centres did not have operation theatres. Against 1,242 personnel required for programme management units, only 52 persons were appointed. Spectacles were not supplied to 1,89,695 out of 3,53,575 children suffering from refractive errors during 2005-09.

(Paragraph 1.2)

3. Comprehensive Wasteland Development Programme

Land is a natural resource of fixed availability and high economic importance. Therefore, sustainable development of land is essential for economic growth and development. The Government launched the Comprehensive Wasteland Development Programme (CWDP) in July 2001 with a focus on conservation and development of wastelands in the State.

A performance audit of CWDP disclosed inaccuracies in revenue records and deficiencies in planning, coordination, financial management and monitoring by various agencies. Release of funds without assessing the actual progress in implementation of the programme resulted in blocking of Government funds ranging from Rs 27.93 crore to Rs 53.80 crore in a Personal Deposit Account and bank accounts of implementing agencies. Government land measuring 272 hectares, leased out to corporate bodies for cultivation under the programme, was neither cultivated nor taken back from the lessees. A total of 1,309 (27 per cent) out of 4,829 beneficiaries under the programme in the test-checked districts received less than one-fourth of the land proposed to be distributed to them. Government land measuring 1,585 hectares distributed under the programme to beneficiaries in 11 districts were rocky areas, which were unfit for cultivation.

(Paragraph 1.3)

4. *Computerisation of land records*

'Computerisation of Land Records', a Centrally Sponsored Scheme, was launched in 1988-89 to ensure effective land reforms and better delivery of services to citizens of the State. Though the scheme was in its twentieth year of operation, it had not yet achieved its optimal functional level. Out of Rs 36.98 crore sanctioned by GOI during 2000-08, Rs 9.94 crore was not utilised by the Electronics Corporation of Tamil Nadu. Computers and peripherals purchased at a cost of Rs 8.21 crore remained unutilised for want of backbone connectivity and application software. Due to lack of validation controls, capture of data from manual registers remained incomplete. Total numbers of sub-divisions in the villages and availability of land therein were not reconciled between the computer and manual systems. An assurance given to the Public Accounts Committee in January 2008, on computerisation of land records, was not fully addressed.

(Paragraph 1.4)

5. *Audit of Transactions*

Besides the above, audit of financial transactions, test-checked in various departments of the Government and their field offices, revealed instances of wasteful/unfruitful expenditure, avoidable/excess expenditure, idle investment/blocking of funds and other irregularities, involving Rs 23.67 crore.

Some of the important findings are given below.

Taking up the work of arresting the sewage polluting Kolavoy lake in Chengalpattu, without ensuring availability of water in the lake for supply to Chennai city, led to abandonment of the work, resulting in wasteful expenditure of Rs 1.35 crore.

(Paragraph 2.1.1)

Entrustment of supply of furniture for Government schools, costing Rs 69.09 crore, to the Tamil Nadu Small Industries Corporation, without ascertaining the rates of furniture available in other priority institutions, resulted in avoidable expenditure of Rs 5.63 crore.

(Paragraph 2.2.1)

Rejection of a valid tender for Package II of the Underground Sewerage Scheme- Phase I for Tuticorin Municipality, in the first call, resulted in an avoidable liability of Rs 4.06 crore.

(Paragraph 2.2.2)

Failure to get substandard work rectified through a contractor during the defect liability period resulted in avoidable extra expenditure of Rs 2.57 crore on improvement works of the Chennai-Mamallapuram road.

(Paragraph 2.2.3)

Release of Rs 4.20 crore in advance to the Tamil Nadu State Agricultural Marketing Board resulted in blocking of funds. Government ended up paying interest on their own funds released to the agency due to depositing of the funds in an interest-bearing Personal Deposit Account.

(Paragraph 2.2.8)

6. *Integrated Audit of Fisheries Department*

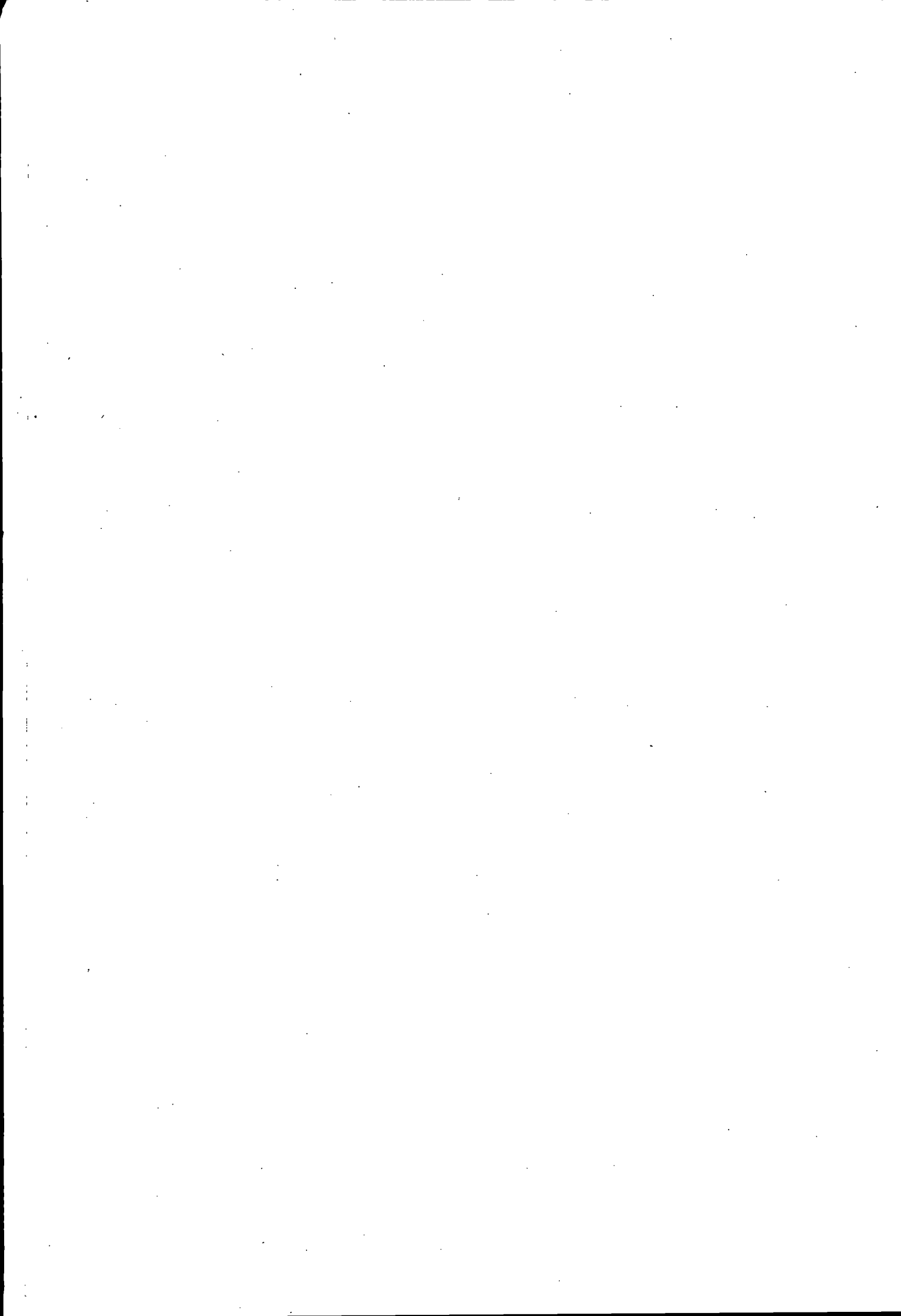
The prime responsibility of the Fisheries Department is to judiciously balance and enhance fish production with sustained conservation of resources, as well as to improve the socio-economic standards of the fishermen in the State.

Funds amounting to Rs 24.48 crore remained unutilised for more than a year. As against the State's marine fish production potential of 7.19 lakh tonnes per annum, its annual production was only in the range of 3.08 to 3.97 lakh tonnes during 2004-09, mainly due to lack of infrastructure and deficiencies in the implementation of schemes. Non-maintenance of ponds in usable condition, non-raising of fingerlings in ponds as per the norms of the Indian Council of Agricultural Research and poor fish production in reservoirs resulted in annual production ranging from only 0.87 to 1.66 lakh tonnes of inland fish during 2004-09 as against the State's potential of 2.46 lakh tonnes per year. Under the Fishermen Free Housing Scheme, only 954 (9.54 *per cent*) houses were constructed against 10,000 houses sanctioned for construction and free distribution to fishermen during 2004-07.

(Paragraph 3.1)

CHAPTER I

PERFORMANCE AUDIT



CHAPTER I

PERFORMANCE AUDIT

This chapter contains four performance audit reports viz., Management of Co-operative Sugar Mills, National Rural Health Mission, Comprehensive Wasteland Development Programme and Computerisation of Land Records.

INDUSTRIES DEPARTMENT

1.1 Management of Co-operative Sugar Mills

Highlights

Tamil Nadu is the fourth largest sugar producing State in the country with an annual sugar production of about 22 lakh MT. Sugar cane is cultivated in about 2.35 lakh hectares every year in the State. There are 40 sugar mills of which 16 are in the co-operative sector, three in the public sector and 21 in the private sector. Three mills, one each in the co-operative sector, public sector and private sector, are defunct. The Commissioner of Sugar regulates the sugar mills in the State as the Cane Commissioner, monitors and supervises the Co-operative Sugar Mills (CSMs) as their Functional Registrar and implements Government schemes in the CSMs. A performance audit of the management of CSMs conducted between January and May 2009 revealed the following:

- Accumulated losses of the CSMs in the State as of March 2008 was Rs 1,475.46 crore and 13 of these mills had negative net worth.

(Paragraph 1.1.6)

- Only 1,604 hectares were covered under a micro-irrigation programme for increase in sugar cane cultivation upto December 2008, against a target of 17,640 hectares to be covered by the CSMs during 2006-07.

(Paragraph 1.1.7.5)

- Diversion of sugar cane from the CSMs to other mills resulted in additional transport cost of Rs 1.25 crore during 2006-09 in the test-checked CSMs.

(Paragraph 1.1.7.7)

- Failure to adhere to the technical parameters in the sugar manufacturing process and deficiencies in upkeep of machinery led to low sugar recovery rates, contributing to a total loss of Rs 12.97 crore during 2004-09.

(Paragraph 1.1.8.2 (i))

- In six test-checked CSMs, 23 per cent of the time loss in excess of norms was due to mechanical breakdowns.

(Paragraph 1.1.8.2(ii))

- Sub-optimal operational efficiency of sugar mills resulted in loss of revenue of Rs 4.35 crore in the sale of bagasse during 2004-09.

(Paragraph 1.1.8.4)

- Low capacity utilisation of a distillery in Salem CSM caused revenue losses of Rs 13.46 crore during 2004-09.

(Paragraph 1.1.8.6 (i))

- Failure of the Salem CSM to maintain/replace bio-digesters resulted in excess expenditure of Rs 8.13 crore on purchase of furnace oil for the boilers of their distillery unit during 2004-09.

(Paragraph 1.1.8.6(ii))

- Inferior performance of a boiler resulted in less generation of electricity for export, leading to revenue loss of Rs 5.92 crore in MRK CSM during 2004-09.

(Paragraph 1.1.8.7)

- Due to the high upset prices and poor attendance at sugar auctions for sale of free sugar conducted by the Tamil Nadu Co-operative Sugar Federation, free sugar was converted into levy sugar, leading to a total loss of Rs 8.40 crore during 2004-09 for 11 CSMs.

(Paragraph 1.1.9.1 (ii))

- Five out of the six test-checked CSMs did not conduct Annual General Body meetings as prescribed.

(Paragraph 1.1.10.3)

1.1.1 Introduction

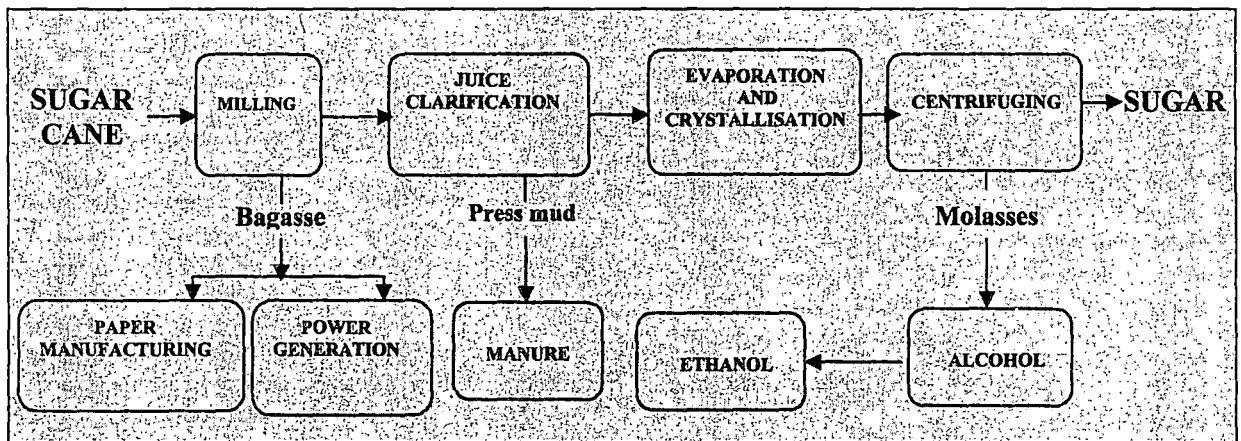
Tamil Nadu is the fourth largest sugar producing State in the country with an annual sugar production of about 22 lakh MT. Sugar cane is cultivated in about 2.35 lakh hectares every year in the State. There are 40 sugar mills of which 16 are in the co-operative sector, three in the public sector and 21 in the private sector. Three mills, one each in the co-operative sector, public sector and private sector are defunct. The Commissioner of Sugar (COS) regulates the sugar mills in the State as the Cane Commissioner, monitors and supervises the Co-operative Sugar Mills as their Functional Registrar and implements Government schemes in the Co-operative Sugar Mills.

The activities of CSMs can broadly be classified as sugar cane production, sugar mill operation and marketing of sugar. Each sugar mill is provided with a reserved area for cultivation. Sugar cane produced by registered growers in the reserved area is supplied to the concerned sugar mills. The sugar mills pay the State Advised Price¹ for the sugar cane supplied to them and also meet the cost of transportation of the cane from the fields to the factories. The prime crushing season is from October to March. During the off season i.e., from April to September, maintenance and other ancillary activities are carried out.

Ten *per cent* of the sugar produced by the mills is sold as levy sugar at rates fixed by the Government of India (GOI) and the balance quantity is sold as free sale sugar with reference to release orders² issued from time to time by GOI within the stipulated time. The Tamil Nadu Co-operative Sugar Federation fixes the upset price³ for auction of free sale sugar with reference to the prevailing market rate of the previous day.

The sugar manufacturing process yields by-products such as bagasse⁴, molasses⁵, press mud⁶, etc., as shown in **Chart 1**.

Chart 1 : By-products and downstream products



(Source : Tamil Nadu Co-operative Sugar Federation)

The effective functioning of CSMs depends on assured availability of sugar cane of good quality, optimum utilisation of machinery, capacity utilisation of mills and prudent marketing and financial arrangements.

¹ Price fixed through a tripartite agreement between the State Government, sugar mills and growers, which is always higher than the statutory minimum price for sugar cane fixed by Government of India.

² Orders issued in the beginning of each month by the Chief Director of Sugar, Government of India under the provisions of the Essential Commodities Act, 1955, permitting the sugar mills to sell a specified quantity of sugar during the month.

³ The minimum floor price for sale of sugar through auction.

⁴ Bio-mass that remains after extraction of sugar, water and other dissolved solids from sugar cane.

⁵ Heavy, dark-coloured residual syrup drained away in the final stage of manufacture of sugar.

⁶ A by-product of sugar used as a manure.

During the last three years (2006-09), the 15 CSMs produced 5.63, 6.74 and 5.23 lakh metric tonnes of sugar, i.e., around 27 per cent of the total sugar produced in the State.

1.1.2 Organisational structure

The organisational structure for development and regulation of the sugar industry is given in **Appendix 1.1**. The activities of the main functionaries are given below:

(i) Commissioner of Sugar

While the Principal Secretary to Government, Industries Department is in overall charge of the CSMs, the COS has statutory and administrative powers in matters such as licensing for setting up of new sugar mills, expansion of crushing capacities of existing sugar mills, collection of sugar cane cess from sugar mills, allotment of sugar cane areas to sugar mills, ensuring industrial peace in CSMs and monitoring their activities. COS is also the Functional Registrar of CSMs.

(ii) Tamil Nadu Co-operative Sugar Federation

The Tamil Nadu Co-operative Sugar Federation, an apex co-operative body of all CSMs, is headed by a Special Officer in the rank of Additional Registrar of Co-operative Societies, drawn from the Co-operation Department. It is involved in providing technical, financial and marketing support to CSMs. The federation also sets the upset price for auction of free sale sugar.

(iii) Co-operative Sugar Mills

As elections for co-operatives have not been conducted since 1976, the Special Officers / Administrators appointed by Government manage the CSMs. The Special Officers / Administrators carry out the day to day functions of the CSMs and report to the COS. The Special Officer/Administrators are directly responsible for operation of the mills.

1.1.3 Audit objectives

The objectives of the performance audit were to assess:

- the efficiency of financial management in the CSMs;
- the system for ensuring adequate and timely availability of quality sugar cane for the CSMs;
- the efficiency and economy of CSM operations;
- the effectiveness of the marketing arrangements for sugar and its by-products and
- the effectiveness of the monitoring mechanism established by the Government and the COS.

1.1.4 Audit criteria

The audit criteria used for examining the various activities were:

- Provisions of the Sugar Control Order, 1966; the Sugar Development Fund Act, 1982; the Tamil Nadu Sugar Factories Control Act, 1949; the Tamil Nadu Co-operatives Societies Act, 1983 and other statutes.
- Policies of the Government, standing orders, specific Government orders, guidelines, etc.
- Goals set and targets fixed by the COS, budgets approved by appropriate committees, etc.
- Corporate plans of CSMs, technical standards and norms in sugar manufacturing, Generally Accepted Accounting Practices and good practices in management.

1.1.5 Audit coverage and methodology

The performance audit was conducted from January to May 2009 through test check of records in the Industries Department in the Secretariat, office of the COS, six⁷ out of 15 CSMs, selected on random basis and the Sugar Research Institute, Vellore. The audit objectives and audit criteria were discussed with the Principal Secretary to Government, Industries Department during an entry conference held on 3 March 2009. Audit covered the five-year period from 2004-05 to 2008-09.

The audit findings are based on evidence collected from the records of the auditees, replies furnished by the officers concerned and analysis of data furnished in electronic form. The findings were discussed with the COS on 7 August 2009 in an exit conference.

Audit findings:

1.1.6 Financial management in Co-operative Sugar Mills

The performance of CSMs was hampered mainly due to the high cost of production, loan servicing and belated/non-receipt of eligible subsidy as discussed below:

As of March 2008, the total accumulated losses of the 15 CSMs was Rs 1475.46 crore (**Appendix 1.2**). Since, the liabilities exceeded the assets, 13 CSMs⁸ had negative net worth. The total loan liability of all the 15 functioning CSMs as of March 2009 was Rs 1175.16 crore. The State

Accumulated losses of the CSMs was Rs 1475.46 crore and 13 mills had negative net worth as of March 2008

⁷ Dharmapuri, M R Krishnamurthi (MRK), Nadippisai Pulavar KR Ramasamy (NPKRR), Salem, Tiruttani and Vellore CSMs.

⁸ All the CSMs, except for Cheyyar and Kallakurichi II CSMs.

Government had invested Rs 56.88 crore in 15 CSMs in the form of share capital and extended loans totalling Rs 717.80 crore to them up to March 2009. Besides, the State Government had provided Rs 51.10 crore for development of sugar cane roads and sugar cane research during 2004-09.

Government of India provided financial assistance in the form of buffer stock subsidy, transport subsidy and loans for modernisation and sugar cane development. The CSMs also obtained loans from co-operative banks and the National Co-operative Development Corporation. Besides, loans at nominal interest were also available from the Sugar Development Fund⁹ which could not be availed of by most of the CSMs due to their negative net worth.

1.1.6.1 Production Cost

The average cost of production of sugar and sale realisation during 2004-09 were as given in **Table 1**.

Table 1 : Cost of production against sale realisation

	(Rs per MT)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Cost of production	1,778	1,894	1,730	1,765	1,904
Sale realisation	1,469	1,642	1,599	1,257	1,585

(Source: Tamil Nadu Co-operative Sugar Federation)

This indicated that the production cost was always higher than the sale realisation. The production cost in excess of sale realisation ranged from Rs 131 to Rs 508 per MT during 2004-09. The increase in production cost was mainly due to increase in sugar cane procurement prices. The State Advised Price (SAP) fixed by the State Government was invariably higher than the Statutory Minimum Price (SMP) fixed for sugar cane by GOI. The material cost alone accounted for nearly 71 per cent of the cost of production.

Added to this, the purchase tax payable by the sugar mills on purchase of sugar cane in the State was the highest in the country. The purchase tax and sugar cane cess were levied at the rate of Rs 60 and Rs 5 per MT respectively compared to Rs 24 per MT¹⁰ levied in the State of Maharashtra, the highest sugar producing State. The huge accumulated loss was a result of high cost of production due to Government policies on fixation of sugar price and low sale realisation of sugar as discussed later in para 1.1.9.1.

1.1.6.2 Borrowings by Co-operative Sugar Mills

(i) High cost of loan servicing

Interest burden on long term loans and cash credit loans of CSMs accounted for 14.39 per cent of the cost of production during 2008-09. The total

Interest payments by the CSMs accounted for 14.39 per cent of the cost of production during 2008-09

⁹ Fund constituted (1982) by Government of India with proceeds of sugar cess collected from sugar mills for every quintal of sugar produced.

¹⁰ At the rate of three per cent of the Statutory Minimum Price fixed by Government of India for sugar cane.

outstanding loans of these mills was in the range of 1.82 to 38.69 times of the share capital, indicating excessive dependence on borrowed funds due to their low capital base. Scrutiny of records of the test-checked CSMs revealed that the rate of interest on borrowings from GOI and its agencies was up to 16.75 per cent while from the State Government, it was up to 17.25 per cent. These aspects had their impact on the cost of loan servicing and ultimately pushed up the cost of production.

Though the Tuteja Committee appointed (2004) by GOI to suggest measures to revitalise the sugar industry, recommended measures like rescheduling of loans and conversion of loans into equity share for revitalising the sugar industry, the State Government had not done any re-scheduling of loans after 2001. The State Government did not convert any loans into share capital during 2004-09, except converting dues of Rs 5.50 crore against MRK CSM as share capital.

The COS replied (September 2009) that the proposal for conversion of arrears of interest and loan into Government equity was under consideration of the Government.

(ii) Non-availing of loans from the Sugar Development Fund

Government of India created (1982) the Sugar Development Fund by levying a cess on sugar produced by sugar mills for development of sugar industry. Loans from the Sugar Development Fund were available at low interest rates for increasing sugar cane production, modernisation and expansion of sugar mills and for setting up of co-generation, ethanol plants, etc.

During 2004-09, the six test-checked mills had contributed Rs 14.12 crore as sugar cess to the Sugar Development Fund, but none of them availed of the loan facility from the Sugar Development Fund as the State Government was not inclined to extend guarantees to CSMs for availing of loans, due to their negative net worth. As a result, two CSMs ended up paying higher interest in respect of loans taken for setting up ethanol plants as shown in Table 2 and lost the opportunity to save Rs 43.23 lakh towards interest payment (June 2009).

Table 2 : Higher interest liability

Name of the CSM	Month of completion of project	Project Cost	SDF Loan eligibility	SDF Interest rate	Interest rate on open market loan	Estimated interest saving*
		(Rupees in crore)		(per cent)	(per cent)	(Rs in lakh)
Salem	September 2008	3.50	2.62	4	13	19.65
Amaravathi	July 2008	3.50	2.62	4	13	23.58
Total						43.23

(Source – Calculation based on the reply of respective mills)

* Interest calculated from month of completion of the project to June 2009.

The COS stated (September 2009) that the mills had made earnest efforts to obtain loans from the Sugar Development Fund at cheaper interest rates, but did not succeed for want of Government guarantees.

1.1.6.3 Defective claims resulted in delays in receipt of subsidies from Government of India

(i) Buffer stock subsidy

Buffer stock subsidy and transport subsidy from Government of India were delayed due to defects in the subsidy claims

In order to stabilize the price of sugar, GOI ordered (August 2007) all sugar mills to maintain a buffer stock. The interest, storage and insurance charges for the quantities allocated as buffer stock were reimbursed to the sugar mills in the form of buffer stock subsidy. The claims for this subsidy were to be made in the prescribed format by the CSMs. As the Special Officers of the 15 CSMs failed to file their claims in the prescribed format with supporting documents containing stock details, bank interest rates, etc., GOI returned the claims to the respective mills during 2007-09. The Special Officers subsequently resubmitted their claims in the prescribed format with the required details.

(ii) Transport subsidy for export of sugar

To promote the export of sugar, GOI provided incentives in the form of transport subsidy at rates not exceeding Rs 1,350 per MT of sugar exported. The CSMs had to submit proof of export, proof for transport charges paid, etc., in order to receive the subsidy. However, it was found that due to non-furnishing of the required documents, GOI returned the claims made by the CSMs during 2002-08. Subsequent furnishing of required details by Special Officers of CSMs resulted in delay in receipt of the transport subsidy. As of March 2009, Rs 30.81 crore was to be received from Government of India towards transport subsidy by 15 CSMs.

The COS stated (September 2009) that deficiencies in the claims were being rectified.

1.1.6.4 Non-availing of carbon credits

Two CSMs with distilleries failed to avail of carbon credits

In the sugar industry, carbon credits¹¹ are available for generation of methane gas by treating distillery effluents in bio-digesters¹². During the Chief Executives' meetings held in March 2008, the Special Officer of Amaravathy CSM was entrusted with the responsibility of obtaining carbon credits for the distillery bio-digesters installed at the Salem and Amaravathy CSMs. It was seen in Audit that a proposal for engaging an agency to carry out documentation for availing of carbon credit was initiated only in May 2009. As a result, the two CSMs had not yet availed of the financial benefits of carbon credits. Incidentally, it was noticed that a private sugar mill in the State had earned Rs 12.95 crore through carbon credits during 2006-08. The COS as the Registrar of CSMs, failed to ensure availing of carbon credits by the two entitled CSMs.

¹¹ The United Nations Framework Convention on Climate Change awards one carbon credit for mitigation of one MT of carbon. Government and corporate bodies in developed countries purchase the carbon credits.

¹² Plants for treatment of distillery effluents wherein methane gas is separated through a biochemical process before discharging the treated effluent.

1.1.6.5 Non-receipt of claims for sale of bagasse

The Salem CSM entered (1981) into an agreement with the Tamil Nadu News Print Limited (TNPL), a joint sector company for sale of bagasse. Due to a dispute over the quantity of bagasse supplied, the company did not honour the claims of the Salem CSM amounting to Rs 11.97 crore for the period from 1988-89 to 2007-08. Accounting Standards 29 of the Institute of Chartered Accountants of India, stipulates that if the outcome of a claim that an enterprise is pursuing, is uncertain, it is to be treated as a contingent asset. Suitable disclosure is to be made in this regard in the annual accounts. However, it was observed that the Salem CSMs' pending claim of Rs 11.97 crore for the last 20 years with TNPL was not disclosed in its annual accounts as a contingent asset.

Though the Secretary to Government, Industries Department mediated between the Salem CSM and TNPL, the issue is still to be sorted out (September 2009).

1.1.7 Sugar cane development

Ensuring adequate production of good quality sugar cane is essential to achieve optimum capacity utilisation and higher recovery rates¹³ of sugar.

The total cane area registered and the total cane crushed during 2004-09 was as shown in **Table 3**.

Table 3 : Year-wise cane area and cane crushed

Sugar season	Total cane area registered (in acres)	Sugar cane required for 100 per cent capacity utilisation (in lakh MT)	Total cane crushed (in lakh MT)
2004-05	1,16,696	60.02	26.00
2005-06	1,85,284		51.71
2006-07	1,88,690		58.27
2007-08	1,69,660		73.51
2008-09	1,59,610		54.69

(Source : Physical performance Reports/Performance budget)

CSM-wise details of cane area registered and cane crushed during 2006-09 are given in **Appendix 1.3**. Deficiencies in sugar cane development activities are discussed in the succeeding paragraphs.

1.1.7.1 Non-ensuring of the quality of sugar cane seed

To improve sugar cane yield, CSMs have to develop sugar cane seed through a three-tier nursery programme. Primary nurseries are to be raised by the CSMs

¹³ The ratio of quantity of sugar manufactured to the quantity of sugar cane crushed. (Sugar manufactured / Sugar cane crushed) x 100.

by sourcing genetically pure breeder seeds from research stations¹⁴. The sugar cane setts¹⁵ obtained from the primary nurseries are to be supplied to registered farmers to develop secondary nurseries. The yield from secondary nurseries are utilised by registered farmers to develop commercial nurseries, which in turn, yield sugar cane for bulk planting.

Under the three-tier nursery seed production programme, targets were fixed for CSMs to ensure seed quality. In the test-checked CSMs, it was seen that the targets had not been completely achieved during the period 2004-09 (**Appendix 1.4**), leading to non-ensuring of the quality of sugar cane seed. As for sourcing of genetically pure seeds for planting in primary nurseries by the test-checked CSMs, it was found that (i) three mills¹⁶ did not source breeder seeds from the research stations (ii) three mills¹⁷ sourced only a meagre quantity of less than 10 *per cent* from the research stations and (iii) three mills¹⁸ sourced breeder seeds from private nurseries without ascertaining their quality. Despite having three research stations under the fold of Tamil Nadu Agricultural University, the COS, as Registrar of CSMs, failed to ensure availability of sufficient quantity of breeder seeds. The COS stated (September 2009) that due to the prevailing drought, the research stations could not supply breeder seeds.

1.1.7.2 Deficiencies in development of captive sugar cane farms

Captive sugar cane farms were to be developed in CSMs in order to (i) raise primary nurseries for seed supply, (ii) demonstrate new technologies/biological pest control methods, (iii) produce and sell bio-compost and (iv) participate in research/field trials for new varieties. Test check of six CSMs, however, revealed that

- Primary nurseries were not established in the captive sugar cane farms to supply quality seeds.
- Facilities for soil testing were not available.
- Except for the Salem CSM, none of the test-checked mills produced bio-pesticides and bio-fertilizers for supply to farmers to promote scientific farming.
- In two test-checked sugar mills¹⁹, cultivation was not done in the captive sugar cane farms in 35 acres due to unsuitability of soil for cultivation as it was polluted by the factory effluents, as well as lack of fencing.

¹⁴ Research stations : Tamil Nadu Agricultural University, Cuddalore and Sirugamani and Sugar cane Breeding Institute of Indian Council for Agriculture Research, Coimbatore.

¹⁵ Cane cuttings with one or two buds are known as setts or seed pieces.

¹⁶ Dharmapuri, MRK and Tiruttani.

¹⁷ NPKRR, Salem and Vellore.

¹⁸ NPKRR, Tiruttani and Vellore.

¹⁹ MRK and NPKRR.

The COS replied (September 2009) that Rs 3 lakh per CSM was provided in the budget for the year 2009-10 to develop the captive farms for effective technology demonstration. However, the fact remained that the captive cane farms could not perform their envisaged functions during 2004-09.

1.1.7.3 Failure to follow planting programme

The normal crushing season in the State is from October/November/December to March/April/May. To ensure uninterrupted sugar cane supply during the crushing season, month-wise planting programmes were approved by the COS and targets were fixed for staggered planting and ratooning²⁰. However, only 21 *per cent* of planting in the test-checked mills was done as per the planting programme during 2004-09. This indicated that the COS, as the 'Cane Commissioner' of the State, failed to ensure staggered cultivation of sugar cane. As a result, cane harvesting was not done as per the original programme and four of the test-checked mills crushed overage²¹ sugar cane (Appendix 1.5) to the extent of 45 *per cent* of the total cane crushed during 2004-08, leading to low recovery rates during the closure of the crushing seasons (Appendix 1.6).

1.1.7.4 Deficiencies in sugar cane harvesting

The time span between harvesting and crushing of sugar cane was to be kept below 24 hours. Failure to crush the sugar cane within 24 hours would lead to less sugar recovery from sugar cane juice. In two test-checked mills²², the 'cut to crush' time²³ in respect of 54 to 87 *per cent* of the sugar cane crushed exceeded 24 hours during 2004-09. The quantity of sugar cane crushed beyond 24 hours in these CSMs during 2004-09 was 20.50 lakh MT (78 *per cent* of the total cane crushed).

The field level officials of the sugar mills were required to test the maturity of the sugar cane before harvesting, using a hand held instrument²⁴. However, this essential test was not carried out in Salem CSM. The shortfall in conducting the test before harvesting in other CSMs was in the range of 77 to 91 *per cent*.

1.1.7.5 Implementation of micro-irrigation programme

Government of India launched a Micro-Irrigation Programme in 2006-07 for encouraging micro-irrigation for various crops including sugar cane. GOI and the State Government jointly provided subsidy up to 50 *per cent* of the cost of installing drip irrigation facilities for sugar cane crops, subject to a maximum of Rs 28,000 per hectare. Drip irrigation would result in conservation of water

²⁰ Germination of new plants from the root portion of the harvested cane.

²¹ Overage : Above 13 months of plantation.

²² Dharmapuri and Tiruttani.

²³ The time span between the time of harvesting and the time of crushing.

²⁴ Hand refractometer to test maturity of sugar cane.

The 'cut to crush' time of 20.50 lakh MT of sugar cane in two mills during 2004-09 exceeded the norm of 24 hours

to the extent of 40 to 50 *per cent* and also in increased yield by 15 to 30 *per cent*. Under the scheme, the COS fixed individual targets for CSMs. The subsidy was placed at the disposal of the Tamil Nadu Horticulture Development Agency, the nodal agency for implementing the scheme, for release to farmers based on the recommendation of CSMs.

Achievement under micro-irrigation programme was 1,604 hectares as against the target of 17,640 hectares

Audit noticed that the implementation was tardy as only 1,604 hectares (nine *per cent*) were covered as of December 2008, against the target of 17,640 hectares by 15 CSMs for 2006-07 under this programme. During discussion, the COS stated (August 2009) that the target was being reduced.

1.1.7.6 Diversion of registered sugar cane

The Tamil Nadu Sugar Factories Control Act, 1949 and the Sugar Control Order 1966, provide that farmers cultivating sugar cane in the reserved area of a sugar mill are not allowed to divert the sugar cane harvested from their registered fields to other sugar mills or for other purposes. However, it was found that there was continuous unauthorised diversion of sugar cane by farmers from the registered area of Tiruttani CSM. During 2008-09, an estimated 49,000 MT of registered sugar cane of the sugar mill was diverted to other mills in the State and in Andhra Pradesh. The diversion of sugar cane affected the capacity utilisation of the sugar mill. The average capacity utilisation of the mill was very low at 50 *per cent* as against the average capacity utilisation of 92.6 *per cent* for CSMs in the State during 2004-09, rendering it unviable. This large scale diversion indicated the failure of the COS in enforcing the statutory powers vested in him under the Tamil Nadu Sugar Factories Act, 1949 and Sugar Control Order 1966.

1.1.7.7 Avoidable expenditure on transport

The cost of transporting sugar cane from the fields to the mills was being borne by the CSMs from 2006-07 onwards. The transport costs accounted for nearly five *per cent* of the cost of production of sugar during 2006-09 in the CSMs in the State. In the test-checked CSMs, the rate for transportation of cane was not fixed through tendering, but through a system of negotiations by convening meetings of sugar cane growers and transport operators. Thus, the CSMs lost the advantage of competitive rates.

Diversion of sugar cane resulted in avoidable additional expenditure of Rs 1.25 crore in test-checked mills during 2004-09

Sugar cane registered by one mill could be diverted to another mill through orders of the COS under certain situations which include mechanical breakdowns, shortage of cane etc. As per the normal practice, if the diversion took place due to inability of a mill to crush the sugar cane produced in its registered area, the mill which diverted the sugar cane had to bear the transportation costs from the growers' fields to the receiving mill. On the other hand, if diversion took place due to shortage of sugar cane, the receiving mill had to bear the transport cost. It was noticed that while the average transport cost per MT in the test-checked mills during 2006-09 ranged from Rs 56.46 to Rs 137.21, the cost of transport of sugar cane on account of diversion ranged from Rs 72.26 to Rs 529 per MT due to coverage of more distance, contributing to an avoidable additional expenditure of Rs 1.25 crore during 2006-09 in all the six test-checked mills (**Appendix 1.7**).

1.1.7.8 Non-implementation of insurance scheme

National Agricultural Insurance Scheme was not implemented by the test-checked CSMs

The National Agricultural Insurance Scheme was in operation in the State to protect farmers against losses suffered by them due to crop failure, drought, flood, fire, pest/diseases etc. The CSMs were required to ensure enrolment of the farmers under the scheme. It was found that the test-checked sugar mills had not enrolled the sugar cane farmers of the registered area under this scheme. As a result, an estimated loss of Rs 17.35²⁵ crore, sustained by the growers due to crop failures in an extent of 11,985 acres in the test-checked mills during 2007-09 on account of pest attacks and water scarcity could not be recouped by them.

1.1.8 Sugar mill operations

The sugar manufacturing process involves crushing of sugar cane to extract sugar cane juice, clarification of juice, heating and evaporation of water from the juice, crystallization, drying, packing and storage of sugar.

The quantity of sugar cane crushed by the CSMs fluctuated from 26 lakh MT to 73.51 lakh MT during 2004-09²⁶ against the installed capacity of 60.02 lakh MT. During the 10 year period of 1998-2008, the share of CSMs (46.41 lakh MT) in sugar production was 26 *per cent* of the total production (175.65 lakh MT) in the State. While the production in CSMs all over India had increased by 35 *per cent* during the same period, production by the co-operative mills in Tamil Nadu was almost stagnant at around five lakh MT per annum. This was mainly because the average daily crushing capacity (2,327 MT per day) of the CSMs in Tamil Nadu as of March 2009 was far below the capacity (5,000 MT per day) suggested (2004) by the Tuteja Committee and even below the all India average capacity of 3,586 MT per day. Deficiencies noticed in sugar mill operations are discussed in the succeeding paragraphs.

1.1.8.1 Capacity utilisation

Capacity utilisation of sugar mills depends on sugar cane availability as well as the efficiency of the machinery and the manufacturing process. The daily average crushing capacity utilisation ranged between 61 and 88 *per cent* in three test-checked sugar mills and above 90 *per cent* in three mills during 2004-09 (Appendix 1.8). The sugar mills attributed non-operation of the mills at rated capacity to the poor performance of machinery.

The CSMs plan their dates of commencement of crushing well in advance and these dates are approved by the COS. It was found that the test-checked mills commenced crushing with delays of more than 15 days in 33 *per cent* of the crushing seasons during the years 2004-09. The delay was highest (87 days) in the Dharmapuri CSM during 2004-05 mainly due to delay in completion of maintenance work and non-availability of sugar cane.

²⁵ Calculated on the basis of an average yield of 14 MT per acre for 11,985 acres at the 2007-08 SAP rate of Rs 1,034 per MT.

²⁶ Quantity of sugar cane crushed by CSMs: 2004-05: 26.00 lakh MT; 2005-06: 51.71 lakh MT; 2006-07: 58.27 lakh MT, 2007-08: 73.51 lakh MT and 2008-09 : 54.28 lakh MT.

The optimum age for harvesting is 12 months for sugar cane and 11 months for ratoons. Delayed commencement of the crushing season and operation of the mills below the rated capacity, coupled with the failure to encourage staggered planting (Paragraph 1.1.7.3), necessitated extension of the crushing season, leading to crushing of 21.88 lakh MT (45 per cent of the total cane crushed) of overage sugar cane during 2004-09 in four of the test-checked mills (Appendix 1.5). This led to decrease in the recovery rate, below the anticipated 9 per cent in 40 out of 60 months in the beginning and closing months of the crushing season during 2004-09 (Appendix 1.6) and contributed to lower annual recovery rates. The failure of COS, as the 'Cane Commissioner', to ensure timely cultivation and timely commencement of crushing season was the reason for the huge quantity of over-age sugar cane.

1.1.8.2 Failure to arrest losses within the prescribed norms

(i) Manufacturing losses in excess of ceiling

Failure to adhere to the required technical parameters in the manufacturing process and deficiencies in upkeep of machinery contributed to loss of Rs 12.97 crore

The recovery rate of sugar depends on the quality of sugar cane received for crushing and the manufacturing efficiency of the mills. The annual average recovery rate in the CSMs in the State, varied between 9.12 and 9.98 per cent during 2004-09. The sugar manufacturing process involves loss of sugar at various stages for which a normative ceiling of 1.80 per cent²⁷ had been prescribed by the COS. The daily manufacturing reports of the test-checked sugar mills revealed that the actual manufacturing losses exceeded the norms prescribed on an average of 48 to 96 per cent of the days of crushing for the period 2004-09, leading to a total loss of Rs 12.97 crore as given in Table 4.

Table 4 : Loss due to non-adherence to prescribed norms

Name of co-operative sugar mill	Number of days of crushing during 2004-09	Number of days with total loss in excess of 1.80 per cent	Quantity of sugar lost in excess of norms (MT)	Value of the quantity of sugar lost in excess of norms (Rs. in crore)
Dharmapuri*	408	195 (48)	288.16	0.44
NPKRR	741	627 (85)	3298.56	4.79
MRK	882	549 (65)	1152.61	1.65
Salem	894	551 (62)	1459.92	2.20
Tiruttani	540	518 (96)	1997.83	2.83
Vellore	779	639 (82)	1066.89	1.56
Total	4244	3079 (72)	9263.97	12.97

(Source : Data extraction from Daily Manufacturing Reports)

* Figures for 2006-09 only as details in respect of 2004-06 were not available.

(Figures in brackets indicate percentage of total number of days crushed where the total loss exceeded the norm).

The factors that contributed to manufacturing losses in excess of the norms fixed are discussed below:

²⁷ Loss up to 1.8 MT of sugar is tolerable if the total cane crushed is 100 MT.

(ii) Loss of time

Twenty three *per cent* of time loss, in excess of norms, in the six test-checked mills was because of mechanical break downs

Sugar mills are to be operated uninterruptedly throughout the crushing season except for planned shutdowns to attend to minor maintenance works. Interruptions in the operation of sugar mills would result in extension of the cut to crush time and consequent losses due to low recovery of sugar.

The COS has prescribed that the time loss in a crushing season should be less than eight *per cent* of the total hours. It was, however, noticed that the time loss in the test-checked CSMs during 2004-09 was higher than the ceiling in all the mills except in Dharmapuri and Salem CSMs during 2004-05 as given in **Table 5**.

Table 5 : Time loss in test-checked CSMs

(Percentage of time loss to total time)

Mill	2004-05	2005-06	2006-07	2007-08	2008-09
Dharmapuri	6.79	10.46	9.63	10.27	NA
MRK	11.09	8.99	9.65	13.75	17.66
NPKRR	34.41	16.18	18.96	24.81	24.90
Salem	3.14	11.98	12.16	10.24	9.78
Tiruttani	38.15	14.17	16.14	19.74	28.97
Vellore	11.78	11.45	11.55	13.37	13.71

(Source : Annual returns furnished by CSMs)

The overall time loss during 2004-09 in the test-checked mills in excess of the ceiling of eight *per cent* was 6,994 hours. Of this, 1,582 hours were lost due to mechanical breakdowns, 2,378 hours due to shortage of sugar cane, 1,279 hours due to cleaning operations and 1,755 hours due to other reasons. Time losses due to mechanical breakdowns were due to deficiencies in maintenance work and failure to identify and replace worn out parts (**Appendix 1.9**).

(iii) Losses due to failure to maintain standard norm for imbibition and pH

While crushing sugar cane in the mills, hot water is added to soften the sugar cane fibre, in order to extract maximum juice from it. This process is known as imbibition of fibre. Juice extraction is also dependent on proper maintenance of milling rollers. Further, maintenance of the appropriate pH²⁸ level, temperature etc., at various stages of sugar manufacturing operations reduce the manufacturing losses of sugar.

As per the final manufacturing reports in respect of the test-checked mills for the years 2004-09, the annualised imbibition percentage was less than the desired level²⁹ in 41 *per cent* of the total crushing days. This meant that less hot water was added, leading to less recovery of sugar. Similarly, mill

²⁸ A measure of the acidity or basicity of a solution.

²⁹ Hot water weighing 30 to 35 *per cent* of the sugar cane weight is to be added for effective imbibition.

extraction was less than the norm of 94 to 95 *per cent* in 35 *per cent* of the crushing days during the same period.

Further scrutiny of data on pH of clear juice during January to March 2009 in the test-checked mills disclosed that the pH was below the standard norm of 7.0 to 7.1 in 27 *per cent* of the crushing days, resulting in loss of sugar in filter cakes³⁰, molasses, etc. This implies that less or more sulphur / lime was added to the sugar cane juice.

The above lapses indicated that the operations were not carried out with adequate supervision. The Chief Chemist (CC) and Chief Engineer (CE) are the two officers responsible for efficient operation and maintenance of the CSMs. Records revealed that as of May 2009, seven³¹ CSMs neither had a CE nor a Deputy CE. Three³² CSMs did not have a CC and Deputy CC. Further, the Special Officers were transferred frequently and the average tenure of Special Officers during 2004-09 was only eight months. The COS replied (September 2009) that action was being taken to fill up the vacancies.

1.1.8.3 Inefficient manpower management in Co-operative Sugar Mills

No system existed for redeployment of surplus staff and monitor employment of nominal muster rolls against vacancies

The sugar mills have regular and seasonal staff. Regular staff are employed throughout the year and seasonal staff are employed only during the crushing season. The seasonal staff are discharged from service during off-seasons and are paid only 30 to 50 *per cent* of their entitled salary as retention allowance. Vacancies in the cadre of regular and seasonal staff are filled up with workers on nominal muster rolls and also by casual labourers. The expenditure on salaries and wages of the sugar mills accounts for about eight to nine *per cent* of the cost of production.

The six test-checked CSMs had a sanctioned strength of 3,072 staff/workers as of March 2009. While 1,052 posts (regular - 563 and seasonal - 489) were vacant, the mills also operated 511 posts (regular - 237 and seasonal - 274) in excess of the sanction. The surplus manpower under various posts was continued even after the vacancies were filled up by employing workers on nominal muster rolls and casual workers. There was no system to train the surplus manpower under certain categories / posts to make them qualified for employment against vacant posts. Besides, there was no system to redeploy the surplus hands of one mill in other mills where vacancies existed for similar posts. The details of approved staff pattern, existing strength, vacancies and surplus in the 15 CSMs are given in **Appendix 1.10**.

The staff strength of CSMs was downsized during the reorganisation in 1999. However, the sanctioned strength in 13 mills was around 500, as against 355 in the Kallakurchi II CSM established in 1997. Audit noticed that expenditure on salaries and wages in Kallakurchi II CSM was the lowest and worked out to five to six *per cent* of the cost of production as against eight to nine *per cent* in the CSMs as a whole. Kallakurchi II CSM also had the highest net worth among the CSMs.

The COS had not established any system to train the surplus manpower under certain categories / posts to make them qualified for employment against

³⁰ A by-product of sugar.

³¹ Amaravathy, Ambur, Dharmapuri, National, NPKRR, Salem and Tiruttani.

³² Ambur, Salem and Tiruttani.

vacant posts. There was no system to redeploy the surplus hands in one mill to other mills having vacancies for similar posts. During discussion, the COS assured to take appropriate action to redeploy the surplus staff in CSMs.

1.1.8.4 Losses due to excess consumption of bagasse

Bagasse is a by-product of sugar and is used for generation of steam for sugar mill operations. As per the norms, burning of one MT of bagasse should generate two to 2.25 MT of steam depending on the make and technology of the boiler.

However, on an average, the test-checked mills generated only 1.94 MT of steam for one MT of bagasse. Further, the test-checked mills consumed steam in excess of the norms of 48 to 50 *per cent* of sugar cane crushed by weight. The combined effect of low generation of steam and high consumption of steam resulted in excess consumption of bagasse with reference to norms, leading to a total revenue loss of Rs 4.35 crore during 2004-09 (**Appendix 1.11**). The COS stated (August 2009) during discussion, that the efficiency of the CSMs' operations would improve in the near future as modernisation of CSMs at a cost of Rs 322 crore was under consideration.

1.1.8.5 Low level of diversification

Sugar manufacturing yields by-products like bagasse, molasses, etc. Bagasse can be used in paper manufacturing and as boiler feed for power generation through cogeneration plants³³ in sugar mills. Molasses can be used as a raw material for production of alcohol products like rectified spirit, extra neutral alcohol, denatured spirit, ethanol, etc. which have a ready market and good profitability. In order to encourage diversification, Government of India provides soft loans at four *per cent* interest for establishment of ethanol plants and cogeneration plants.

The CSMs lagged behind in diversification of their business activities. While 18 of the 21 private sector sugar mills in the State had cogeneration plants for power generation using bagasse, only three³⁴ of the 15 CSMs had cogeneration plants. The State Government ordered (February 2008) the COS to provide cogeneration plants in all the co-operative sugar mills. Tenders received were under finalisation with the COS as of June 2009. Similarly, while the private sector had 12 distilleries with a licensed capacity to produce 17.77 crore litres of alcohol per annum, the co-operative sector had only two³⁵ distilleries with a licensed capacity of 3.10 crore litre per annum. Proposals to establish a distillery and ethanol plant in two sugar mills³⁶ were being processed by COS. Due to non-diversification, the CSMs had to sell molasses, bagasse etc., without converting them into valuable downstream products like alcohol, ethanol, power, manure, etc.

³³ Cogeneration Plant : Generation of steam by burning bagasse is a normal part of sugar mill operations to generate electricity for captive consumption and for boiling sugar cane juice. In mills with co-generation plants, higher capacity boilers are provided to generate steam in excess of their own requirements to power turbines of electricity generators for ultimate export of energy.

³⁴ Cheyyar; Subramania Siva and MRK.

³⁵ Salem and Amaravathy.

³⁶ MRK and Cheyyar.

Poor operational efficiency of sugar mills resulted in non-realisation of potential revenue to the tune of Rs 4.35 crore by sale of bagasse

CSMs failed to reap the financial benefits of diversification

1.1.8.6 Poor functioning of distillery unit of Salem Co-operative Sugar Mill

Poor capacity utilisation of a distillery in Salem CSM resulted in revenue loss of Rs 13.46 crore.

(i) Loss due to poor capacity utilisation of distillery

Two of the 15 CSMs had distillery units attached to them to process molasses into alcohol products. The present performance audit covered one of the distillery units attached to the Salem CSM. The production performance of the distillery unit of Salem CSM is given in Table 6.

Table 6 : Capacity utilisation of Salem Distillery

Year	Annual capacity ³⁷ (Kilo Litre)	Actual production (Kilo Litre)	Capacity utilisation (per cent)
2004-05	16,500	6,239	38
2005-06	16,500	4,462	27
2006-07	16,500	10,597	64
2007-08	16,500	8,174	49
2008-09	16,500	8,197	50

(Source : Salem CSM)

The poor capacity utilisation was mainly due to problems in the effluent treatment plant. The Central Pollution Control Board ordered the Salem CSM to stop distillery operations for 75 days and to restrict the production to below 14 Kilo Liter (KL) per day for 211 days and below 41 KL per day for 224 days during 2007-09 against the installed capacity of 55 KL per day. The poor capacity utilisation was also due to plant breakdowns, problems in storage of alcohol produced, etc., which resulted in revenue loss of Rs 13.46 crore during the five year period 2004-09, as worked out with reference to maximum production achieved in 2006-07 (Appendix 1.12).

(ii) Loss due to non-functioning of a bio-digester

Avoidable expenditure of Rs 8.13 crore due to non-functioning of bio-digester

As per the procedure, the effluents of a distillery unit pass through a bio-digester, wherein the pollutant level is brought down by a bio-chemical process. The methane gas released in the bio-chemical process is used as a boiler fuel to produce steam for the operations of the distillery. The bio-digester of the Salem CSM got choked and its performance came down from the year 2002, due to which there was inadequate supply of methane gas for use as fuel for operation of the distillery boiler. Based on a belated proposal (2006) of the CSM, the existing bio-digester was revamped and a new bio-digester was installed at a cost of Rs 2.85 crore, which started functioning only from March 2009. In the absence of a functional bio-digester, the distillery had to depend on furnace oil to run its boiler and had to spend Rs 8.13 crore during 2004-09 on procurement of the furnace oil. As methane gas from a bio-digester, a by-product in the effluent treatment process, is a sufficient and freely available source of boiler feed, the delay in setting up a functional bio-digester and in revamping the old bio-digester contributed to avoidable additional expenditure of Rs 8.13 crore on procurement of furnace oil.

³⁷ 55 Kilo Litre per day x 300 days per annum.

1.1.8.7 Poor performance of co-generation plant

Three of the 15 CSMs had co-generation plants for generation of electricity. The co-generation plant of MRK CSM was provided with two high tension (HT) turbines of 2.5 mega watt (MW) capacity each to export five MW of power. Steam for the HT turbines as well as for the manufacturing operations³⁸ of the sugar mill was generated by a boiler with an installed capacity of 64 MT per hour. The quantity of steam required for operation of the HT turbines as well as for the mills own consumption, *vis-à-vis* the actual availability during 2004-09 was as given in Table 7.

Table 7 : Requirement and availability of steam

Steam requirement for:		Installed capacity of the boiler	Steam requirement as per design	Actual steam generation by the boiler	Actual steam available for turbines
Own requirement	Mill operations	64	18.00	58 to 61	40.50
	LT turbine		21.75		
Requirement for power export	Two HT turbines		35.50		17.5 to 20.50
Total		64	75.25	58 to 61	58 to 61

(Source : MRK CSM)

As seen from the above, the installed capacity of the boiler was insufficient to provide the required steam for the HT turbines. Therefore, as against the installed capacity to generate 1.20 lakh units³⁹ per day, the COS fixed a reduced target of 60,000 units per day. The mill, however, was unable to achieve even the reduced target due to supply of steam with reduced pressure of 37 kg/cm² against the requirement of 42 kg/cm² for HT turbines, owing to frequent repairs in the boiler and drops in pressure in the steam lines. Though minor repairs and replacements were carried out frequently, no significant steps were taken to repair them properly so as to achieve the desired output. As a result of this, even the reduced target of power export could not be achieved, depriving the CSM of possible revenue of Rs 5.92 crore (Appendix 1.13).

1.1.8.8 Idle investment on ethanol plants

Ethanol is manufactured by further distillation of extra neutral alcohol (ENA), manufactured from molasses in the distilleries attached to sugar mills. Permission of the Commissioner of Prohibition and Excise is mandatory for establishing ethanol plants. The COS proposed (December 2006) setting up of an ethanol plant in two mills⁴⁰ at a cost of Rs 3.50 crore each. The State Level Advisory Committee⁴¹ approved (December 2006) the proposal. As per the permission accorded by the Commissioner of Prohibition and Excise (October 2006), production of ethanol by the two mills was subject to the demand for potable alcohol in the State being fully met. The Commissioner of

³⁸ Steam is used for a low tension (LT) turbine to generate electricity for captive consumption and in the turbo drives that provide motive power to cane cutter, mill rollers etc.

³⁹ 5 MW = 5000 units per hour x 24 hours = 1,20,000 units.

⁴⁰ Amaravathy and Salem.

⁴¹ A Committee headed by the Principal Secretary to Government, Industries Department with powers to approve proposals of CSMs costing more than Rs 50 lakh.

Generation of steam at lower pressure resulted in revenue loss of Rs 5.92 crore in export of power

Idle investment of Rs 7 crore on two ethanol plants

Prohibition and Excise had not given permission for commercial production of ethanol till May 2009. It was, however, noticed that the COS, despite being aware of the fact that potable alcohol was in short supply, ventured to establish ethanol plants in the mills. As a result, the two ethanol plants established during August/September 2008 at a cost of Rs 7 crore had not commenced commercial production of ethanol as of May 2009, resulting in idle investment of Rs 7 crore.

1.1.8.9 Industrial Safety

Sugar milling being a heavy industry with a substantial work force, industrial safety assumes utmost importance. During 2004-09, in four of the test-checked CSMs⁴², 233 accidents were reported with 150 injuries and two fatalities. All CSMs had sanctioned posts of one Medical Officer and three paramedical staff. However, it was found that the MRK and NPKRR CSMs did not have any Medical Officers. Further, the MRK CSM did not have an ambulance despite the occurrence of 129 accidents during the last five years. None of the test-checked mills had documented the procedures for responding to emergencies nor had sensitized the workers for emergency situations.

The sugar industry is classified under the 'red' category⁴³ for the purpose of pollution control and has to obtain consent letters from the Tamil Nadu Pollution Control Board for their functioning. Audit observed that four⁴⁴ test-checked mills did not have the Pollution Control Board's valid consent letter to run the mills, as they failed to adhere to the effluent treatment and air pollution norms.

Further, even though the sugar mills were expected to treat their effluents and use the treated effluents to irrigate their sugarcane farms, these four test-checked CSMs allowed their treated as well as untreated effluents to flow into a nearby lake and river canals leading to pollution of the water bodies. When this was pointed out, the CSMs accepted (April 2009) the facts and stated that they were taking all possible steps to adhere to the specified norms.



⁴² MRK, NPKRR, Salem and Vellore.

⁴³ The Tamil Nadu Pollution Control Board has classified the industries as per their pollution load into three categories. 'Red' category denotes highly polluting industries which are to be monitored at least once in four months.

⁴⁴ Dharmapuri, NPKRR, Salem and Tiruttani.

1.1.9 Marketing

1.1.9.1 Sugar marketing

Sugar is a partly controlled essential commodity and GOI exercises control through a mechanism of 'release orders' for marketing sugar. Government of India permits the sugar mills to sell 90 *per cent* of the quantity as free sale quantity through periodical release orders. The quantity so released is to be sold within the period specified (generally one month) in the release order. Ten *per cent* of the production of each mill is reserved for sale through the public distribution system as levy sugar. The price fixed for levy sugar was Rs 13.50 per kg during 2004-09.

(i) *Fixing of upset price*

The Tamil Nadu Co-operative Sugar Federation (Federation) is the designated agency for marketing sugar produced by CSMs. The Special Officer of the Federation fixes the upset price for sale of sugar based on market trends and the prices prevailing in nearby private mills. The Federation and the CSMs conduct sugar auctions in Chennai and in the mill premises respectively on alternate days. The Special Officer, Federation issues delivery orders to the bidders who quote rates above the upset price during the auction held at Federation. On the subsequent day, the auctions are held at the mill premises.

Audit noticed that in 135 out of the 315 auctions⁴⁵ (43 *per cent*), the rates quoted by the bidders were rejected as they were less than the upset prices. This indicated that the mechanism of fixing upset prices based on the sale prices of private mills was faulty. The Federation failed to recognise that while the sale of sugar in CSMs was on cash basis, the private sugar mills effected sale on credit also. Further, the Federation failed to consider the previous days' sale and offers received by it for free sale of sugar in CSMs, leading to inability in selling the released quantities. It was further observed that 28 *per cent* of the sugar samples of the test-checked sugar mills tested by the Sugar Research Institute, Vellore, during 2004-09 were below the desired standard.

(ii) *Low number of bidders*

The Federation had no system to advertise the sugar auctions. Test check of bidders' participation in the auctions conducted by the Federation in respect of seven test-checked months during 2004-09 disclosed that on an average, only eight bidders participated in the auctions conducted for 15 CSMs per day. A detailed study of sugar auctions during November 2008 and January 2009 by Audit disclosed that the Federation did not receive even a single offer in 163 out of 315 auctions (52 *per cent*), which indicated lack of publicity for these auctions.

⁴⁵ Conducted during 2007-09 in seven randomly selected months

Defective setting of upset price and lack of publicity for sugar auctions conducted by Tamil Nadu Co-operative Sugar Federation resulted in loss of Rs 8.40 crore

As a result of defective setting of upset price and limited participation of bidders in sugar auctions, the test-checked CSMs could not sell the entire quantity of sugar released for sale within the period specified in the release order. Test check by Audit disclosed that during 2007-09, the Chief Director of Sugar, Government of India ordered conversion of 33,029 MT of unsold free sugar in 11 CSMs as levy sugar to be sold through the public distribution system at Rs 13.50 per kg. As the price of levy sugar was less than that of the open market sugar, the 11 CSMs sustained a loss of Rs 8.40 crore due to failure to sell the released quantity within the release period during 2008-09 (**Appendix 1.14**). On this being pointed out by Audit, the COS initiated action through the Federation to give wide publicity for sugar auctions. Following this, 379 new dealers registered (August and November 2009) themselves with the Federation and the number of bidders participating in auctions went up to 75 per day. This indicated that the failure of COS to give regular wide publicity was the reason for the revenue loss to CSMs.

1.1.9.2 Marketing of alcohol

Non-convening of Alcohol Marketing Committee meetings resulted in accumulation of huge stock of alcohol products in Salem Cooperative Sugar Mill

The Federation markets the alcohol products⁴⁶ manufactured by the distilleries of Salem CSM and Amaravathy CSM through tender-cum-auctions. The Alcohol Marketing Committee headed by the Joint COS fixes the rates for alcohol products based on the tenders/offers received. The committee is required to meet once in two months. The rates fixed by the committee are valid till new rates are fixed.

The Committee met only 13 times during 2004-09 as against the requirement of 30 meetings during the period. As the alcohol market witnessed high fluctuations, non-revision of sale prices periodically resulted in accumulation of stock, necessitating the stopping of production for four months during 2004-09. Scrutiny of records at the Salem CSM disclosed that in 23 months during 2004-09, the sale of rectified spirit was less than 10 per cent of the stock. As a result, the monthly average of rectified spirit held in stock during 2004-09 was very high and the inability to market the same resulted in blocking of around Rs 1.67 crore.

1.1.10 Administration of Co-operative Sugar Mills

As stated earlier the general administrative control of all the CSMs vested with the COS, who was assisted by Special Officers appointed for each mill. The deficiencies noticed in the administration of the CSMs are discussed in the succeeding paragraphs.

1.1.10.1 Transfer of sugarcane area

Sugarcane availability is crucial for the successful operation of sugar mills. Based on the recommendations of the Area Delimitation Committee, Government took away (May 2007 to August 2008) 32,253 acres of sugarcane growing land from six CSMs and allotted the same to five new private sugar mills which were to be established. These five mills had not yet commenced crushing. While the average quantity of sugarcane crushed by the CSMs during 2001-06 was 40.53 lakh MT, it was 75.94 lakh MT during 2006-07 due

⁴⁶ Rectified spirit, denatured spirit, extra neutral alcohol etc.

to a bumper crop. The Committee, however, justified the transfer based on the sugarcane availability in 2006-07. The Committee adopted 15 km as the minimum distance between two sugar mills as against the Tuteja Committee's recommendation of 25 km. The percentage of sugarcane area transferred to private mills ranged from 14.41 to 50.16 in respect of six CSMs. The reduction in sugarcane availability for the six CSMs after the proposed transfer of area and resultant possible reduction in production of sugar worked out by Audit on the basis of average performance during 2004-09 are furnished in Table 8.

Table 8 : Likely impact of transfer of cane area

Name of sugar mill	Yearly average of		Percentage of existing sugarcane area transferred	As a consequence of transfer of sugarcane area	
	Sugarcane crushed during 2004-09	Sugar produced during 2004-09		Reduction in availability of sugarcane	Reduction in production of sugar
	(Lakh MT)			(Lakh MT)	
Kallakurichi I	4.53	0.42	37.60	1.70	0.16
Kallakurichi II	4.52	0.44	14.41	0.65	0.06
Subramania Siva	4.15	0.44	26.67	1.11	0.12
Chengalvarayan	5.25	0.47	50.16	2.63	0.24
Tirupathur	2.17	0.23	47.60	1.03	0.11
Salem	4.15	0.41	19.08	0.79	0.08
Total	24.77	2.41		7.91 (32)*	0.77 (32)@

(Source : Government orders and minutes of Delimitation Committee)

* Figure in bracket indicates percentage to average sugarcane crushed during 2004-09 (Col.2).

@ Figure in bracket indicates percentage to average sugar produced during 2004-09 (Col.3).

As may be seen from the above, the percentage of anticipated reduction in sugarcane availability and the resultant reduction in production of sugar due to diversion of sugarcane area would be around 30 per cent of the average sugarcane crushed and sugar produced by the six CSMs during 2004-09. Further, the capacity utilisation of these mills was also likely to decrease to financially unviable levels during the year due to the transfer of land. The COS replied (September 2009) that based on the recommendations of the Area Delimitation Committee, cane areas of six CSMs were allotted to private sector mills. The reply was not on the issues raised by Audit.

1.1.10.2 Achievement under sugarcane road development scheme

As per Section 14(1) of the Tamil Nadu Sugar Factories Control Act, 1949, every sugar mill is required to contribute Rs 5 per MT of sugarcane crushed to the Sugarcane Cess Fund constituted by the State Government. Sixty per cent of the contribution is to be spent on road works in that area. Audit found that the CSMs were not prompt in remitting sugarcane cess. As of March 2009, a sum of Rs 9.53 crore was in arrears from the CSMs to the Sugarcane Cess Fund. It was also noticed that no road work had been carried out during 2004-09 in NPKRR CSM, despite its contribution of Rs 78.80 lakh during that period.

1.1.10.3 General body meetings in Co-operative Sugar Mills

Five out of six CSMs did not conduct annual general body meetings during 2004-09

Section 32 of the Tamil Nadu Co-operative Societies Act, 1983 provides that the meeting of the General Body of a registered society should be conducted at least once in a year. However, five out of the six test-checked sugar mills did not organise any General Body meeting during 2004-09. The Tiruttani CSM conducted only one such meeting during 2004-09. Member farmers had no role in the management of CSMs due to non-conducting of elections and failure to hold the meetings. This was against the basic principles of the co-operative movement and could erode the farmers' sense of belonging to the same.

1.1.11 Monitoring

1.1.11.1 Web-based monitoring

The Federation developed (2001) a web-based system for monitoring the functioning of CSMs. The system was upgraded in 2006 at a cost of Rs 1.10 lakh. The CSMs were to upload data relating to their mills on a daily / weekly basis. The module on manufacturing was designed to capture data on sugar cane crushed, sugar content, etc. The finance module was designed to capture data on expenditure control, physical performance, stock, etc. The module on sugar cane development was to capture data on registration, supply and payment details. Audit found that none of the test-checked CSMs had uploaded their complete data as required. Failure to upload critical data necessary for monitoring compromised the objective of creating the web-based monitoring system.

1.1.11.2 Inspection of cooperative sugar mills

Commissioner of Sugar had not inspected five of the six test-checked CSMs during 2004-09

Field inspections by officers is in practice in all Government Departments to monitor the activities of field units. Although Rs 774.68 crore was extended by Government in the form of share capital and loans to CSMs, it was found that the COS had not inspected five of the six test-checked CSMs during 2004-09.

1.1.12 Conclusion

The CSMs in the State suffered heavy losses due to high cost of production. They failed to diversify into power generation, distillery operations etc., to augment their revenue. Lack of a scientific approach in sugarcane development, problems in sugarcane linkage, crushing of overage sugarcane, frequent breakdown of machineries, non-maintenance of correct technical parameters in sugar mill operations etc., affected the efficiency of CSMs. Excess manpower, failures in marketing and excessive dependence on borrowed funds for working capital contributed to the high cost of production, which led to recurring losses and resulted in huge accumulated losses.

1.1.13 Recommendations

- Government intervention by way of loan restructuring is necessary to lessen the financial burden of the CSMs and to improve their overall functioning.
- CSMs should strengthen their cane farms and ensure cultivation of primary nurseries and supply of quality seeds to farmers.
- Stringent measures should be in place to ensure co-operative mills' adherence to norms on total loss and time loss.
- Government should speed up the diversification process and analyse the possibility for capacity expansion of CSMs.
- Government should revisit the staffing pattern of CSMs.
- The system of fixing upset price for free sale sugar needs to be reviewed and strengthened.

The above points were referred to Government in July 2009. Reply had not been received (October 2009).

HEALTH AND FAMILY WELFARE DEPARTMENT

1.2 National Rural Health Mission

Highlights

The National Rural Health Mission (NRHM) was launched in April 2005 by Government of India in all States to bring about significant improvements in the health system and the health status of the people, especially those in rural areas. The Mission seeks to provide universal access to equitable, affordable and quality health care which is accountable and at the same time, responsive to the needs of the people. A performance audit of the implementation of NRHM in Tamil Nadu brought out the following:

- **Though baseline surveys were completed, consolidation of data at the State level had not been done. Perspective Plans for the Mission period were not prepared by the State Health Society. District Action Plans were not prepared during 2005-08. Village and Block Plans were also not prepared during 2007-09 and 2005-09 respectively.**

(Paragraphs 1.2.6.1 and 1.2.6.2)

- **Rupees 359 crore out of Rs 965.57 crore (37 per cent) received by the State Health Society up to 2008-09 remained unspent. Poor utilisation of funds released for activities such as hiring of private anaesthetists and paediatricians and facilities for basic emergency obstetrics newborn care resulted in balances totalling Rs 62 crore, lying unspent with seven test-checked districts.**

(Paragraphs 1.2.7.1 and 1.2.7.2)

- **Rupees 53.95 crore were diverted from NRHM's funds to various Central, State and World Bank assisted schemes during 2006-09.**

(Paragraph 1.2.7.5)

- **Forty seven per cent of the posts of Laboratory Assistants were vacant in the State. Twenty two per cent of the posts of drivers and 12 per cent of the posts of pharmacists were also vacant.**

(Paragraph 1.2.8.2)

- **Block Primary Health Centres/Primary Health Centres and Health Sub Centres were not strengthened with adequate staff as per Indian Public Health Standards, in the test-checked districts.**

(Paragraph 1.2.8.2 (i))

- None of the 21 Block Primary Health Centres test-checked in the seven districts had blood storage facilities. Eighteen of the 21 Block Primary Health Centres and 41 of the 42 Primary Health Centres test-checked did not have emergency/ casualty rooms and 39 of the 42 Primary Health Centres did not have operation theatres. Thirty nine of the 42 Primary Health Centres and 41 of the 84 Health Sub Centres test-checked did not have staff quarters.

(Paragraph 1.2.8.2 (ii))

- Against 1,242 personnel required for programme management units in 29 districts and 385 blocks of the State, just 52 were appointed, leaving a shortage of 1,190.

(Paragraph 1.2.8.2 (iii))

- The State Government provided ambulances to 385 Block Primary Health Centres as against two fully equipped mobile medical units per district sanctioned by Government of India.

(Paragraph 1.2.9.1 (i))

- Eighty five operation theatres in 385 Block Primary Health Centres in the State were not functional during 2008-09.

(Paragraph 1.2.9.3 (iv))

- Collection of eyes by the Government sector in the test-checked districts was just three *per cent*. Spectacles were not supplied to 1,89,695 out of 3,53,575 children found to be with refractive errors during 2005-09.

(Paragraph 1.2.10.4)

- Monitoring committees were not formed at Primary Health Centres and Block Primary Health Centres and at the district and State levels. The absence of a 'public hearing mechanism' resulted in lack of the envisaged community participation in the Mission.

(Paragraph 1.2.12.1)

1.2.1 Introduction

Government of India (GOI) launched the National Rural Health Mission (NRHM) in all the States including Tamil Nadu from April 2005 with the following objectives:

- Reduction in child and maternal mortality,
- Universal access to public services for food and nutrition; sanitation and hygiene and public health care services, with emphasis on services addressing health of women and children and universal immunisation,

- Prevention and control of communicable and non-communicable diseases, including locally endemic diseases,
- Access to integrated comprehensive primary health care,
- Population stabilization, gender and demographic balance,
- Revitalisation of local health traditions and mainstreaming Ayurvedic, Yoga, Unani, Siddha and Homoeopathy (AYUSH) and
- Promotion of healthy lifestyles.

1.2.2 Organisational structure

In Tamil Nadu, NRHM functions under the overall guidance of the State Health Mission (SHM), headed by the Chief Minister. The Principal Secretary, Health and Family Welfare Department is the Convenor. The Project Director, Reproductive and Child Health Project is the Mission Director and the Director of Public Health & Preventive Medicine is the Joint Mission Director. The activities of NRHM are being implemented by the State Health Society (SHS), registered under the Tamil Nadu Societies Registration Act, 1975. The organograms of SHM and SHS are given in **Appendix 1.15**. At the district level, the Collector is the Chairperson of the District Health Mission (DHM) which monitors the implementation of NRHM by the District Health Societies (DHSs), headed by Deputy Directors of Health Services as Executive Secretaries. District Family Welfare Bureaus, headed by Deputy Directors of Medical and Rural Health Services and Family Welfare implement the family welfare services. National Disease Control Programmes (NDCPs) are implemented by State level Disease Control Societies through District Disease Control Societies. The district level organogram is also given in **Appendix 1.15**. Procurement of drugs, medicines, ambulances and computers are done through the Tamil Nadu Medical Services Corporation Limited, the Tamil Nadu Medicinal Plant Farms and Herbal Medicine Corporation Limited and the Electronics Corporation of Tamil Nadu.

1.2.3 Audit objectives

The objectives of the performance audit were to assess whether :

- the planning processes at the village, block, district and State levels were adequate;
- the assessment, release and utilisation of funds were efficient and effective;
- capacity building and strengthening of physical and human infrastructure were as per the Indian Public Health Standard norms;

- the performance indicators and targets fixed, specially in respect of reproductive and child healthcare, immunisation and disease control programmes were achieved and
- the level of community participation, monitoring and evaluation was as per the guidelines.

1.2.4 Audit criteria

The criteria adopted to arrive at the audit conclusions were:

- The GOI framework on implementation of NRHM.
- Guidelines issued by GOI for various components, disease control programmes, financial aspects, etc.
- Circulars issued by GOI containing directions for NRHM activities.
- Orders and instructions issued by the State Government.
- Indian Public Health Standards (IPHS) for upgradation of health centres.

1.2.5 Audit coverage and methodology

In Tamil Nadu, NRHM is implemented in 29 districts⁴⁷ (except Chennai), of which seven districts⁴⁸ were selected using the probability proportionate to size method for test check. In each test-checked district, three Block Primary Health Centres (BPHCs), two additional Primary Health Centres (PHCs) under each Block PHC and two Health Sub Centres (HSCs) under each additional PHC were selected through the simple random sampling method without replacement for detailed study. There are 385 BPHCs, 1,036 PHCs and 8,706 HSCs in the State. Twenty one BPHCs out of 115, 42 PHCs out of 311 and 84 HSCs out of 2,704 were test-checked in the sample districts. A list of test-checked units is given in **Appendix 1.16**.

Records relating to implementation of the scheme for the period 2005-09 were scrutinised in the Health and Family Welfare Department of the State Secretariat, SHS, Disease Control Societies, Directorate of Public Health and Preventive Medicine, Directorate of Family Welfare, procurement agencies in Chennai, District Health Societies and District Family Welfare Bureaus, selected Block PHCs, additional PHCs and HSCs in seven test-checked districts between March and June 2009. Entry and exit conferences were held

⁴⁷ Twenty nine revenue districts divided into 42 Health Unit Districts for administrative convenience.

⁴⁸ 1. Erode, 2. Kancheepuram, 3. Kanyakumari, 4. Pudukottai, 5. Thiruvannamalai, 6. Vellore and 7. Villupuram.

in April 2008 and September 2009 respectively with the Principal Secretary, Health and Family Welfare Department.

Expanded forms of all abbreviations are given in a glossary.

Audit findings

Findings of the performance audit are discussed in the succeeding paragraphs.

1.2.6 Planning process

NRHM envisaged various activities including conducting of facility and household surveys in HSCs, PHCs, BPHCs and District Hospitals of each district with time lines for completion of such activities. The targets and achievements under important activities are given in **Appendix 1.17**.

1.2.6.1 Baseline surveys

Though baseline surveys had been completed, consolidation of data at the State level had not been done

Baseline surveys were required to be carried out and completed in all the districts by 2008. These baseline surveys were essential for planning and monitoring so as to construct a baseline annual Plan for each health facility with a clear assessment of financial and human resources and commitments of service guarantees. The household surveys were also intended for collection of information on availability of other determinants of health such as drinking water, sanitation, etc.

Though the household surveys were completed by 2008, data was still to be consolidated for the entire State due to non-receipt of inputs from The Nilgiris and Virudhunagar districts. The surveys covered only about 14 lakh households and 15 *per cent* of the rural population instead of the entire rural population as contemplated under NRHM.

Facility surveys of HSCs were conducted during November 2007. However, the data was not validated by Panchayat Raj Institutions (PRIs). Consolidation of the data at the State level had not been completed so far (May 2009). Facility surveys of PHCs was done by the Department of Economics and Statistics in December 2008 and their report was awaited (March 2009).

The Mission Director (MD), State Health Society attributed (December 2008) the deficiencies in conducting household surveys to shortage of manpower and stated that PRI validation of facility surveys would be obtained after consolidation of the data at the State level.

1.2.6.2 Framing of Action Plans

Based on the baseline surveys, village health Action Plans were to be prepared by the Village Health and Sanitation Committees headed by Panchayat members. The gaps in the health care facilities, identified through the baseline surveys, were to be addressed by devising suitable intervention strategies. The

village health Action Plans were to indicate the probable investment and the financial and physical targets. The village health Action Plans were also to form the basis for preparation of health Action Plans at block and district level and the Perspective Plan and Programme Implementation Plans for the State as a whole.

Audit, however, noticed that the Mission did not insist on village Action Plans for the first two years, as extensive capacity building was required to be undertaken at the village level for this purpose.

It was found that, the health Action Plans were not prepared at the village, block and district levels for the years as indicated in Table 1. Perspective Plans for the Mission period were also not prepared by the SHS.

Table 1: Non-preparation of Annual Action Plans

Nature of Plan	Years for which the Plan was not prepared	Authorities responsible for preparing the Annual Plan
Village Health Action Plan	2007-08 and 2008-09	Village Health and Sanitation Committee headed by a Panchayat member.
Block Health Action Plan	2005-06 to 2008-09	Block Health Monitoring and Planning Committee headed by a Block Panchayat member.
District Health Action Plan	2005-06 to 2007-08	District Health Monitoring and Planning Committees headed by a District Panchayat member.

(Source: GOI guidelines on NRHM)

Due to the absence of district Action Plans up to 2007-08, the SHS prepared the Programme Implementation Plan on its own. District Plans were prepared only from 2008-09 onwards.

1.2.6.3 Failure to set up a State Health System Resource Centre

As per the guidelines of NRHM, a State Health System Resource Centre (SHSRC) was to be set up at the State level with an annual corpus of Rs 1 crore for strengthening service delivery and operationalising new ideas. It was observed that the SHSRC had not been set up so far (March 2009) due to administrative reasons as stated by MD, SHS (September 2009).

1.2.7 Funding pattern, release and utilisation

1.2.7.1 Financial performance

The Mission was financed by GOI till 2006-07. From 2007-08, the funding was to be shared in the ratio of 85:15 between GOI and the State Government.

Perspective Plans for the Mission period were not prepared by SHS.

Health Action Plans were not prepared by districts during 2005-08. Village and block Plans were not prepared for 2007-09 and 2005-09 respectively

GOI released funds to the State Government for seven components⁴⁹ and to the SHS for five components⁵⁰ during 2005-09. GOI also released funds directly to other State Disease Control Societies up to 2006-07 and thereafter, through SHS for six components⁵¹. Receipts and expenditure under NRHM during the years 2005-09 are given in **Table 2**.

Table 2

(A) Funds released through State Government

(Rupees in crore)

Year	Funds received from GOI	Expenditure incurred	Cumulative balance
2005-06	170.41	180.52	(-)10.11
2006-07	158.73	235.55	(-)86.93
2007-08	280.98	246.83	(-)52.78
2008-09	369.33	336.18	(-)19.63
Total	979.45	999.08	(-)19.63

(Source : Fund release orders of State Government)

(B) Funds released based on Programme Implementation Plan – through SHS

(Rupees in crore)

Year	Approved allocation	Amount released by		Expenditure incurred	Cumulative Balance #	Total amount available	Percentage of cumulative balance to total amount available
		GOI	State Government				
2005-06	100.80	100.80	NR	13.13	87.67	100.80	87
2006-07	227.81	185.56	NR	102.95	170.28	273.23	62
2007-08	314.49	335.95	Nil	204.94	301.29	506.23	59
2008-09	468.19	282.65	60.61	285.40	359.15	644.55	56
Total	1111.29	904.96	60.61	606.42			

(Source : State Health Society)

NR: not required to contribute.

excludes interest accrued during 2006-07 to 2008-09 – Rs 9.21 crore.

Thirty seven per cent of funds received up to 2008-09 were not spent by SHS

The unspent balance with SHS, which was Rs 87.67 crore in 2005-06, swelled to Rs 359.15 crore⁵² in 2008-09, accounting for 37 per cent of the funds (Rs 965.57 crore) received up to 2008-09. The National Programme Co-ordination Committee (NPCC) instructed (March 2008) the SHS to focus

⁴⁹ Area Project, Direction and Administration, Grants to State Training Institute, Procurement and Supply of Materials, Contraception, Rural Family Welfare Services and Urban Family Welfare Services.

⁵⁰ Janani Suraksha Yojana, NRHM Flexipool, Pulse Polio Immunisation, RCH Flexipool and Routine Immunisation.

⁵¹ Integrated Diseases Surveillance Project (IDSP), National Iodine Deficiency and Disorder Diseases Control Programme (NIDDCP), National Leprosy Eradication Programme (NLEP), National Programme for Control of Blindness (NPCB), National Vector-Borne Disease Control Programme (NVBDCP) and Revised National Tuberculosis Control Programme (RNTCP).

⁵² Lying with procurement agencies (Rs 92.22 crore), SHS (Rs 108.61 crore), training institutes (Rs 7.48 crore) and various DHSs and PWD Divisions (Rs 150.84 crore). Total : Rs 359.15 crore.

on utilisation of resources as the unspent amounts were very high. However, the SHS continued to obtain funds from GOI year after year, even though large unspent balances were available.

1.2.7.2 Utilisation of funds

The unspent funds in the seven test-checked districts increased to Rs 61.79 crore in 2008-09 from Rs 0.34 crore in 2005-06 (Appendix 1.18). The main reason for the large unspent funds was non-utilisation of 50 per cent or more of the available funds during 2006-09 under various components as indicated in Table 3.

Table 3: Status of funds in test-checked districts

(Rupees in crore)

District	2006-07				2007-08				2008-09			
	No. of components	Amount released	Amount spent	Amount unspent	No. of components	Amount released	Amount spent	Amount unspent	No. of components	Amount released	Amount spent	Amount unspent
Erode	8	0.17	0.03	0.14	15	2.51	0.24	2.27	5	6.23	0.18	6.05
Kanyakumari	5	0.64	0.02	0.62	13	1.40	0.14	1.26	8	3.35	0.68	2.67
Pudukottai	8	0.20	0.04	0.16	14	1.27	0.19	1.08	9	3.07	0.06	3.01
Vellore	8	0.79	0.11	0.68	13	2.60	0.33	2.27	7	5.54	2.14	3.40
Villupuram	7	0.15	0.01	0.14	12	1.67	0.19	1.48	9	6.62	0.19	6.43
Kancheepuram	7	0.18	0.01	0.17	14	1.06	0.16	0.90	7	3.35	0.27	3.08
Thiruvannamalai	7	0.23	0.05	0.18	13	2.26	0.17	2.09	7	8.10	0.85	7.25
Total	50	2.36	0.27	2.09	94	12.77	1.42	11.35	52	36.26	4.37	31.89

(Source: Data collected from sample DHSs)

District-wise and year-wise details of components referred to in Table 3 are furnished in Appendix 1.19.

Poor utilisation of funds resulted in large unspent balances in the test-checked districts

An analysis of funds released and utilised for various activities/components during 2006-09 in the seven test-checked districts revealed that of the total 196 instances indicated in Table 3, non-utilisation of available funds was 100 per cent in 96 instances; 76 to 99 per cent in 62 instances and 50 to 75 per cent in 38 instances during the period 2006-09. Poor utilisation/non-utilisation of funds was noticed mainly under hiring of private anaesthetists and paediatricians, provision of facilities for basic emergency obstetrics and newborn care and activities such as upgradation of PHCs to IPH standard, IEC activities and training.

1.2.7.3 Non-release/short-release of State share

From 2007-08, the State was expected to contribute 15 per cent of the annual outlay under NRHM. The State Government did not release its share of Rs 47.17 crore during 2007-08 and released Rs 60.61 crore during 2008-09 as against Rs 70.23 crore to be released, resulting in short release of Rs 9.62 crore. No specific reason was attributed by the State Government for the short release.

1.2.7.4 Under-utilisation of funds provided for administrative costs

The guidelines for NRHM permit incurring of administrative expenditure of up to six *per cent* of the total outlay for NRHM as approved by GOI every year under the Programme Implementation Plan. The actual expenditure on administration was less than one *per cent* in all the years except 2006-07 even with reference to the actual funds released as depicted in **Table 4**.

Table 4: Meagre utilisation of funds allotted for administrative expenses

Year	Funds released	Administrative cost permissible	Actual expenditure	Percentage of non-utilisation with reference Col. (3)
		(Rupees in crore)		
(1)	(2)	(3)	(4)	(5)
2005-06	100.80	6.05	0.50	92
2006-07	185.56	11.13	2.48	78
2007-08	335.95	20.16	1.15	94
2008-09	343.26*	20.60	2.23	89

(Source: Data furnished by SHS)

* Includes State's share of Rs 60.61 crore

Failure to form District Programme Management Units (DPMUs) and Block Programme Management Units (BPMUs) in the State with 1,190⁵³ personnel, as discussed in paragraph 1.2.8.2 (iii), was the main reason for the meagre utilisation of funds allotted for administrative expenses.

1.2.7.5 Diversion of NRHM funds

Scrutiny of records revealed that Rs 53.95 crore out of NRHM funds were diverted to other State, Central and World Bank assisted schemes during 2006-09 as indicated in **Appendix 1.20**, though the guidelines prohibited substitution of the State's health expenditure.

NRHM funds of Rs 53.95 crore were substituted for State's health expenditure during 2006-09

1.2.7.6 Embezzlement of NRHM funds

Deputy Director of Health Services, Kallakuruchi reported (August 2008) that Rs 8.21 lakh released for Reproductive and Child Health (RCH) and NRHM activities to G.Ariyur Block PHC, were embezzled by the Medical Officer (MO), the Superintendent and the Assistant between October 2007 and June 2008, by not depositing the cheques in BPHC's NRHM account.

No departmental/criminal action had been initiated against the officials concerned so far, though the embezzlement was reported to the SHS in October 2008. The Department replied (September 2009) that an internal inspection team had been formed for the purpose and that action would be taken based on the inspection report.

⁵³ Three posts each in 29 DPMUs and three posts in each 385 BPMUs as per NRHM norms. As against 1,242 staff required, only 52 were posted, leaving a shortage of 1,190.

1.2.7.7 Unadjusted advances

The SHS released advances to various procurement agencies for the purchase of drugs, equipments etc. However, a sum of Rs 92.22 crore⁵⁴, out of the total amount of Rs 182.31 crore advanced during 2005-09 was pending adjustment with agencies as of March 2009.

1.2.7.8 Guidelines for accounting not followed

Under the guidelines for accounting approved (December 2006) by the Empowered Programme Committee of NRHM, the GOI was to electronically transfer funds to the SHS for all programmes under NRHM through the interface bank (ICICI Bank) and maintain centralised data of releases and utilisations under all components⁵⁵.

GOI released (December 2007) Rs 5.13 crore to the Director of Public Health and Preventive Medicine for the Intensified Pulse Polio Immunisation Programme instead of releasing it to the SHS. The guidelines stipulated that the existing bank accounts maintained for individual National Disease Control Programmes should be closed on 31 March 2007 and the balance funds should be transferred to the new NRHM group account of SHS with effect from April 2007. However, audit scrutiny revealed that funds amounting to Rs 4.30 crore relating to RCH Phase I (Major Civil Works and Medical Kit Fund) remaining with the State Treasury were not transferred to the new NRHM account by the MD, SHS (March 2009) even after two years.

1.2.7.9 Maintenance of registers and concurrent audit

In the SHS and the seven test-checked District Health Societies, no specific format was developed for recording the cash transactions at all levels as prescribed by GOI, in the guidelines issued in December 2006. Further, there was no mechanism to monitor the accumulation of interest at various levels. The double entry system was not followed. The reconciliation of NRHM accounts with banks was not done in the test-checked districts except in Pudukottai. As for concurrent audit of NRHM accounts, Chartered Accountants (CAs) were appointed for seven districts⁵⁶. CAs were, however, not appointed in the remaining 22 DHSs due to low remuneration offered by the SHS.

⁵⁴ Electronics Corporation of Tamil Nadu: Rs 2.40 crore, Tamil Nadu Medicinal Plant Farms and Herbal Medicine Corporation: Rs 6.91 crore and Tamil Nadu Medical Services Corporation: Rs 82.91 crore. Total : Rs 92.22 crore.

⁵⁵ (a) Immunisation, (b) Integrated Diseases Surveillance Project, (c) National Iodine Deficiency and Disorder Diseases Control Programme, (d) National Leprosy Eradication Programme, (e) National Programme for Control of Blindness, (f) National Vector-Borne Diseases Control Programme, (g) NRHM Additionalities, (h) Reproductive Child Health Project and (i) Revised National Tuberculosis Control Programme.

⁵⁶ Dharmapuri, Kanyakumari, Karur, Madurai, Sivaganga, Tirunelveli and Thoothukudi.

1.2.8 Capacity building

1.2.8.1 Creation and strengthening of physical infrastructure

Revamping of health infrastructure is one of the important aspects of the NRHM. The position regarding shortfall in creation of health centres, strengthening of BPHCs, PHCs and HSCs and upgradation of CHCs and BPHCs is discussed in the succeeding paragraphs.

(i) Shortfall in creation of Health Centres

The State had a network of 385 Block PHCs, 1,036 PHCs and 8,706 HSCs for delivery of rural health services. However, based on the population norms⁵⁷, a shortfall of 501 Primary Health Centres and 516 Health Sub Centres was noticed in the State as per the projected rural population of 4,61,11,478 (2007) as shown in Table 5.

Table 5: Shortfall in creation of Health Centres

Unit	Required no. of centres as per norms	No. of centres available	Shortage	Percentage of shortage
Block PHC	384	385	--	--
PHC	1537	1036	501	33
HSC	9222	8706	516	6.

(Source: Data collected from SHS)

There was shortage of 501 PHCs and 516 HSCs in the State with reference to population norms for PHCs and HSCs

Further, a shortfall of 109 HSCs (68 per cent) in tribal areas like Sitheri hills (Dharmapuri District), Yercaud hills and Kolli hills (Salem District), Kalrayan hills (Salem and Villupuram Districts), Jawadhu hills (Vellore District) and Pachamalai hills (Trichirappalli District) as compared to the required number of 159 HSCs was noticed. The Joint Mission Director, SHS stated (August 2008) that the proposal for creation of 109 HSCs in tribal areas was pending with the State Government since 2006.

Audit observed that the shortfall in the number of PHCs with reference to the population norms of NRHM was calculated as 116 by the SHS, treating the 385 BPHCs as PHCs. Based on the proposal of the State Government, GOI approved (March 2008) the establishment of 116 new PHCs at a cost of Rs 42.60 crore. The State Government issued (January 2009) orders for establishment of 110 new PHCs and the SHS released (February 2009) Rs 23.97 crore as the first instalment for this purpose. The amount was released to the Public Works Divisions by the DHSs.

Of the 110 PHCs to be established, the construction work was in progress in 29 PHCs, construction was yet to start in 13 PHCs, tendering was in progress in 33 PHCs and land had not been handed over to the contractor in the remaining 35 PHCs as of September 2009. The Government was still to

⁵⁷ Population Norm – HSC: 1 per 5,000 (General area) and 1 per 3,000 (Tribal/desert area); PHC: 1 per 30,000 (General area) and 1 per 20,000 (Tribal/desert area); BPHC: 1 per 1,20,000 (General area) and 1 per 80,000 (Tribal/desert area).

identify the locations for six more PHCs for which sanction was obtained from GOI.

Release of funds even before handing over of the sites for 35 PHCs, indicated serious lapses in planning and financial management.

The shortage in health delivery units (PHCs and HSCs) in the test-checked districts was as shown in Table 6.

Table 6: Shortage in health delivery units

Name of the test-checked districts	Rural population (In lakh)	Required Number of Centres					
		PHCs			HSCs		
		R	E	Shortage	R	E	Shortage
Erode	24.01	80	66	14 (18)	480	412	68 (14)
Kancheepuram	24.72	82	37	45 (55)	495	364	131 (27)
Kanyakumari	14.84	54	31	23 (43)	315	267	48 (15)
Pudukottai	14.06	48	52	(-) 4	281	242	39 (14)
Thiruvannamalai	20.19	67	61	6 (9)	404	410	(-) 6
Vellore	30.17	100	67	33 (33)	562	441	121 (22)
Villupuram	30.90	103	58	45 (43)	618	557	61 (10)
Total	158.89	534	372	162 (30)	3,155	2,693	462 (15)

(Source: Data collected from SHS and sample DHSs)

R: Required; E: Existing; PHCs: additional PHCs

Note: Figures within brackets indicate percentage of shortage with reference to the required number.

In the test-checked districts, the shortage of PHCs ranged between nine and 55 per cent (except Pudukottai) and of HSCs between 10 and 27 per cent (except Thiruvannamalai).

(ii) Strengthening of BPHCs /PHCs and HSCs as per Indian Public Health Standards

Under the NRHM framework, a timeline for strengthening of BPHCs /PHCs and HSCs was fixed to provide service guarantees as per the Indian Public Health (IPH) standards. The position in the State as of March 2009 is given in Table 7.

Table 7 : Status of strengthening of BPHCs, PHCs and HSCs

Activity	Timeline fixed	Position /Achievement in the state as of March 2009
Strengthening/ establishment of all 385 BPHCs with seven specialists and nine staff nurses in each.	30 per cent (116) by 2007 50 per cent (193) by 2009 100 per cent (385) by 2010	No BPHC was strengthened with the required number of specialists, though at least 193 BPHCs should have been strengthened by March 2009.
Strengthening of all (385 BPHCs and 1036 PHCs) PHCs with three staff nurses in each.	30 per cent (426) by 2007 60 per cent (853) by 2009 100 per cent (1421) by 2010	1376 (97 per cent) BPHCs/ PHCs had been strengthened with three Staff Nurses in each unit by March 2009.
Strengthening of all (8706) HSCs with two Auxiliary Nurse Midwife/ Village Health Nurse (VHN) in each.	30 per cent (2612) by 2007 60 per cent (5224) by 2009 100 per cent (8706) by 2010	None of the 5,224 HSCs to be strengthened by March 2009 were given an additional Auxiliary Nurse Midwife/ Village Health Nurse. All HSCs were functioning with only one VHN each.

(Source : Data collected from sample DHSs)

193 BPHCs and 5224 HSCs were not strengthened, though the timeline for achievement was upto 2009

Although the State provided (March 2009) three staff nurses each to 1,376 BPHCs / PHCs and made them functional as 24 x 7 Delivery Care service facilities, the non-strengthening of 193 BPHCs and 5,224 HSCs as per IPH standards within the timeline prescribed, delayed the provision of health care services to the expected level.

(iii) Upgradation of Block PHCs to Indian Public Health Standards

Non-utilisation of Rs 9.90 crore released for upgradation of BPHCs

Government of India provided (November 2005) Rs 12 crore for upgrading 60 BPHCs to IPHS by identifying two BPHCs in each district.

SHS, however, released (July 2006) Rs 12 crore to all the 385 BPHCs at the rate of Rs 3.12 lakh for upgradation through minor civil works. The SHS received back Rs 9.90 crore from DHSs as the balance amount of Rs 2.10 crore spent by seven DHSs on minor civil works for BPHCs by May 2008. MD, SHS replied (September 2009) that most of the DHSs did not spend the amount due to administrative reasons though initial assessment of requirements had been made at the field level

The distribution of funds to DHSs for minor civil works in BPHCs without identifying the actual requirement for upgradation of BPHCs as per GOI instructions resulted in blocking up of funds amounting to Rs 9.90 crore for two years.

(iv) Upgradation of BPHCs to 30 bedded hospitals

(a) Government of India released (August 2006) Rs 21 crore for upgradation of another 105 BPHCs into 30 bedded hospitals at Rs 20 lakh per BPHC. However, the State Government sanctioned (April 2007) Rs 41.25 crore (which included Rs 21 crore released by GOI and Rs 9.90 crore received back from DHSs, referred to in paragraph 1.2.8.1 (iii) above) for upgradation of 75 BPHCs at Rs 55 lakh⁵⁸ per BPHC. As of April 2009, works in respect of 42 BPHCs were completed and 27 were in progress at a cost of Rs 27.59 crore. Five works were in the tendering stage and the site remained to be identified in respect of the BPHC at Kethi, in The Nilgiris District.

Infrastructure created was not functional due to non-availability of equipment, staff, etc. in eight BPHCs

In the test-checked districts where 22 BPHCs were selected for upgradation, though eight buildings were handed over out of the 11 completed works, they were yet to become functional for want of staff, equipment, furniture, linen, etc., (May 2009). Ten works were in progress while in respect of one BPHC in Pudukottai, the tendering process was in progress as of March 2009.

(b) Government of India sanctioned (March 2008) Rs 35 crore for upgradation of 50 more BPHCs at Rs 70 lakh per BPHC. The State Government accorded sanction for the works in November 2008. As of

⁵⁸ Increased to a maximum of Rs 72 lakh for each BPHC in plain areas and Rs 82.50 lakh in hill areas by the State Government as per the Schedule of Rates for 2008-09.

April 2009, works were in progress in 29 BPHCs and at the tendering stage in 17 BPHCs while sites were not identified in respect of four BPHCs⁵⁹.

Audit noticed that in respect of four BPHCs, work could not be taken up due to non-identification of sites. Selection of BPHCs for upgradation without ensuring availability of land indicated defective planning.

1.2.8.2 Human Resources and Infrastructure

The availability of human resources for public health care activities in the State as of March 2009 is given in **Table 8**.

Table 8: Shortfall in manpower

Sl.No.	Post	Sanctioned	Men-in-position	Vacant*
1.	Medical Officer	3,555	3,496	59 (2)
2.	Laboratory Assistant	1,056	558	498 (47)
3.	Laboratory Technician	145	221	--
4.	Auxiliary Nurse Midwife	1,876	1,833	43 (2)
5.	Pharmacist	1,415	1,241	174 (12)
6.	Driver	980	760	220 (22)

(Source: Data furnished by SHS)

* Figures in brackets represent percentage of vacant posts to sanctioned posts.

As may be seen from **Table 8**, vacancies were on the higher side in respect of the posts of Driver (22 per cent) and Laboratory Assistant (47 per cent).

The vacancy position in respect of various posts in the test-checked districts are indicated in **Appendix 1.21**.

Vacancies against the post of Laboratory Assistant/Laboratory Technician were noticed in Erode (29 per cent), Pudukottai (55 per cent), Thiruvannamalai (34 per cent) Vellore (20 per cent) and Villupuram (22 per cent) districts. Similarly, vacancies against the post of Pharmacist were 26 per cent in Kancheepuram and 19 per cent in Kanyakumari districts. Posts of Driver were vacant to the extent of 29 per cent in Kancheepuram, 24 per cent in Pudukottai, 40 per cent in Thiruvannamalai and 36 per cent in Vellore districts.

(i) Shortage of manpower with reference to Indian Public Health Standards

As per IPH standards, six specialist doctors/MOs, seven staff nurses and one public health nurse are required for each BPHC; two MOs, three staff nurses and one health educator are required for each PHC and two Auxiliary Nursing Midwives/Village Health Nurses are required for each HSC. The shortage of manpower in the test-checked BPHCs, PHCs and HSCs as of March 2009, with reference to IPH Standards is depicted in **Table 9**.

⁵⁹ Kammapuram, Sethiathope and Marugur in Cuddalore District; Okkiam Thoraipakkam in Kancheepuram District.

BPHCs, PHCs and HSCs were not strengthened with adequate manpower as per IPH standards, in test-checked districts

Table 9: Vacancy position in the test-checked districts

Post	Test-checked health centres								
	21 BPHCs			42 PHCs			84 HSCs		
	Req.	M.I.P	Sh.*	Req.	M.I.P	Sh.*	Req.	M.I.P	Sh.*
Medical Officer	126	82	44 (25)	84	79	5 (6)	NR	-	-
Staff Nurse	147	83	64 (44)	126	97	29 (23)	NR	-	-
Public Health Nurse/ Public Health Educator/ Public Health Worker	21	2	19 (90) [#]	42	-	42 (100) ^{\$}	168	84	84 (50) [@]
Radiographer	21	5	16 (76)	NR	-	-	NR	-	-

Req. : Requirement as per IPH standard ; M.I.P : Men in position; Sh.: Shortage; NR: Not required

* Figures in brackets represent percentage of shortage.

: Public Health Nurses; \$: Health Educators and @ : Health Workers

MD, SHS replied (September 2009) that it would not be possible for the State to meet the requirement of specialists at BPHCs and the gaps would be met by hiring and training the MOs.

(ii) Shortage in infrastructure with reference to IPH Standards

As of March 2009, there were wide gaps between the requirement of physical infrastructure and equipment as per IPH Standards and their actual availability in the test-checked units. The shortages in respect of various infrastructure facilities were as given in **Appendix 1.22**. It was found that :

Shortages were noticed in availability of blood storage facilities in BPHCs and staff quarters in PHCs with reference to IPH Standards

- out of 21 test-checked BPHCs, none had the facility of a blood bank and 18 (86 per cent) did not have any emergency/casualty rooms,
- of the 42 PHCs test-checked, 41 (98 per cent), 39 (93 per cent) and 39 PHCs (93 per cent) did not have any emergency/casualty rooms, operation theatres and staff quarters respectively,
- of the 84 HSCs test-checked, 76 HSCs (90 per cent) did not have separate public utilities.

The lack of infrastructure facilities defeated the objective of providing quality health care as envisaged in the Mission's vision.

(iii) Programme management unit

As against 1,242 personnel required for 29 districts and 385 blocks, only 52 were appointed, leaving a shortage of 1,190

NRHM guidelines envisaged constitution of district resource groups and setting up of block level resource groups to meet managerial and capacity development challenges. Government of India recommended (June 2005) the formation of programme management units (PMU) at the district level with core teams of three full time officials consisting of a District Programme Manager, a Finance/Accounts Manager and a Data Assistant. Similar PMUs were also required to be formed in blocks. Audit scrutiny revealed that PMUs had not been formed in any of the 29 districts and 385 blocks. The MD, SHS stated (May 2009) that 34 Accounts Assistants and 18 Data Entry Operators had been appointed on contract basis in 24 out of 42 Health Unit Districts

(HUDs). As against 1,242 personnel required for 29 districts and 385 blocks, only 52 were appointed, leaving a shortage of 1,190.

Non-formation of PMUs at district and block levels resulted in lack of support in management and monitoring.

(iv) Establishment of Centre of Excellence

GOI suggested establishment of a Centre of Excellence for the purpose of training a cross-section of health functionaries in basic health care as well as upper-end tertiary level health care. GOI sanctioned (August 2007) Rs 100 crore for the purpose and released (February 2008) Rs 79.50 crore. There was a delay in the selection of hospitals for establishment of the centre and administrative sanction was issued by the State Government only in September 2008 for Rs 39.75 crore. The SHS released the amount to the Public Works Department in the same month.

The Institute of Obstetrics and Gynaecology, Egmore (Chennai), Health and Family Welfare Training Centre, Egmore (Chennai) and Government Kasturba Gandhi Hospital, Triplicane (Chennai) were selected for establishment of the Centre. As of April 2009, even the tender process for civil works had not been started.

Thus, the Centre of Excellence sanctioned by GOI as far back as in August 2007 had not been established, even after two years.

1.2.9 Implementation

Audit findings in respect of some important activities such as Reproductive Child Health/ NRHM, Immunisation, Family Welfare and Disease Control Programmes are discussed in the succeeding paragraphs.

1.2.9.1 Reproductive and Child Health and National Rural Health Mission activities

(i) Deficiencies in Mobile Medical Unit services

GOI planned the setting up of Mobile Medical Units (MMU) consisting of two vehicles in every district across the country for improved access to health care services and to make health services available in underserved areas. The MMUs were required to be provided with equipment such as microscopes, portable X-ray machines, ECG machines, ultra-sound scanners, generators, etc., besides prescribed drugs and reagents.

As suggested by GOI, the composition of the team for each MMU was (i) two MOs, one of whom was to be a Lady MO, (ii) one Staff Nurse, (iii) one Laboratory Technician, (iv) one Pharmacist, (v) one Helper and (vi) two Drivers (one for the ambulance and one for the staff vehicle).

State Government provided 385 ambulances in place of Mobile Medical Units

However, the Government purchased 385 ambulances (one per block) during 2007-08 and 2008-09 but did not provide them with the prescribed drugs, reagents and equipment. The ambulances were operated for routine outreach activities.

The staff position in respect of the ambulances as of March 2009 was as shown in **Table 10**.

Table 10: Staff position in respect of ambulances

Sl. No.	Name of Post	Sanctioned	Men-in-position	Vacant
1	Medical Officer	385	350	35
2	Staff Nurse	385	100	285
3	Drivers	385	25	360
4	Sanitary Workers	385	13	372

(Source: Data furnished by SHS)

Drivers' posts were vacant in respect of 360 ambulances

There were 35, 285, 360 and 372 vacancies in the posts of MOs, Staff Nurses, Drivers and Sanitary Workers respectively as of March 2009. Also, the posts of Laboratory Technicians, Pharmacists and Helpers had not been sanctioned by the State Government, reasons for which were not on record.

MD, SHS stated (December 2008) that drugs and equipment were being procured based on local needs and that instructions had been issued to DHSs to fill up the posts of Drivers and Sanitary Workers.

Thus the provision of only ambulances in place of fully equipped MMUs resulted in non-achievement of the objective of improved access to health care services.

(ii) Janani Suraksha Yojana

The Janani Suraksha Yojana (JSY), one of the interventions in the Reproductive Child Health (RCH) component under NRHM, was initiated to reduce maternal and neo-natal mortality by promoting institutional delivery among poor pregnant women. The yojana is 100 per cent Centrally sponsored. Pregnant women aged 19 years and above, who are below the poverty line, are eligible for cash assistance of Rs 700 and Rs 500 for institutional and domiciliary deliveries respectively. Cash assistance has to be paid to women who deliver in Government health centres like HSCs, PHCs, BPHCs, district hospitals and accredited private institutions. The cash is to be disbursed at the centres at the time of registration/admission. For home deliveries, the money has to be given at the time of delivery or within seven days after delivery.

The financial and physical performance in respect of JSY during 2006-09 was as shown in **Table 11**.

Table 11: Financial and physical performance of JSY

Year	Release to districts (Rs in crore)	Expenditure (Rs in crore)	Physical Target (eligible JSY beneficiaries)	Achievement (JSY beneficiaries to whom payment made)
2006-07	21.50	20.20	2,74,147	2,88,224 (105)
2007-08	20.22	21.04	4,01,955	2,29,609 (57)
2008-09	35.32	26.72	4,41,745	3,86,688 (88)
Total	77.04	67.96	11,17,847	9,04,521 (81)

(Source: Data furnished by SHS)

* Figures in brackets indicate percentage of achievement.

The shortfall in coverage of targeted JSY beneficiaries during 2007-09 indicated delay in disbursement of cash benefits. As per the guidelines, the requirement of funds should have been based on the micro-birth plans to be prepared for each beneficiary at the PHC level. The number of beneficiaries should have been arrived at based on the initial records, such as Family Registers and Ante Natal (AN) Registration Registers.

Scrutiny of records in SHS and the seven test-checked districts revealed that

- micro-birth plans were not prepared in any of the test-checked districts during 2005-09,
- though the NRHM guidelines stipulated setting up of grievance redressal mechanisms in the PHCs/BPHCs, no such mechanisms had been set up in the test-checked PHCs/BPHCs and
- no private hospital had been accredited for delivery under JSY in the State.

(iii) Patient Welfare Societies (Rogi Kalyan Samithis)

As per GOI guidelines, registered Rogi Kalyan Samithis (Patient Welfare Societies) were to be set up in all District Hospitals, Taluk Hospitals, Non-Taluk Hospitals, Block PHCs and PHCs with people's representatives such as MLAs, MPs and members of local bodies besides health officials and local district officials.

The Patient Welfare Societies (PWS) were to ensure accountability of the public health providers to the community; transparency in management of funds and monitoring and supervision of the general performance of health centres.

The State Government constituted PWS in 29 District Hospitals, 235 Taluk/non-Taluk Hospitals and 1,421 Block PHCs/ PHCs during 2006-07.

Scrutiny of records of PWS in seven test-checked districts revealed the following:

- There was no public participation and only Government officials were included in the committees,
- No monitoring committee as required under NRHM was formed,
- The PWSs diverted Rs 24.29 lakh for ineligible items of expenditure such as purchase of cameras, refrigerators, etc.
- Separate accounts for PWS, untied funds and annual maintenance grants were not maintained.

MD, SHS replied (September 2009) that action was being taken to rectify the deficiencies pointed out by Audit.

1.2.9.2 Immunisation

Strengthening of services to improve child survival is one of the major components of the RCH II programme. This mainly focuses on preventive aspects such as control of vaccine preventable diseases and acute respiratory infection among infants and children under five years of age.

The Routine Immunisation Programme was implemented from 1978 in the State to prevent six vaccine preventable diseases (VPD), viz. diphtheria, pertussis (whooping cough), tetanus, measles, poliomyelitis and tuberculosis and to reduce the mortality rate due to these diseases.

There was reduction in achievement in immunisation from 99 per cent in 2007-08 to 89 per cent in 2008-09 in the State.

The performance in the State and in the test-checked districts under the programme is given in **Appendices 1.23** and **1.24** respectively.

There was a 10 per cent reduction in achievement of targets from 99 per cent in 2007-08 to 89 per cent in 2008-09 in the State. Further, the achievement percentage in four of the districts was below 90 per cent (Kancheepuram, Pudukottai, Vellore and Villupuram) during 2008-09.

The Common Review Mission⁶⁰ of GOI observed (November 2008) that the shortfall in coverage was due to shifting of immunisation from the HSC level to the PHC level. The MD, SHS stated (September 2009) that Government had adopted (July 2008) a strategy to conduct immunisation programme under the supervision of MOs in BPHCs and PHCs due to the reported deaths of four children after measles vaccinations in Thiruvallur district, in April 2008.

1.2.9.3 Family Welfare Programme

(i) Performance under Family Welfare methods

Spacing methods

Oral pills, condoms and intra-uterine device insertions are the three main prevailing spacing methods of family planning to regulate fertility and promote the couple protection ratio.

⁶⁰ Evaluation team comprising officials from Ministry of Health, GOI for NRHM

An analysis of the performance under different family welfare methods in the State during 2005-09 (**Appendix 1.25**) showed that the expected level of demand was not reached during 2005-09 in respect of any of the methods. The percentage achievement was above 70 in respect of sterilisation during 2005-09 and intra-uterine device insertion during 2005-08. In respect of conventional contraceptive (CC) users and medical termination of pregnancy (MTP) methods, the percentage of achievement was 38 and 43 in 2006-07, 40 and 41 in 2007-08 and 44 and 40 in 2008-09 respectively. The oral pill (OP) programme however, showed gradual improvement in achievement from 61 per cent in 2005-06 to 76 per cent in 2008-09.

The percentage achievement under CC users ranged from 20 to 50 in three test-checked districts (Erode, Kancheepuram and Thiruvannamalai) while in the other four districts (Kanyakumari, Pudukottai, Vellore and Villupuram) it ranged between 32 and 86 during 2005-09. Under the MTP method, the percentage achievement ranged from 16 to 46 in all the districts during 2005-09, except Erode where it ranged between 46 and 59 as shown in **Appendix 1.26**.

The MD, SHS stated (December 2008) that the decline in performance under CC users and MTP was due to huge vacancies in the posts of Health Inspectors (50 per cent) and Family Welfare Assistants (95 per cent), who were responsible for promoting Family Welfare Programmes at the field level and also due to partial flow of data on MTP from private hospitals in which nearly 70 per cent of MTPs were performed.

Terminal methods

The performance of sterilisation under various methods in the State is indicated in **Appendix 1.27**. The percentage of achievement under all methods ranged from 79 to 88.

(ii) Status of no scalpel vasectomy

The 'no scalpel vasectomy' (NSV), an innovative method of sterilisation for males, was introduced along with vasectomy in 2006-07 to increase male participation in family welfare programmes and to reduce deaths due to sterilisation. During 2006-09, GOI released Rs 2.78 crore for the scheme, out of which an amount of Rs 1.18 crore (43 per cent) remained unspent, as of March 2009. The programme was yet to take off in the State as the achievement under conventional vasectomy/ NSV was only 0.7 per cent to the total sterilisations (2008-09). MD, SHS stated (September 2009) that creating awareness of NSV was affected due to huge vacancies in the posts of Health Inspectors and Family Welfare Assistants.

(iii) Status of sterilisation

The number of sterilisation operations decreased by nine per cent from 3.80 lakh to 3.44 lakh in 2008-09. The reason attributed (September 2009) by the Department was that the number of doctors trained in laparoscopic sterilisation

was less in the districts. The average number of deaths due to sterilisation was around 30 cases per year during 2005-09.

The MD, SHS stated (September 2009) that necessary guidelines and instructions to improve the performance without compromising the quality of care had been issued to all district officers and peripheral institutions.

(iv) Operation Theatres

Operation theatres were functional in 78 per cent of BPHCs during 2008-09

As part of the family welfare programme, tubectomy/ vasectomy/ laparoscopic types of sterilisation were conducted in the operation theatres (OTs) of the PHCs. Details regarding the availability of OTs in 385 BPHCs in the State and their status during 2005-09 are given in Table 12.

Table 12: Status of OTs in the State

Year	No. of OTs in PHCs	No. of OTs	
		Functioning	Not functioning
2005-06	342	214	128 (37)
2006-07	342	210	132 (39)
2007-08	374	260	114 (30)
2008-09	385	300	85 (22)

(Source: Data furnished by SHS)

(Figures in brackets indicate percentage)

The status of OTs in the test-checked districts during 2005-09 is furnished in Table 13.

Table 13: Status of OTs in the test-checked districts

Test-checked district	2005-06		2006-07		2007-08		2008-09	
	Av.	NF	Av.	NF	Av.	NF	Av.	NF
Erode	19	0	19	2 (11)	19	2 (11)	20	3 (15)
Kancheepuram	11	7 (64)	11	6 (55)	11	6 (55)	13	5 (38)
Kanyakumari	8	6 (75)	8	4 (50)	8	4 (50)	9	4 (44)
Pudukottai	9	5 (56)	9	4 (44)	10	5 (50)	10	3 (30)
Thiruvannamalai	16	13 (81)	16	13 (81)	18	6 (33)	18	2 (11)
Vellore	20	12 (60)	20	9 (45)	22	6 (27)	22	5 (23)
Villupuram	21	12 (57)	21	12 (57)	21	9 (43)	22	8 (36)
Total	104	55 (53)	104	50 (48)	109	38 (35)	114	30 (26)

(Source: Data furnished by sample DHSs)

Av. : Operation theatres available; NF: Not functioning.

(Figures in brackets represent percentage of OTs not functioning to total number available).

As of March 2009, out of 385 OTs in BPHC, 85 (including 30 OTs in test-checked districts), were non-functional due to non-availability of equipment and medicines, minor and major repairs, water problems etc., as reported by the MD, SHS (September 2009), thereby depriving the public of the intended family welfare services.

1.2.10 Disease Control Programmes

The performance of major programmes, viz., RNTCP, NLEP and MCP and FCP during 2005-06 to 2008-09 are discussed in the succeeding paragraphs.

1.2.10.1 Revised National Tuberculosis Control Programme

The objectives of the Revised National Tuberculosis Control Programme are to achieve and maintain a cure rate of at least 85 *per cent* among newly detected infectious (new sputum smear positive) cases and achieve and maintain detection of at least 70 *per cent* of such cases in the population.

The cure rate achieved in the State during 2006-09 ranged from 82 to 85 *per cent*.

1.2.10.2 National Leprosy Eradication Programme

The main objective of the National Leprosy Eradication Programme is the elimination of leprosy in all the States by the end of Eleventh Plan (2012). Multi-drug therapy was implemented in the State through the State Leprosy Society and 25 District Leprosy Societies. Under NRHM, GOI fixed a goal of leprosy prevalence reduction (LPR) from 1.8/10000 (2005) to less than 1/10000 thereafter.

The LPR fixed by SHS for the State was 0.50 for the year 2008-09. The achievement against the target was 0.51, which marginally fell short of the target.

1.2.10.3 National Vector-Borne Disease Control Programme

(i) Malaria Control Programme

The main objective of the Malaria Control Programme is to reduce the malaria mortality rate by 50 *per cent* up to 2010 and an additional 10 *per cent* by 2012.

The SHS fixed the malaria mortality reduction rate for the entire Mission period as zero. The rate achieved for 2008-09 was 0.009.

(ii) Filaria Control Programme

The objective of the Filaria Control Programme is to reduce the prevalence of micro-filaria by 70 *per cent* by 2010, 80 *per cent* by 2012 and elimination by 2015. The strategies of the programme are to increase the coverage of the targeted population and treatment.

The micro-filaria rate achieved was 0.005 against the target of 0.007 fixed for 2008-09.

1.2.10.4 National Programme for Control of Blindness

The main objective of the National Programme for Control of Blindness (NPCB) is to reduce the prevalence of blindness to 0.8 *per cent* by 2007 and to 0.5 and 0.3 *per cent* by 2010 and 2020 respectively. The strategies of the programme were conducting of cataract surgeries (through camps), collection of donated eyes, creation of donation centres and eye banks and strengthening of infrastructure by way of supply of equipment and training of eye surgeons

and nurses. The programme is implemented by the Tamil Nadu State Blindness Control Society.

Prevalence of total blindness as per the NPCB study conducted in 2002 was 0.78 *per cent* in the State while the national average was 1.1 *per cent*.

The details of eyes collected and utilised in the State during 2005-06 to 2008-09 are given in **Table 14**.

Table 14: Details of eyes collected and utilised

Eye collection and utilisation	2005-06	2006-07	2007-08	2008-09
Target	6,500	7,000	7,500	8,000
Total collection in Tamil Nadu	6,920	7,850	9,266	10,144
Total eyes utilised	3,179	3,829	4,969	4,405
Percentage of utilisation	46	49	54	43
Collected by Government sector	1,295	1,414	1,043	819
Utilised by Government sector	438	733	489	409
Percentage of utilisation	34	52	47	50

(Source: Data furnished by Tamil Nadu State Blindness Control Society)

While targets fixed for collection of eyes were achieved, utilisation of eyes so collected ranged between 43 and 54 *per cent* during 2005-09.

In the test-checked districts, it was found that

- only two *per cent* of the eyes collected by the Government sector and NGOs during 2005-09 were utilised in Erode District (eyes collected: 2,267; utilised: 51),
- there was no collection at all in Pudukottai District during 2005-09,
- collection of eyes by the Government sector in seven test-checked district was just three *per cent* of eyes collected (total eyes collected : 3,909; collected by Government sector : 110) during 2005-09.

Collection of eyes by the Government sector in the test-checked districts was just three *per cent* during 2005-09.

The MD, SHS stated (September 2009) that the reason behind poor utilisation was that the eyes collected after six hours, infected eyes and eyes collected from burnt bodies were not fit for corneal transplantation. The Project Director, Tamil Nadu State Blindness Control Society stated (November 2008) that the unutilised eyes were being used for research purposes. Moreover, the contribution of the Government sector in utilisation of eyes collected was only 50 *per cent* (2008-09).

Spectacles were not supplied to 1,89,695 children with refractive errors during 2005-09

The programme also envisaged screening of school children for refractive errors and supply of spectacles free of cost to poor children. The number of school children screened in the State decreased to 19,82,949 in 2008-09 from 25,85,663 in 2005-06. Spectacles were not supplied to 1,89,695 (54 per cent) out of 3,53,575 children with refractive errors during 2005-09, due to release of assistance based on reduced targets fixed by GOI.

1.2.11 Performance Indicators

1.2.11.1 Health indicators

The key health indicators in respect of the infant mortality rate (IMR), maternal mortality rate (MMR) and total fertility rate (TFR) for Tamil Nadu under NRHM and the achievement of the fixed goals were as given in Table 15.

Table 15: Health indicators

Key Health Indicators	Data 2005-06		NRHM Goal for 2012 fixed by		NRHM interim goal fixed for 2008-09 by SHS	Achievement	
	SRS (2006)	VES (2006)	GOI (All India)	SHS (Tamil Nadu)		As per SHS	SRS (2008)
IMR (per 1000 live births)	37	23.8	30	20	25	14.8	31 (2008)
MMR (per one lakh live births)	95	95	100	40	70	79	90 (2007)
TFR	Not available	1.7 (2005)	2.1	1.6	1.7	1.7	1.8 (NFHS III)

(Source: Data furnished by SHS and DFW)

VES : Vital Events Survey conducted by Directorate of Family Welfare.

SRS : 'Sample Registration System' done by Registrar General, GOI.

NFHS III : National Family & Health Survey.

In respect of IMR and TFR, the State made considerable achievement, while it made slow progress in respect of MMR till 2008-09.

The achievement in respect of IMR and MMR in the test-checked districts during 2008-09 is as furnished in Table 16.

Table 16: Achievements – IMR and MMR

Sl. No.	Test-checked districts	IMR (per 1000 live births)	MMR (per one lakh live births)
1.	Erode	15.5	120
2.	Kancheepuram	13.9	50
3.	Kanyakumari	8.1	60
4.	Pudukottai	17	140
5.	Thiruvannamalai	23	75
6.	Vellore	20.6	63
7.	Villupuram	23	120

(Source: Data furnished by sample DHSs)

While the State's interim goal for 2008-09 in respect of IMR was achieved in all the test-checked districts, the same was not achieved in respect of MMR in four districts.

The achievement in MMR needed improvement to achieve the State's goal by 2012. Though NRHM was rural area based, neither were any specific targets fixed for rural areas nor was the achievement watched by the SHS.

1.2.11.2 Infant and Maternal Deaths

Reduction in infant and maternal mortality is the first and foremost objective of NRHM. The number of infant and maternal deaths in the State during 2004-05 to 2008-09 is given in **Appendix 1.28**.

Infant deaths and maternal deaths showed an overall decreasing trend (as of March 2009) from 2004-05 onwards. Out of the total infant deaths of 90,717 during 2004-09, 62,858 (69 per cent) accounted for neo-natal deaths i.e. death of children aged 0 to 28 days. The major reasons for neo/post-natal deaths were anaemia among pregnant women and low birth weight of infants.

Only 27.93 lakh (60 per cent) pregnant women out of 46.72 lakh registered in the State during 2005-09 were administered iron and folic acid (IFA) tablets for a period of 100 days for guarding against nutritional anaemia. The details of coverage of ante natal mothers administered IFA tablet during 2005-09 are given in **Appendix 1.29**.

Of the 46.72 lakh pregnant mothers registered in the State during 2005-09, only 27.93 lakh (60 per cent) were supplied with iron folic acid tablets for guarding against nutritional anaemia.

1.2.12 Monitoring and Evaluation

NRHM envisaged an intensive accountability framework through a three-pronged process of community based monitoring, external surveys and stringent internal monitoring.

1.2.12.1 Monitoring

(i) *Monitoring committees not set up and public hearings not conducted*

As per the guidelines of NRHM, Health Monitoring and Planning Committees were required to be formed at PHCs, BPHCs and at the district and State levels to monitor the progress of NRHM. Though the MD, SHS stated (December 2008) that the instructions would be followed, these committees had not been formed at any level as of March 2009. Further, public hearings and public dialogues to strengthen transparency and direct accountability of the health care system to the community and the beneficiaries as required under the guidelines, were not organised to get feedback on NRHM in any of the 29 districts.

Non-formation of monitoring committees at PHC, BPHC, district and State levels and absence of public hearings resulted in lack of envisaged community participation

(ii) *Delay in identification of NGOs*

NRHM guidelines envisaged identification of NGOs for establishing the rights of households to health care and for monitoring and evaluating the health sector, delivery of health services, etc. A sum of Rs 2.03 crore received by SHS in May 2007 for this component remained unspent with interest of

Rs 13.32 lakh for two years (March 2009). The MD, SHS replied (April 2009) that seven mother NGOs⁶¹ for 12 districts had been identified and that the plan of action was under progress.

(iii) Shortfall in conducting meetings

Shortfall in conducting of meetings of the State Health Mission, General Body and Executive Committee of the State Health Society

NRHM guidelines prescribed (June 2005) the constitution of a State Health Mission (SHM), a State Health Society (SHS), District Health Missions (DHM) and District Health Societies (DHS). Periodicity of meetings to be conducted and the nature of business to be transacted in the meetings were also prescribed. The shortfalls in conducting of meetings of the SHM, SHS Governing Body (GB) and Executive Committee (EC) at the State level during 2006-09 were as indicated in Table 17.

Table 17: Shortfalls in conducting of meetings - State Level:

Name of the Committee	Periodicity of meeting prescribed	Date of Registration of SHS	To be held	Actually held	Shortfall (Percentage)
SHM	Twice in a year	-	6	Nil	6 (100)
SHS - GB	Twice in a year	15.03.2006	6	1	5 (83)
SHS - EC	Once every month	15.03.2006	36	7	29 (81)

The State Health Mission did not meet even once during 2006-09. The General Body of the SHS was convened once against the six prescribed meetings and the Executive Committee met seven times against the 36 prescribed meetings during 2006-09. The position of meetings of DHM and DHS up to 2008-09 in the test-checked districts is given in Appendix 1.30.

Percentage shortfall in conducting meetings of General Body and Executive Committee of District Health Societies was 77 and 87 respectively up to 2008-09

Audit noticed that in the seven sample districts, the DHM did not meet even once. Since the registration of the District Health Societies in May, June and July 2006, out of the total possible number of meetings of 35 by the GB of DHS and 233 by the EC of DHS during 2006-09 respectively, there were shortfalls to the extent of 27 (77 per cent) and 203 (87 per cent).

Thus, non-convening of SHM and DHM meetings and the shortfalls in conducting GB/ EC meetings of SHS and DHS defeated the very objective of having meaningful deliberations on policy issues, implementation and monitoring.

⁶¹ Mother NGOs identified: Deepam Educational Society for Health, Kottivakkam (Kancheepuram and Chennai Districts), Family Planning Association of India, Madurai (Madurai and Thoothukudi Districts), Gandhigram Institute of Rural Health and Family Welfare Trust, Gandhigram (Dindigul and Trichirappalli Districts), Mary Anne Charitable Trust, Chennai (Pudukottai District), Rural Education and Development Society, Sivaganga (Sivaganga and Ramanathapuram Districts), Socio Educational Trust, Chengalpattu (Thiruvallur District) and Tamil Nadu Voluntary Health Association, Chennai (Theni and Tirunelveli Districts).

1.2.12.2 Evaluation

Independent evaluation not conducted

An independent evaluation of implementation of NRHM was required to be conducted by the Planning Commission and other reputed bodies, viz., the International Population Research Centre, Indian Institute of Management, Institute of Public Auditors of India, etc. However, except for an evaluation covering the period 2005-06 to 2006-07 done by the Institute of Public Auditors of India in August 2007, no other agency had conducted any evaluation of NRHM so far in the State (March 2009). The beneficiary survey was also not conducted by GOI or by State Government as of March 2009.

1.2.13 Conclusion

Though facility and household surveys were completed, the data was yet to be consolidated at the State level rendering the survey inputs infructuous. No health Action Plans were prepared at the village and block levels up to 2008-09 and at the district level up to 2007-08. Community participation was not ensured through formation of monitoring committees and identification of NGOs and holding of public hearings which would ensure accountability and feed back on NRHM. Underutilisation of NRHM funds by SHS/DHS, diversion of NRHM funds to other schemes/works, indicated inadequate control over financial management. Shortfall in the availability of health centres, manpower/equipment/infrastructure affected the objective of the mission in providing quality health care. There were deficiencies in mobile medical unit services. There was no grievance redressal mechanism in any of the health units. On an average 52 *per cent* of eyes collected under National Programme for Control of Blindness were not utilised. The State Health Mission did not meet at all and meetings of the State Health Society, District Health Missions and District Health Societies in the test-checked districts were not conducted as envisaged, resulting in lack of monitoring at the State and district levels.

1.2.14 Recommendations

- The State Health Society should ensure preparation of Annual Action Plans at the block and village levels and use the inputs of baseline surveys for the said purpose.
- Substitution of NRHM funds for the State's health expenditure should be avoided.
- Filling up of vacancies and supply of equipment to needy health units should be taken up on priority basis.

- All the required equipment, manpower and drugs should be provided to Mobile Medical Units so that they can serve the underserved areas as contemplated.
- Action should be taken to make the 85 non-functional operation theatres in BPHCs functional.
- Close monitoring of eyes collected by Government and NGOs should be done to ensure better rate of utilisation.
- Monitoring committees at District/Block/Village levels should be formed and NGOs identified so that the health care delivery is monitored with community participation.

The above points were referred to Government in September 2009. Reply had not been received (October 2009).

**AGRICULTURE DEPARTMENT AND REVENUE
DEPARTMENT**

1.3 Comprehensive Wasteland Development Programme

Highlights

Land is a natural resource of fixed availability and high economic importance. Conservation and sustainable development of land assumes importance in the context of rapid changes in land use patterns. To conserve and develop wastelands in the State, Government launched the Comprehensive Wasteland Development Programme (CWDP) in July 2001. A performance audit of CWDP disclosed inaccuracies of revenue records in respect of wastelands and deficiencies in planning and coordination among implementing agencies; financial management and monitoring.

- Annual Action Plans indicating component-wise physical and financial targets were not prepared by the District Agencies, indicating absence of a structured approach for planning.

(Paragraph 1.3.6.1)

- Release of funds without assessing the progress in implementation of the programme resulted in idling of Government funds ranging from Rs 27.93 crore to Rs 53.80 crore in a Personal Deposit Account and bank accounts of implementing agencies.

(Paragraph 1.3.7)

- Government land of 272 hectares, leased out to corporate bodies for cultivation under the programme was not cultivated. The uncultivated land was not taken back from lessees.

(Paragraph 1.3.9.1)

- A total of 1,309 (27 per cent) out of 4,829 beneficiaries under the programme in the test-checked districts received less than one-fourth of the land proposed to be distributed.

(Paragraph 1.3.9.2)

- Government land measuring 1,585 hectares distributed under the programme to beneficiaries in 11 districts was in rocky areas, unfit for cultivation.

(Paragraph 1.3.9.3)

- Ninety eight per cent of the beneficiaries of the programme had to depend on the monsoon as a water source, as alternative sources were not created for lands which did not come under the cluster mode of development.

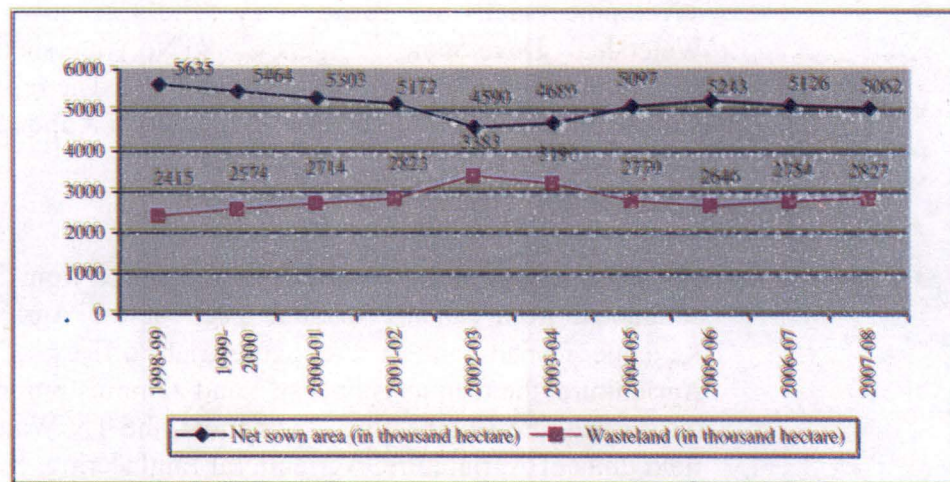
(Paragraph 1.3.11.1)

1.3.1 Introduction

Increase in population and developmental activities exert constant pressure on land. Land is subjected to regular degradation due to rain, wind and faulty cultivation practices, resulting in loss of fertility. This leads to poor yield, uneconomic returns, ecological imbalances, environmental pollution, droughts and floods. Hence, conservation, development and management of land resources are of prime importance for sustainable development.

Tamil Nadu has a total geographical area of 130.26 lakh hectares and its net sown area during 2007-08 was 50.62 lakh hectares (39 per cent). The *per capita* net sown area of the State at 0.08 hectare was much less than the all India *per capita* net sown area of 0.13 hectare. While there was a decline of 10.2 per cent in the net sown area of the State from 56.35 lakh hectares in 1998-99 to 50.62 lakh hectares in 2007-08, the area of wasteland registered an increase of 17 per cent from 24.15 lakh hectares to 28.27 lakh hectares during the corresponding period, as shown in **Chart 1**.

Chart 1: Trend in area of wasteland



(Source: Statistical handbook of Government of Tamil Nadu)

The Government launched the Comprehensive Wasteland Development Programme (CWDP) in July 2001. Government initially set a goal of reclaiming 20 lakh hectares of wasteland over a period of five years from 2002 to 2007. The strategy envisaged by the Government was to:

- develop private '*patta*⁶²' lands with farmers' participation and
- lease out Government wasteland to corporates and Self Help Groups for development.

After four years of implementation, Government modified (2006) the programme with a goal to develop 3.78 lakh hectares of wasteland, based on a survey of the wasteland availability in the State. The modified strategy of the Government was to focus on following issues:

⁶² Legal title for ownership of land.

- assigning of developed and unencroached Government land not exceeding two acres (0.8 hectares) to poor agricultural families,
- assigning encroached Government wasteland not exceeding 0.8 hectares to the encroachers after development and
- developing private *patta* land of marginal and small farmers.

The programme envisaged land levelling, bund formation, ploughing etc. to develop the land and planting of suitable crops. The approved cost ceiling per hectare was Rs 8,500. The programme was being implemented in all the districts except Chennai and The Nilgris.

1.3.2 Organisational structure

At the Government level, Secretaries to Government, Revenue and Agriculture Departments, are responsible for planning, coordinating and monitoring the activities related to CWDP. The Commissioner of Land Administration, the Commissioner of Agriculture and the Chief Engineer, Agricultural Engineering Department are in-charge of land identification and assignment, providing technical advice and agricultural inputs and land development activities respectively. The Executive Director, Tamil Nadu Watershed Development Agency⁶³ (TN Watershed Agency), heads the programme implementation at the State level. The organisational set up at the State, district and sub-district levels is given in **Appendix 1.31**.

1.3.3 Audit coverage and methodology

The performance audit of CWDP for the period from 2004-05 to 2008-09 was conducted from January to June 2009 at the Agriculture Department and Revenue Department in the Secretariat, offices of the Commissioner of Agriculture, the Commissioner of Land Administration, the Chief Engineer of the Agriculture Engineering Department, the TN Watershed Agency and 109 field units of Agriculture, Agricultural Engineering, Horticulture and Revenue Departments and District Watershed Development Agencies in six⁶⁴ out of 28 districts, selected through the random sampling method. Details of selected offices covered are given in **Appendix 1.32**.

Audit findings are based on evidence collected from the records of the auditees and replies furnished by the officers concerned. The audit objectives and the audit criteria were discussed with officers of the Agriculture and Revenue Departments in March 2009. The exit conference was held in October 2009. The audit team, along with officials of Horticulture Department conducted joint field inspections of land parcels⁶⁵ developed under the programme.

⁶³ An organisation registered under the Tamil Nadu Societies Registration Act 1975.

⁶⁴ Coimbatore, Kancheepuram, Krishnagiri, Theni, Trichirappalli and Thiruvannamalai.

⁶⁵ Chunk of land of any size.

1.3.4 Audit objectives

The objectives of the performance audit were to assess the :

- effectiveness of planning the activities under the programme, viz land development, planting, maintenance, identification of land for distribution to beneficiaries, development of land in cluster mode, supply of agricultural inputs, etc.;
- economy and efficiency in utilising Government funds for implementation;
- efficiency and effectiveness in execution of activities under the programme and
- effectiveness of the monitoring mechanism for the programme.

1.3.5 Audit criteria

The criteria adopted for assessment of the performance of the programme were:

- Operational guidelines, issued in May 2002, for CWDP.
- Revised CWDP guidelines issued in 2006.
- Codes and Manuals governing the release and utilisation of Government funds.
- Orders and instructions issued from time to time by the Government of Tamil Nadu.

1.3.6 Planning

1.3.6.1. Lack of structured approach

The Tamil Nadu Agricultural University prepared (2001) a Perspective Plan based on satellite imagery⁶⁶, for development of wastelands in each block in all the districts over a period of 15 years. The Government directed (August 2001) the District Collectors to use the Plan for preparation of specific proposals under CWDP for development of all wastelands in each district within five years, following the micro-watershed development approach. However, it was observed that Annual Action Plans indicating component-wise physical and financial targets, were not prepared by the District Agencies. Targets were fixed only for distribution of land and not for planting suitable crops, resulting in 67 per cent of developed land lying uncultivated as stated in a study conducted by the Tamil Nadu Agricultural University during 2007-08.

⁶⁶ Wasteland was classified as per the system of categorisation followed by the National Remote Sensing Agency.

The guidelines envisaged implementation and monitoring the activities under the programme by the District Agencies. It was, however, observed that the District Agencies were not provided with sufficient staff to execute and monitor the activities. In the 23 District Agencies, 127 out of the 230 posts (55 per cent) were vacant as of March 2009.

1.3.6.2 Deficient scheme formulation

Inaccuracies in land records of Revenue Department led to deficiencies in programme formulation

The programme envisaged the development of 20 lakh hectares⁶⁷ of wasteland through the participatory approach⁶⁸ and the corporate sector, over a period of five years (2002-07). The actual target for developing the wastelands fixed by the Government for the years 2002-06 was only 2.25 lakh hectares (11 per cent). After modifying the programme in 2006, the Government conducted a survey (June –July 2006) through the Revenue and Agriculture Departments and fixed a goal of developing 3.78 lakh hectares over a five-year period (2006-11), under three⁶⁹ categories of land. Against this, the actual target fixed under the programme during the three-year period 2006-09 was to develop 99,725 hectares (26 per cent) of land.

Audit found that Government adopted unrealistic goals under the programme due to inaccurate data provided by the Revenue Department on the extent of wastelands available in the State. CWDP initially envisaged a goal of developing 20 lakh hectares of wasteland, which was scaled down under the Revised CWDP to 3.78 lakh hectares in 2006, after developing only 1.71 lakh hectares during 2002-06. The data on wastelands collected through the survey conducted in June-July 2006, included rocky and uncultivable land.

Formulation of the programme without accurate data on wastelands resulted in non-achievement of the goals set by the Government.

1.3.6.3. Absence of soil and water conservation measures

Watershed approach envisaged in the guidelines for sustainable development of land was not carried out

The operational guidelines envisaged that land development activities would be carried out by adopting the watershed approach⁷⁰. Under the watershed approach, the focus was to be on soil and water conservation, upgradation of land, restoration of ecological balance through scientific management of land and rain water, reclamation of problem soils, etc. However, it was found that the actual implementation covered only planting activities like ploughing, manuring, planting and watering. Soil and moisture conservation activities were not planned by the TN Watershed Agency

⁶⁷ 18.5 lakh hectares with rain-fed agro-forestry and fruit trees, one lakh hectares by leasing to the corporate sector and 0.5 lakh hectare of salt-affected land by suitable treatment. Total : 20 lakh hectares.

⁶⁸ With participation of farmers owning wastelands.

⁶⁹ Unencroached Government land : 0.77 lakh hectares, encroached Government land: 0.27 lakh hectares and private wasteland: 2.74 lakh hectares. Total 3.78 lakh hectares.

⁷⁰ A watershed is a geo-physical unit which drains the rain water at a common point. The watershed approach for land development is based on in-situ soil and water conservation methods, altered land use based on resource capability assessment, greening of land areas etc.

initially. It was only after three years of implementation that the fourth Governing Council meeting of the TN Watershed Agency discussed (March 2006) a proposal to take up soil and water conservation activities. However, no decision was taken, as the programme was revised by October 2006.

Under the Revised CWDP, land development comprised only jungle clearance, land levelling, bunding and ploughing and creation of farm ponds, wherever needed. The programme did not envisage creation of water sources and soil and water conservation measures like check dams and percolation ponds, essential for the development of land. The Perspective Plan which had been prepared using satellite imagery was also not used. Development of land without ensuring sustainable water and soil conservation methods at various levels indicated lack of planning.

1.3.7. Financial performance

The programme is fully funded by the State Government. The Commissioner of Agriculture releases funds to the TN Watershed Agency, which in turn releases them to the District Agencies for further release to Sub-District Agencies and Village Development Associations (VDA) which execute the programme activities. The details of funds received and expenditure incurred on the programme during 2004-09 as reported by the TN Watershed Agency are given in Table 1.

Table 1 : Utilisation of funds

(Rupees in crore)

Year	Opening balance	Funds released for			Expenditure incurred on			Closing balance
		CWDP	Revised CWDP	Total	CWDP	Revised CWDP	Total	
2004-05	19.52	51.04	-	70.56	16.76	-	16.76	53.80
2005-06	53.80	16.53	-	70.33	40.69	-	40.69	29.64
2006-07	29.64	-	35.00	64.64	9.55	4.96	14.51	50.13
2007-08	50.13	-	-	50.13	2.93	8.7	11.63	38.50
2008-09	38.50	-	-	38.50	0.63	9.94	10.57	27.93
Total funds available - 122.09					Total expenditure - 94.16			

(Source: TN Watershed Agency)

Release of funds without assessing actual requirement resulted in blocking of funds in a PD account and bank accounts

Unspent amounts at the end of each year ranged from Rs 27.93 crore to Rs 53.80 crore during 2004-09. Out of the closing balance of Rs 27.93 crore in March 2009, TN Watershed Agency held Rs 25.02 crore in a Personal Deposit Account while the balance of Rs 2.91 crore was available in the bank accounts of District, Sub-District agencies and VDAs. Release of funds without assessing the requirements, slow progress in using available funds, non-creation of water sources and non-execution of activities such as training of farmers, maintenance of plants and community organisation, contributed to the large unspent balances.

Scrutiny of fund utilisation during 2004-08 under CWDP in the test-checked districts as detailed in Appendix 1.33 disclosed that the expenditure of

Rs 16.04 crore on the programme activities was 72 per cent of the total funds available. The expenditure during 2004-08 in the test-checked districts ranged from 60 to 89 per cent of the total available funds. Of the unspent funds, Rs 4.95 crore was refunded to TN Watershed Agency/transferred to other District Agencies. The six District Agencies had an unspent balance of Rs 1.41 crore as of 31 March 2008, due to non-preparation of Annual Action Plans and release of funds by the TN Watershed Agency to the District Agencies without proper budgeting. The TN Watershed Agency responded to Audit stating (October 2009) that the excess funds would be recovered from the District Agencies.

1.3.7.1. Non-utilisation of interest earned on programme funds

Bank interest of Rs 2.76 crore earned on programme funds was lying idle

The TN Watershed Agency maintained a bank account for depositing interest earned on programme funds by District Agencies. The account had an accumulated balance of Rs 2.76 crore as of March 2009. Due to lack of any direction from the Government regarding utilisation of interest, the amount remained unutilised. The Executive Director, TN Watershed Agency stated (July 2009) that Government permission would be sought for utilising the funds for programme activities or to keep them in the Personal Deposit Account. Thus, in the absence of instructions from the Government, the interest income of Rs 2.76 crore lying in the bank was not utilised.

1.3.7.2. Fund management at the Village Development Associations level

The VDAs played the main role in land development under the programme. These Agencies, however, lost justification for their existence after modification of the programme. The TN Watershed Agency instructed (March 2007) the District Agencies to close the accounts of VDAs, remit their available funds and take custody of their records after completion of audit by authorised Chartered Accountants. Scrutiny of records in the test-checked District Agencies revealed deficiencies, as shown in **Table 2**.

Table 2 : Deficiencies noticed in records of VDAs

District	Deficiencies noticed
Coimbatore	Records of VDAs were not audited and returned to the District Agency.
Kancheepuram	The VDAs did not close and submit their records to the District Agency.
Krishnagiri	Seven VDAs held a total unspent balance of Rs 1.41 lakh.
Theni	Audit of accounts of 2006-07 of none of the 45 VDAs was taken up.
Trichirappalli	1. Audit was not conducted in any of the 23 VDAs. 2. The Presidents of the VDAs of Nallampillai and Enamkovilpatti and a Horticulture Officer misappropriated (2005 - 2007) Rs 8.03 lakh by way of excess drawal of scheme expenditure. The District Agency recovered Rs 3 lakh in June 2007. The District Agency lodged a police complaint. The balance amount of Rs 5.03 lakh was yet to be recovered (August 2009). 3. The President of the VDA, Panappatty withdrew scheme funds of Rs 7.93 lakh without proper sanction and had not rendered accounts (August 2009).
Thiruvannamalai	1. The records of VDAs were not audited from 2004-05 and no vouchers were produced for 2003-04. 2. Two test-checked VDAs had an unspent balance of Rs 1.38 lakh.

(Source: Records of VDAs)

On this being pointed out, the Government agreed (October 2009) to take follow up action.

1.3.8. Physical performance of the programme

1.3.8.1 Physical achievements

As against the target for development of 2.25 lakh hectares of wastelands for the period 2002-06, the achievement was 1.71 lakh hectares⁷¹ (76 per cent).

The activities under the programme, after modification in 2006, involved identification of Government wastelands, development of the identified land wherever required and assignment of a maximum of two acres (0.8 hectare) to landless farmers. Similarly, private wastelands, belonging to farmers with less than two hectare holdings, were also to be developed through appropriate measures and handed over to them. Under the modified programme, the Government proposed to cover 3.78 lakh hectares during 2006-11. The target fixed for the three-year period 2006-09, however, was only 99, 725 hectares, against which the achievement was 83,220 hectares (83 per cent). The number of beneficiaries proposed to be covered during the five-year period 2006-11 was five lakh. As against this target, the achievement during 2006-09 was only 1.73 lakh. The category-wise achievement in distribution and development of land during 2006-09 is given in Table 3.

Table 3 : Achievement in distribution and development of land

Detail of area	(In hectares)			
	Unencroached Government land	Encroached Government land assigned to beneficiaries	Private land	Total
A. Distributed by Revenue Department / taken up for development	11,728	20,376	51,116	83,220
B. Allotted by Revenue Department to AED for development	10,129	15,706	32,334	58,169
C. Not needing development	5,366	13,954	19,610	38,930
D. Needing development (B-C)	4,763	1,752	12,724	19,239
E. Developed by AED	4,732	1,746	12,673	19,151
F. Balance (D-E)	31	6	51	88
G. Not yet handed over to AED for development (A-B)	1,599	4,670	18,782	25,051
H. No. of beneficiaries (in numbers)	29,237	67,252	76,788	1,73,277

(Source: Progress Report furnished by the TN Watershed Agency)

AED: Agricultural Engineering Department

District-wise achievement figures are given in Appendix 1.34.

⁷¹ Agro-forestry : 66,655 hectares, horticulture : 93,513, hectares and fodder crops : 10,479 hectares. Total : 1.71 lakh hectares.

The Agricultural Engineering Department took up only 51,116 hectares (18.6 per cent) of private land belonging to 76,788 farmers and completed development works in 12,673 hectares.

Development of private wastelands did not receive adequate importance

Of the 2.74 lakh hectares of private wasteland identified in the State, 2.28 lakh hectares (83 per cent) were in six districts. Of them, only 23,756 hectares (10.4 per cent) were taken up for development and 4,249 hectares (1.9 per cent) were actually developed. The details are given in Table 4.

Table 4 : Development of private wastelands in six districts

District	Total available private owned wastelands (hectares)	Area taken up (hectares)	Area developed (hectares)	Percentage of achievement	
				Taken up	developed
Sivaganga	97,873	2,324	702	2.37	0.72
Thoothukudi	60,558	3,999	1,330	6.60	2.20
Virudhunagar	34,136	3,776	1,290	11.60	3.78
Tirunelveli	12,716	4,212	124	33.12	0.98
Madurai	11,947	5,509	709	46.11	5.93
Theni	10,391	3,936	94	37.87	0.90
Total*	2,27,621	23,756	4,249	10.43	1.87

(Source: Survey report of Revenue Department and Progress Report furnished by TN Watershed Agency)

This indicated that concerted efforts were not made by the district administrations to develop the private *patta* wastelands of marginal and small farmers⁷². The Chief Engineer, Agricultural Engineering Department, replied (October 2009) that this was due to excess cost required for development of land and reluctance of landowners to offer their land for development due to non-provision of borewells under the programme.

1.3.8.2. Development of land for cultivation

The programme envisaged distribution of land in cultivable condition to beneficiaries. Therefore, distribution of Government land was done in phases and each phase of distribution took three months for completion. As of March 2009, 10 phases were completed. As of March 2009, out of the 83,220 hectares of land identified for development, the Revenue Department allotted only 58,169 hectares (70 per cent) to the Agricultural Engineering Department for development. The remaining land of 25,051 hectares (30 per cent) could not be handed over due to deficiencies and non-updating of land records and delays in preparing lists containing details of land by the Revenue Department. The Government replied (October 2009) that the work of handing over the land to the Agricultural Engineering Department would be completed shortly.

⁷² Farmers with total land holding not exceeding two hectares.

1.3.9. Distribution of land

1.3.9.1 Leasing of Government wastelands

With a view to develop agro-based industries, the Government proposed (2002) to develop one lakh hectares of wasteland under the programme by leasing it to corporate houses, self-help groups, small companies, co-operative societies etc. According to the guidelines, the maximum period for lease of land was 30 years and Government reserved the right to cancel the leases at any time.

During 2003-05, Government allotted a total of 88 parcels of land in 18 districts, measuring 1073 hectares, to corporate houses and self-help groups. Out of these, the allottees did not take possession of 588 hectares of land as they were not interested in taking over the land allotted to them. Out of the 485 hectares of land taken over by allottees, only 213 hectares (43 per cent) was under cultivation, indicating the failure of the programme in achieving its objectives.

Government land of 272 hectares leased to corporate bodies was lying barren and was not taken back

After modification of the programme, the Government decided (July 2006) to stop leasing of Government wastelands. The District Collectors were still to take back 272 hectares (57 per cent) of leased out land lying uncultivated with the lessees. Of the six test-checked districts, lease rent of Rs 9.08 lakh was still to be recovered in Coimbatore, Krishnagiri, Theni and Trichirappalli Districts (July 2009).

1.3.9.2 Distribution of small extent of land

27 per cent of beneficiaries in test-checked districts received less than one fourth of the extent proposed to be distributed to them

Under the Revised CWDP, the maximum extent of Government land assigned to a beneficiary was two acres (0.8 hectare). The Government, however, did not prescribe the minimum extent to be assigned per beneficiary. The average area assigned to the beneficiaries under the programme was 0.33 hectare. Audit found that the extent of Government land distributed to 1,309 out of the 4,829 beneficiaries (27 per cent) in five⁷³ test-checked districts was less than 50 cents⁷⁴ (0.2 hectare), i.e., less than one fourth of the programme objective of distributing two acres (0.8 hectare) of land. This included distribution of land measuring as low as 5 to 10 cents to 355 beneficiaries in three districts, as shown in Table 5.

Table 5 : Distribution of small areas of land

District	Total no. of beneficiaries	No. of beneficiaries to whom land was given		
		up to 10 cents	11 to 50 cents	Total
Kancheepuram	170	0	21 (12)	21 (12)
Krishnagiri	1,914	292 (15)	339 (18)	631 (33)
Theni	626	0	44 (7)	44 (7)
Trichirappalli	1,287	33 (3)	393 (31)	426 (34)
Thiruvannamalai	832	30 (4)	157 (19)	187 (23)
Total	4,829	355 (7)	954 (20)	1309 (27)

(Source: List of beneficiaries furnished by Revenue Department)

(Figures in brackets represent percentages to the total)

⁷³ Kancheepuram, Krishnagiri, Theni, Trichirappalli and Thiruvannamalai.

⁷⁴ A cent is equal to 40 square metres.

Sustainable economic growth being the main objective of the programme, distribution of such small parcels of land would be of no use to the beneficiaries as the returns from the land would be meagre. Poor returns from the land would force the farmers to stay away from cultivation and would again contribute to increase in the area of wasteland.

1.3.9.3. Non-ensuring of physical possession of land

Verification of possession of land distributed

Under the programme of distribution of Government wastelands to landless agricultural families, the beneficiaries were to be the direct cultivators of the land assigned. The Commissioner of Land Administration, however, received (2007) complaints that land assigned under the programme were being cultivated by persons other than the assignees. The Commissioner instructed (June 2007) the Collectors / Tahsildars to verify and make enquiries in villages to find out violations of the conditions of assignment and take immediate follow-up action to cancel such land assignments. The Collectors, however, did not furnish any reports on the verification even as of October 2009. The Government replied (October 2009) that the reports were awaited from the Collectors.

Survey stones

Survey stones were not used for marking the lands

Survey stones are the basic boundary marks for demarcation of agricultural land. When a parcel of land is sub-divided into several parts for distribution among beneficiaries, each piece of the land should be marked with survey stones. The Revenue Department, however, did not lay any survey stones. The State Level Monitoring Committee, in its fifth meeting in September 2007 decided to provide the cost of boundary stones from the programme funds available with the District Agencies. The Commissioner of Land Administration asked (May and October 2007) the Collectors to provide the survey stones as the beneficiaries in certain areas were not even aware of the exact location of the land assigned to them. Despite this, it was found that in the six test-checked districts, survey stones were not used for marking the lands. The Government replied (October 2009) that the Collectors were taking action to provide survey stones.

Distribution of uncultivable land

Out of 33,414 hectares of land distributed, 1,585 hectares were uncultivable

As per information made available to Audit, out of 33,414 hectares of land distributed in 11 districts⁷⁵, 1,585⁷⁶ hectares were uncultivable, (**Appendix 1.35**). The Agricultural Engineering Department could not develop the land as the land parcels were located in rocky areas and hence unfit for development. Further, in some cases the Agricultural Engineering Department required more funds than the sanctioned amount of Rs 8,500 per hectare to develop the land due to heavy undulations. Non-furnishing of sufficient details about the land/beneficiaries by the Revenue Department and the absence of survey stones was another reason for non-development of the allotted land.

⁷⁵ Six test-checked districts and five other districts viz., Cuddalore, Dharmapuri, Dindugul, Salem and Vellore for which information was made available.

⁷⁶ 1287 hectares of unencroached Government land and 298 hectares of encroached Government land. Total : 1585 hectares.

Despite the difficulties involved in development, the Executive Engineers of the Agricultural Engineering Department did not take any follow up action either to approach the Revenue Department to cancel the allotments and provide alternative land to the beneficiaries or to send proposals to the Chief Engineer / District Agencies for sanction of additional funds. Instead, the above land was classified incorrectly as 'land not requiring reclamation' and included in the achievements under the programme. This resulted in denial of the benefits of the programme to the recipients of 1585 hectares of land under the programme. Further, the misreporting of facts by the Agricultural Engineering Department denied an opportunity to the Government to initiate action against the officials of the Revenue Department who were responsible for allotment of rocky areas.

1.3.10 Planting and crop management

1.3.10.1. Planting performance

The operational guidelines of CWDP envisaged sustainable development through planting of horticultural and agro-forestry crops. The year-wise planting and survival rates as per the records of the TN Watershed Development Agency as of July 2006 are given in Table 6.

Table 6 : Survival rate of plants

Year of planting	Area planted (hectares)	No. of districts in which implemented	No. of seedlings planted in lakh	Percentage of survival as of 31 July 2006
2002-03	21,771	10	23.66	42
2003-04	23,600	10	25.00	45
2004-05	51,386	23	48.40	61
2005-06	73,889	24	66.40	73
Total	1,70,646		163.46	61

(Source: Information furnished by TN Watershed Agency)

Survival rate of plants was only 32 per cent

In order to achieve 100 per cent survival of plants, the programme provided for replacement of withered plants in the second year. Though the TN Watershed Agency reported a State-level survival rate of 61 per cent, a joint physical inspection of 12 randomly selected beneficiary fields by Audit in July 2009 in three of the test-checked districts disclosed a lower average survival rate of 32 per cent as given in Table 7.

Table 7 : Survival rate of plants in farmers' fields inspected

Name of District	Number of farmers' fields inspected	Number of saplings planted in the fields	Number of plants which survived on the date of inspection (July 2009)	Survival rate (per cent)
Coimbatore	3	650	188	29
Krishnagiri	4	572	249	43
Thiruvannamalai	5	603	149	24
Total	12	1,825	586	32

(Source: Joint inspection conducted by the Audit Team along with Departmental officers)

According to the cost norms approved (July 2002) by the Government for planting activities, the District Agencies were allowed to incur an expenditure of Rs 3,800 per hectare on plant protection activities such as applying bio-fertilisers (Rs 800), initial manuring (Rs 300) and maintenance of crop for two years (Rs 2,700). Activity-wise expenditure under CWDP in the test-checked districts as compared to the required expenditure during 2004-06 is given in Table 8.

Table 8 : Activity-wise expenditure during 2004-06

District	Bio-fertilisers		Initial manuring		1st year maintenance		2nd year maintenance *	
	Expenditure (Rs in lakh)	P	Expenditure (Rs in lakh)	P	Expenditure (Rs in lakh)	P	Expenditure (Rs in lakh)	P
Coimbatore	Nil	Nil	0.09	1	1.74	2	Nil	Nil
Kancheepuram	1.24	2	0.81	14	13.57	22	Nil	Nil
Krishnagiri	1.75	18	6.48	50	2.17	10	0.20	1
Theni	13.82	135	Nil	Nil	52.60	86	5.73	12
Trichirappalli	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Thiruvannamalai	Nil	Nil	6.26	35	37.51	34	0.90	2

(Source: Information furnished by District Agencies)

* including tiller-ploughing and casualty replacement

P - Percentage of expenditure to the approved expenditure

Deficiencies in implementation of CWDP noticed by Audit are described below:

- According to the guidelines, the subsidy available for planting activities was Rs 8,500⁷⁷ per hectare, of which Rs 3,800 was earmarked for plant protection measures. Though sufficient funds were provided under the programme, the expenditure incurred on plant protection activities in all the test-checked districts was low as shown in Table 8 above, indicating shortcomings in plant protection activities.
- Despite permission of the Government to carry out second year maintenance even after closure of the programme, three test-checked districts (Coimbatore, Kancheepuram and Trichirappalli) did not carry out second year maintenance of crops planted during 2005-06. In the other three districts, expenditure incurred was meagre, ranging from one to 12 per cent.
- The programme provided for imparting training to farmers to upgrade their skills. In the test-checked districts, the District Agencies did not utilise the funds provided for community organisation and farmer training in full. The percentage of utilisation of funds for community organisation and training was only 19 and 47 per cent respectively.

⁷⁷ Borewell: Rs 2,000, planting of seedlings: Rs 1,200, ploughing: Rs 1,000, bio-fertilizers: Rs 800, initial manuring: Rs 300, first year maintenance: Rs 1,800, second year maintenance: Rs 1,400 (watering-Rs 900, tiller ploughing- Rs 350, casualty re-plantation Rs 150). Total : Rs 8,500.

The failure to carry out the required activities as envisaged in the guidelines contributed to poor survival rate of the plants.

1.3.10.2. Non-supply of agricultural inputs

Agricultural inputs viz, seeds, mini-kits, fertilizers etc. were to be supplied to beneficiaries by dovetailing the subsidies available under various State/Central Government schemes. As of March 2009, agricultural inputs had been supplied only to 36,614 out of 1,73,277 beneficiaries (21 per cent), covering a land area of 15,845 hectares out of the 83,220 hectares (19 per cent) of land distributed to them. In the test-checked districts, the percentage of coverage ranged from one to 45 in terms of extent and from one to 44 in terms of beneficiaries, as shown in Table 9.

Table 9 : Distribution of agricultural inputs

District	No. of beneficiaries who received agricultural inputs			Extent of land supplied with agricultural inputs (hectares)		
	Total number of beneficiaries	Number of beneficiaries supplied with inputs	Percentage of coverage	Total extent of land distributed	Extent of land supplied with inputs	Percentage of coverage
Coimbatore	1783	384	22	1356	275	20
Kancheepuram	4306	1912	44	2150	960	45
Krishnagiri	6185	65	1	2272	34	1
Theni	7268	1134	16	4966	913	18
Trichirappalli	5364	914	17	3078	288	9
Thiruvannamalai	6890	779	11	3344	255	8
Total	31796	5188	16	17165	2725	16

(Source: Information furnished by District Agencies)

Government replied (October 2009) that wherever possible, schemes of the Agriculture and Horticulture Departments were dovetailed to supply inputs to beneficiaries. District Collector, Kancheepuram, stated (October 2009) that the beneficiaries were reluctant to go over to the agricultural depots to collect inputs with subsidy portion as low as Rs 100. This indicated that the programme was not attractive enough to bring in more land under cultivation. The poor coverage in the distribution of agricultural inputs indicated the failure in dovetailing other schemes with the programme.

1.3.11 Development of land

Development of land in clusters

Wherever Government wasteland of four hectares and above or private (*patta*) wasteland of 20 hectares and above was available in contiguous blocks, land development was to be carried out through a cluster approach. Clusters were developed on project mode by providing borewells, farm ponds, drip irrigation facilities and planting of suitable horticulture/agro-forestry crops of long duration. The extent of developed land assigned to individual beneficiaries was not to exceed two acres (0.8 hectare).

Only 3,592 out of the 1,73,277 beneficiaries had assured irrigation facilities for the land assigned to them

1.3.11.1 Non-provision of irrigation facilities

Under the cluster approach, the average cost of development of land was Rs 58,951⁷⁸ per hectare, even as the normative ceiling for land development under CWDP was only Rs 8,500 per hectare. As of March 2009, the total number of beneficiaries under the cluster programme was 3,592, against 1,69,685 beneficiaries under the non-cluster mode. As such, 98 *per cent* of the programme beneficiaries had to depend solely on the monsoon for water, as alternative sources for irrigation and watering were not created for land which was not under the cluster mode of development.

1.3.11.2 Non- development of clusters

Delay in submitting proposals

The Agriculture Department, through a State-wide geo-physical survey, identified (January 2007) 244 parcels of Government land across the State with a total area of 2,043 hectares, for development as clusters. The District Agencies under the Collectors, however, submitted proposals for 142 identified clusters covering 1,044 hectares. As of June 2009, proposals were still to be received for the remaining 102 clusters. The Government sanctioned (February and October 2007) Rs 6.09 crore⁷⁹ for the 142 clusters. The development works in 102 clusters were completed and works in 40 clusters were in progress as of March 2009. Non-submission of proposals for the remaining 102 clusters resulted in non-development of these clusters.

Agro-forestry clusters

After another geo-physical survey in January 2008, the Agriculture Department ascertained the possibility of raising agro-forests in 3,003 land parcels covering 50,746 hectares of wasteland in 28 districts. The land was unsuitable for horticultural crops, but was considered suitable for agro-forestry⁸⁰ through suitable land development measures on the cluster approach. The TN Watershed Agency sought (January 2008) project proposals from District Agencies for development of the lands. However, no proposals were received (March 2009). Government replied (October 2009) that even after motivation, beneficiaries were not coming forward for agro-forestry plantations and there was no suitable area for the same. The reply is not acceptable as the geo-physical survey conducted in January 2008 had indicated the possibility of raising agro-forests in 50,746 hectares of wasteland.

Clusters in private lands

In November 2007, Government ordered the taking up of land development on the cluster approach in private lands (*patta* wastelands) of not less than 20 hectares. Government also approved 100 *per cent* subsidy by dovetailing the other scheme funds *viz.*, Drought Prone Area Programme, Integrated Wasteland Development Programme, National Watershed Development Project for Rainfed Areas etc. Till March 2009, 42 proposals of land development on the cluster approach, covering 939 hectares belonging to

⁷⁸ Rupees 11.69 crore incurred on 1,983 hectares of land : Rs 58,951 per hectare.

⁷⁹ Rupees 4.07 crore under the programme and the balance by dovetailing other scheme funds.

⁸⁰ Bio-mass plantation, timber and fodder tree plantation.

1,539 beneficiaries were sanctioned at a cost of Rs 5.60 crore. Development works in four clusters were completed and were in progress in the remaining 38 clusters. The accrual of benefits to the beneficiaries was delayed due to the non-completion of 38 clusters.

1.3.11.3 Creation of facilities and management

Provision of borewells and energisation

Borewells/open wells required for creation of irrigation facilities for land developed under the cluster mode were to be sanctioned by the TN Watershed Development Agency. During 2006-09, the TN Watershed Agency sanctioned 72 borewells for 41 clusters in the test-checked districts. As of March 2009, 15 of the sanctioned borewells were still to be erected. It was also noticed that out of the 57 borewells erected, five were not energised by the Tamil Nadu Electricity Board due to the bar on providing free electricity for horticulture crops. The Executive Director of the TN Watershed Agency replied (October 2009) that relaxation of the barring provisions was under consideration of the Government.

Drip irrigation facilities

Drip irrigation facilities were to be provided in the clusters, wherever necessary, on the recommendations of the Horticulture Department. Drip irrigation works sanctioned for clusters in five out of the six test-checked districts were completed. In Krishnagiri district, out of 19 clusters for which drip irrigation was sanctioned, the facility was still to be created in 11 clusters (March 2009).

Inter-cropping

As the tree crops in the clusters would come to yield after three to four years, the guidelines stipulated inter-cropping⁸¹ with vegetables, pulses, oilseeds etc., in order to provide income to the beneficiaries during the interim period. In the test-checked districts, 37 clusters were developed. However, inter-cropping was not done in 25 clusters in three districts (Coimbatore - 1, Krishnagiri - 20 and Theni - 4). Failure to raise inter-crops would deprive the beneficiaries of income from the land during interim period.

Lift irrigation societies

According to the guidelines, lift irrigation societies were to be formed and registered under the Tamil Nadu Societies Registration Act, 1975 for the clusters, with the beneficiary farmers as members, for joint development and management of the common infrastructure. It was found that such societies had been formed in clusters in all the test-checked districts except Krishnagiri, where the societies were still to be formed in nine out of 21 clusters.

⁸¹ Cultivating short duration crops alongside the main crop of long duration.

1.3.11.4 Deficiencies in cluster projects

Land development through the cluster approach was followed in five⁸² out of the six test-checked districts. Scrutiny of records of implementation and maintenance of cluster projects and field inspection by Audit disclosed deficiencies, as shown in Table 10.

Table 10 : Deficiencies noticed in clusters

Cluster	Deficiencies noticed
Gudalur North cluster, Coimbatore District	1. Immature seedlings were planted – three month old seedlings were planted as against 12 month old seedlings provided in the guidelines. 2. Intercropping was not done and live fencing was not provided, though proposed in the formulation stage of the cluster.
Tirupattur cluster, Trichirappalli District	1. Amla seedlings (cost Rs 0.89 lakh) planted in the cluster did not survive at all due to high alkalinity of soil. No effort was made to reduce soil alkalinity through proper pitting and soil treatment. 2. Live fencing was not provided, though proposed in the formulation stage.
Kadappasandampatti cluster, Krishnagiri District	1. Though the cluster was sanctioned in August 2007, planting had not been done even as of June 2009. 2. Even though proposed in the project formulation stage, live fencing was not provided. 3. Pits dug for planting were not of the prescribed size of 3 x 3 x 3 feet.
Kommampattu cluster, Krishnagiri	Survival rate of mango saplings planted in this cluster was 10 per cent only due to failure of borewells.

(Source: Records of District Agencies and field inspection by Audit)

1.3.11.5 Farm ponds

As against the target of 45,200 ponds set by the TN Watershed Agency, the achievement was 9,716 ponds (21 per cent)

Farm ponds play a vital role in soil and moisture conservation and in supplementing irrigation for the crops raised. As per the norms prescribed by the Government, one farm pond was to be provided for land parcels measuring 0.2 to 0.4 hectare and two farm ponds were to be provided for land parcels measuring 0.4 to 0.8 hectare. The ponds were to be provided free of cost through local Panchayat Presidents at an unit cost of Rs 2,750 or Rs 4,650 per pond for small and big⁸³ ponds respectively. As against the target of 45,200 ponds set by the TN Watershed Agency, the achievement was 9,716 ponds (21 per cent) only for the State. In the test-checked districts, the achievement ranged from one to 24 per cent of the targets fixed, as given in Table 11.

Table 11 : Targets and achievements in creating farm ponds

District	Target for 2007-08 and 2008-09	Farm ponds created (31 March 2009)	Achievement (percentage)
	Number of ponds		
Coimbatore	1,050	108	9
Kancheepuram	500	6	1
Krishnagiri	1,700	67	4
Theni	1,500	249	16
Trichirappalli	1,600	312	20
Thiruvannamalai	2,300	557	24
Total	8,650	1,299	15

(Source: Information furnished by District Agencies)

⁸² All the test-checked districts except Kancheepuram.

⁸³ Dimensions in metres: (length x breadth x depth): Small pond: 15 x 3 x 1.5, big pond: 15 x 6 x 1.5.

Audit observed that the reasons for the low achievement were as follows:

- The District Agencies were to release funds to the Village Panchayat Presidents to provide farm ponds in beneficiaries' fields. The payments were made on completion of the works. In Kancheepuram District, the Village Panchayat Presidents were reluctant to take up works due to non-payment of advances by the District Agency.
- The farmers could not be motivated for provision of farm ponds in their land as the pond would occupy about seven cents of their land.

The State Level Committee decided (September 2007) that an incentive package must be evolved by the Agriculture Department for *patta* land developed under CWDP. Audit could not ascertain the follow-up action on the matter, as no meeting of the Committee had been convened thereafter.

1.3.11.6 Soil health cards

The CWDP contemplated soil testing of each field and issue of soil health cards free of cost to the beneficiaries by the Agriculture Department. The cards were to carry specific recommendations on the cropping programme. It was, however, noticed that out of 1.73 lakh beneficiaries of the programme, 1.24 lakh (71 *per cent*) beneficiaries were provided with soil health cards as of March 2009. Non-issue of soil health cards to 0.49 lakh beneficiaries denied them an opportunity to take up cultivation of the right crops and to apply the right nutrients based on soil health cards.

1.3.12 Monitoring and Evaluation

1.3.12.1 Non-convening of State Level Committee

Government constituted (2006) a State Level Committee headed by the Chief Secretary to monitor the implementation of the programme but did not prescribe any periodicity for the Committee meetings. The Committee met five times between July 2006 and September 2007 and did not meet thereafter. Failure to convene the Committee meetings regularly resulted in non-monitoring of the programme after September 2007.

1.3.12.2 Reconciliation of area coverage

Reconciliation of data on the extent of land distributed by the Revenue Department and the extent of land developed by the Agricultural Engineering Department assumes importance as there could be a possibility for the assigned land remaining undeveloped. The Revenue Department and the Agriculture Department did not conduct any reconciliation of the data maintained by them respectively on achievements in the areas distributed and developed under the programme.

1.3.12.3 Verification of planting

Government stipulated (June 2006) that the land distributed to the beneficiaries under the programme should be brought under cultivation within two years, failing which, it would be at liberty to cancel the assignments and take the land back. It was, however, noticed that neither the Agriculture Department nor the District Agencies conducted any field surveys to find out whether the allotted land had been brought under cultivation within the prescribed period.

1.3.12.4 Evaluation of the programmes by other agencies

The Department of Evaluation & Applied Research of the Government evaluated the implementation of the CWDP in 2006 and submitted its report to the Government in February 2008 i.e. after a period of nearly two years of implementation. The findings of the study were as follows:

- Beneficiary participation was very low.
- Spacing norms adopted were more than the norms fixed by the Tamil Nadu Agricultural University, leading to planting of less number of plants.
- The programme mainly related to planting of seedlings without carrying out essential activities for soil and moisture conservation like village ponds, percolation ponds and check dams. A holistic approach was not followed.
- In 65 per cent of sample farmers' holdings, the survival rate of plants was 50 per cent and below.

The Centre for Agriculture and Rural Development Studies of Tamil Nadu Agricultural University, Coimbatore, conducted a mid-term evaluation of the programme during 2007-08. The study revealed that:

- Wastelands with poor fertility, which were not amenable for cultivation were allotted in four districts (Nagapattinam, Thanjavur, Perambalur and Dindigul), where further reclamation was needed.
- Even after land development and reclamation works, land was not cultivated in four districts (Cuddalore, Perambalur, Thiruvallur and Villupuram) due to litigation.
- Land distributed had relatively more gravel and stones in the soil in two districts (Dindigul and Perambalur) and were along hill ranges menaced by wild animals.
- Out of 416 hectares allotted to sample beneficiaries in 26 districts, 280 hectares (67 per cent) were not cultivated.

This issues flagged by the studies continued to exist as similar points were noticed during the performance audit as discussed in this report.

1.3.13. Conclusions

Though an extent of 1.71 lakh hectares and 0.19 lakh hectares of wasteland were developed under CWDP and the Revised CWDP respectively, the achievements under the programmes could not effectively arrest the rapid and continuous increase in the area of wasteland. Another objective of the programme to spur economic growth in rural areas did not receive the right impetus as the possibility of taking up cultivation in small land parcels, land in rocky and remote areas and in land without water sources, was bleak. Coverage of private wasteland for development was very low. Monitoring at all levels was not adequate.

1.3.14. Recommendations

- Government should adhere to the Perspective Plan and follow the watershed approach as contemplated therein.
- Immediate action should be taken to wind up all Village Development Associations and to get back the unspent balances.
- Uncultivated land leased out to corporate bodies should be recovered immediately.
- Government should ensure that land parcels below 50 cents are not assigned, as small pieces of land cannot provide sustainable income to beneficiaries.
- Government should intensify the coverage of private land by reducing the minimum area coverage under clusters to four hectares as in the case of clusters in Government land.
- Water sources (borewell, ponds etc) essential for survival of plants and continued use of the land developed may be created wherever necessary and feasible. Suitable soil and water conservation measures should be implemented.
- It may be ensured that only cultivable lands are distributed to the beneficiaries to derive agricultural income from the land.
- Meetings of the State Level Committee should be convened regularly to monitor programme implementation at all levels.

REVENUE DEPARTMENT

1.4 Computerisation of Land Records

Highlights

Computerisation of Land Records, a Centrally Sponsored Scheme, though in its twentieth year of operation, was still to achieve an optimal functional level even after an expenditure of Rs 27 crore had been incurred on it. In the implemented areas, namely the 'A' register and 'Chitta', the data was incomplete and still contained errors. Errors and deficiencies pointed out in an earlier review of this scheme in 2002-03 had still not been addressed. New components taken up in 2006 viz., 'cadastral mapping' and 'Adangal' remained in their initial stages. The software did not ensure that the information processed by the systems met the desired control objectives, such as completeness, correctness, timeliness and validity of data and preservation of integrity.

- **Out of Rs 36.98 crore sanctioned by GOI during the period 2000-08, Rs 9.94 crore remained blocked with the Electronics Corporation of Tamil Nadu.**

(Paragraph 1.4.6.1)

- **Computers and peripherals procured at a cost of Rs 8.21 crore remained unproductive for want of backbone connectivity and application software.**

(Paragraph 1.4.6.2)

- **Avoidable expenditure of Rs 45 lakh was incurred on procurement of Digital Audio Tape (DAT) drives for backup of data while the computers had already been provided with DVD writers.**

(Paragraph 1.4.6.3)

- **A sum of Rs 3 crore sanctioned for e-Governance initiatives was diverted for unintended purposes.**

(Paragraph 1.4.6.5)

- **Lacunae pointed out earlier with regard to computerisation of 'A' register and 'Chitta' had not been fully addressed despite the Department's assurance to the Public Accounts Committee.**

(Paragraph 1.4.7.1)

- **Due to lack of validation controls, capture of data from the manual 'A' register remained incomplete. The total numbers of**

sub-divisions in the villages and the extent of land therein were not reconciled with the manual system.

(Paragraph 1.4.7.2)

- Incomplete computerisation of the 'Adangal' register resulted in unproductive expenditure of Rs 1.68 crore.

(Paragraphs 1.4.8 and 1.4.8.1)

- The cadastral mapping project, scheduled to be completed in 30 months, lagged behind with only three *per cent* cases completed even after 18 months of its commencement.

(Paragraph 1.4.9.1)

- Due to deficient software, the area of land calculated for each survey number did not agree with the sum total of its sub-divisional areas in 18 *per cent* of the test-checked data.

(Paragraph 1.4.9.4)

1.4.1 Introduction

The Centrally Sponsored Scheme, 'Computerisation of Land Records' (CLR) was launched in 1988-89 to carry out effective land reforms and provide better delivery of citizen services. Its objectives included the following:

- Development of a modern, comprehensive and transparent land records management system
- Smooth distribution of Records of Rights⁸⁴ (ROR) at reasonable rates
- Digitisation of all spatial and non-spatial data

The key records maintained in the Department like the 'A' register, 'Chitta', 'Adangal' and Field Measurement Sketches (FMS) (also called cadastral mapping) were to be computerised under the scheme. The 'A' register contained details of land while 'Chitta' was a record of ownership and 'Adangal' stored details of tenancy and cultivation. Cadastral mapping contained sketches of all sub-divisions of land. Out of an outlay of Rs 37 crore, an amount of Rs 27 crore had been spent on CLR till date (April 2009). While capture of data relating to the 'A' register and the 'Chitta' was complete and the related functions computerised, capture of data relating to the other two functions, namely, 'Adangal' and cadastral mapping was in progress. The National Land Reforms Management Programme (NLRMP) integrating the CLR and SRA (Strengthening of the Revenue Administration) schemes introduced by Government of India (GOI) in September 2008 was in its initial stage in the State.

⁸⁴ Records to establish ownership of land.

1.4.2 Organisational structure

The Department functions under the Commissioner of Survey and Settlement, supported by an Additional Director, at the State level. The State is divided into four regions. Each region is headed by a Deputy Director. Each district is headed by an Assistant Director of Survey and Land Records. The districts are further divided into sub-divisions and taluks. The sub-divisional offices do not have any survey personnel on their rolls and are headed by Revenue Divisional Officers. Inspectors, Deputy Inspectors, Sub-inspectors of Survey etc., carry out the functions of the Department at the Taluk level.

1.4.3 Audit objectives

The objectives of audit were to assess whether :

- the observations and recommendations of the previous review conducted in 2002-03 had been duly addressed and the integrity of the database had improved;
- functions, computerised after the last review viz. digitization of 'Adangal' and cadastral mapping were as per the guidelines issued and met the objectives of the Department;
- funds released by GOI were effectively utilised and purchase of hardware and software were commensurate with the requirement and
- the application software developed for digitization of 'Adangal' and cadastral mapping had adequate controls to ensure completeness, accuracy and reliability of the data.

1.4.4 Audit criteria

The criteria for the review included:

- Survey Manual, Chain Survey Manual, Rules and Regulations in force.
- Scheme guidelines issued by the GOI.
- Previous Review Report and Public Accounts Committee (PAC) proceedings.
- Policy Notes of the Department of Survey and Settlement.
- Manual records maintained in Taluk Offices.

1.4.5 Audit coverage and methodology

The review commenced with an entry conference held with the Additional Chief Secretary to the Government and Director of Survey and Settlement in March 2009. Data relating to 'A' registers and 'Chittas' from 25 taluks

(selected at random) were obtained and examined for its reliability. It was also checked if the deficiencies pointed out in the last review and discussed in the PAC were duly addressed.

'Adangal' data captured for the *Fasli* 1414⁸⁵, obtained from 20 taluks were checked to assess if the same was in line with the Departmental requirements. Its utility *vis-à-vis* the expenditure incurred thereon was also assessed.

As 32 *per cent* of the data captured under cadastral mapping related to Perambalur District, data from that district was obtained and examined. The progress of its implementation, the provision of hardware and infrastructure and the utilisation thereof were also examined.

Field visits were made to five taluk offices, two district offices and one sub-divisional office to have a further detailed study and confirm the observations raised. A questionnaire enquiring into the quantum of data capture, the utility of machines supplied to them and constraints if any, was drawn up and replies obtained from the district offices.

The review concluded with an exit conference held (July 2009) with the Commissioner of Survey and Settlement wherein the audit observations were discussed.

Audit Findings

1.4.6 Planning

1.4.6.1 Utilisation of Funds

The State Government permitted Government Departments to use the services of the Electronics Corporation of Tamil Nadu (ELCOT), a State Government Undertaking, for procurement of computer hardware. Funds for the CLR project released by GOI were, therefore, transferred to the account of ELCOT as and when received. Though funds were released by GOI based on specific requests from the State Government, they were not fully utilised and the balances were allowed to accumulate with ELCOT due to poor planning. Instances of unutilised funds lying with ELCOT are given below:

- An amount of Rs 8.67 crore was obtained (March/May 2006) from GOI for purchase of two servers and 20 computers for each of the 30 districts for cadastral mapping and transferred to ELCOT. The servers were not purchased and one of the computers was used as the server. Savings due to non-purchase of the servers, amounting to Rs 4.80 crore, was allowed to remain with ELCOT,
- An amount of Rs 1.03 crore sanctioned (November 2003) by GOI based on a specific request from the Department, for imparting training on CLR was not utilised and remained (April 2009) with ELCOT for over five years.

An amount of Rs 9.94 crore remained blocked with ELCOT due to poor planning

⁸⁵ Agricultural year starting from 1 July 2004 to 30 June 2005.

Due to such inadequate planning, out of a total release of Rs 36.98 crore, the amount accumulated with ELCOT from 2000 to date (July 2009) was of the order of Rs 9.94 crore.

1.4.6.2 Computers procured at a cost of Rs 8.21 crore were not utilised for the intended purpose

Computer hardware procured at Rs 8.21 crore remained unutilised for the intended purpose for more than four years.

Based on a specific request from the State Government, an amount of Rs 10.11 crore was sanctioned (November 2003 and December 2004) by GOI in two instalments for connecting the Taluks and the State Headquarters through the sub-divisions and the district offices. Out of this, Rs 8.21 crore was spent (October 2005) on purchase of servers, computers, DAT drives, printers, UPS systems etc. However, the systems could not be utilised (July 2009), for want of web-based applications developed for the purpose. In this connection, it was also observed that

- the purchase of computers and peripherals were made much ahead of time when no connecting backbone was available,
- the sub-divisions were supplied with servers costing Rs 1.56 lakh each and district offices were supplied with high end servers at Rs 1.90 lakh each, though these offices did not have any need for hosting server applications and
- servers and nodes were supplied to sub-divisional offices which did not have any survey personnel on their rolls to utilise them.

Thus, the hardware purchased was not utilised even after four years of their procurement, rendering the expenditure incurred on it unproductive. The Department, in their reply, stated (February 2009) that GOI was addressed for sanction of funds for development of a web-based application. However, it was observed that while a request for funds for hardware was sent to GOI in October 2004, request for funds for developing application software was sent to GOI only in October 2008, after a delay of four years, indicating poor planning.

1.4.6.3 Avoidable expenditure of Rs 45 lakh on purchase of Digital Audio Tape (DAT) drives

Avoidable expenditure of Rs 45 lakh on purchase of DAT Drives

In March 2007, under e-Governance initiatives, all the 206 Taluk Offices were supplied with one server each. These servers were to be equipped with a DAT drive each, costing Rs 22,000 a piece, for backing up of data, involving a total investment of Rs 45.32 lakh. The servers were also equipped with DVD writers which alone were to be used for backups, rendering the supply of DAT drives superfluous. The DAT drives purchased and paid for, were neither installed nor taken to stock in any of the Taluk offices. On this being observed in audit in July 2009, the suppliers were asked (September 2009) by the Department, after two and a half years of their supply, to install the DAT drives. This delayed action further confirmed that the users did not have any requirement for this drive as they preferred to take backups using DVD writers. Thus, provision of DAT drives proved to be unnecessary and resulted in an avoidable expenditure of Rs 45 lakh.

1.4.6.4 Computers supplied under 'cadastral mapping' lying unutilised

Computers and infrastructure valued at Rs 1.78 crore remained unutilised for over 20 months due to shortage of manpower

An expenditure of Rs 3.87 crore was incurred on supply (September 2007) of 20 computers and related infrastructure for each district, under the cadastral mapping project. The utilisation of these machines, however, remained poor on account of shortage of manpower. Sample study in 16 districts disclosed that for a total of 320 computers supplied, only 173 persons were deployed. Thus 46 per cent of the system and infrastructural resources valued at Rs 1.78 crore remained unutilised. Keeping the computers idle for over 20 months indicated poor utilisation of resources and deficient planning in purchase of computers disproportionate to the available manpower.

The Department replied (July 2009) that the district offices were instructed to post sufficient personnel and utilise all the systems.

1.4.6.5 Diversion of funds sanctioned for e-Governance initiatives

Rupees 3 crore sanctioned for e-Governance initiatives was diverted for unintended purpose

The State Government sanctioned (December 2004) an amount of Rs 3 crore towards e-Governance initiatives viz. development of software and acquisition of hardware. The amount was drawn and placed (March 2005) with ELCOT. A separate proposal seeking Rs 6 crore for e-Governance was then sent to GOI and the funds released by the State Government were diverted (March 2007) for strengthening computer hardware at the Taluk, district and State level offices.

The funds sanctioned for a specific purpose, after remaining idle with the Department for two years, were spent for strengthening the hardware systems in the field offices, though there were no specific requests from these offices. Thus, the intended objective of the Government remained unachieved even after the amount sanctioned was fully spent. The Department replied (July 2009) that the Government had been addressed in this regard.

1.4.6.6 System Documentation

Software developed without going through the process of System Development Life Cycle did not meet the departmental requirements

The software for computerisation of 'Adangal' and FMS was developed by National Informatics Centre (NIC) without going through the regular process of a System Development Life Cycle (SDLC). No User Requirement Specifications (URS) and Systems Requirement Specifications (SRS) had been drawn up and got approved by the Department. Several of the deficiencies brought out in the succeeding paragraphs in respect of *Adangal* and cadastral mapping, could be attributed to lack of planning at the system development stages. The Department replied (July 2009) that only user manuals had been supplied.

1.4.7 Computerisation of 'A' register and 'Chitta'

1.4.7.1 Assurance given to Public Accounts Committee

Lacunae pointed out in earlier Audit Report not fully addressed

The 'A' register and 'Chitta' contain information required for the issue of documents like Records of Rights (ROR) to the public. In the Report of the Comptroller and Auditor General of India for the year ended 31 March 2003 (Civil) Government of Tamil Nadu, lacunae in their computerisation leading to an unreliable database was pointed out, after a sample study of data

obtained from 10 selected Taluks. The Department was required to cleanse the data in its entirety and improve its integrity. Consequently, in a PAC meeting, the Department assured (January 2008) that the lacunae pointed out would be duly addressed. In order to ascertain the action taken by the Department, data obtained from 25 Taluks was examined in the current review. It was noticed that departmental action with regard to correction of errors was still incomplete even in respect of Taluks for which discrepancies were pointed out in the previous review. The data still lacked integrity as brought out in **Appendix 1.36**.

The Department, in its reply stated (July 2009) that the task of rectifying the errors had been entrusted to the Commissioner of Land Administration.

1.4.7.2 Capture of data in 'A' register

Computer system had no controls to ensure completeness of data capture by checking against village figures

In the manual 'A' register, the total area of lands under different survey numbers in a village was reconciled with the total area of the village and exhibited as an abstract for ensuring the correctness and completeness of the information. The computerised system did not have a provision in the form of a validation control for such reconciliation at the data capture stage, which resulted in incomplete/incorrect capture of data.

Unless the data in the computer system was reconciled with the manual records, the existing database would remain unreliable. The Department replied (July 2009) that instructions would be issued to all the district officials to reconcile the system data with the manual registers.

1.4.8 Computerisation of 'Adangal'

The '*Adangal*' register is maintained at the village level and contains information on utilisation of each subdivision of land, including crop related details. Computerisation of land records was considered incomplete without the '*Adangal*' being computerised. GOI sanctioned (November 2002) Rs 2.44 crore for capture of '*Adangal*' data of which Rs 1.18 crore had been spent (July 2009) and Rs 50 lakh was due for payment. The expenditure remained unproductive on account of several factors as brought out in the succeeding paragraphs.

1.4.8.1 Computerisation of 'Adangal' data—unproductive expenditure of Rs 1.18 crore

The capture of '*Adangal*' data for the *Fasli* 1414 (July 2004 to June 2005) was outsourced. The data captured was to be verified by respective Village Administrative Officers (VAOs). The entire process for *Fasli* 1414 was to be completed within the *Fasli* itself and data captured for subsequent *Faslis* was to be done by the staff of the Department within the respective *Fasli* year. However, the process relating to *Fasli* 1414 itself remained incomplete even as of July 2009. In the test-checked 118 Taluks, data capture had been completed in 110 Taluks and verification was complete only in 46 Taluks. The process being incomplete, capture of data for subsequent *Faslis* could not be taken up.

The Department, in its reply stated (July 2009) that the delay was on account of their personnel being involved in other welfare schemes. They also stated that they planned to proceed with capture of further data only from the *Fasli* year in which the task re-commenced. Thus, the entire expenditure incurred on data capture for *Fasli* 1414 amounting to Rs 1.18 crore was rendered unproductive.

1.4.8.2 System design

(a) A key aspect of '*Adangal*' was to keep track of the lessees or the persons involved in cultivation of land. Though the original proposals on digitization of '*Adangal*' contemplated the capture of such information, the computerised '*Adangal*' did not contain the required provision. The data organisation was thus deficient and not in line with the objectives of the Department.

The Department replied (July 2009) that remedial action would be taken in consultation with NIC.

(b) It was observed that in the data entry screen for '*Adangal*', the *Fasli* year was to be picked out from a list box for each entry. While an estimated 3.60 crore records had to be captured for each *Fasli*, repeating this entry on the data entry screen for that many number of times would be waste of time and manpower. The identity of the *Fasli*, ('1414' in the present case) could have been 'hard-coded' into the application program or passed as a parameter during customization of the software. The technique adopted also resulted in wrong entry of the *Fasli* year in 9,01,510 records.

In reply, the Department stated (July 2009) that a report would be called for from the districts and action would be taken to correct the errors, besides introducing proper validation controls in consultation with NIC.

1.4.8.3 Input controls/validation checks - '*Adangal*' database

An examination of the '*Adangal*' data relating to 20 Taluks disclosed that the application software developed by NIC did not have adequate controls to ensure correctness or completeness of data captured through input controls/validation checks and control totals, as brought out below:

- The manual '*Adangal*' register contained information on all the subdivisions of land in a village, bringing out the utility thereof like housing, agriculture, etc. It also contained an abstract indicating the total extent of land under each activity and agreed their sum to the total extent of land in the village. In the computerised system, the application software did not use control totals to ensure completeness of data capture. A test check of data relating to 2,100 villages disclosed that as against the 5,47,612 survey numbers as per the 'A' register, only 5,24,440 survey numbers had been captured.

- The 'Adangal' database contained repeated entries for the same crop under the same sub-division in the same season. Lack of input controls had permitted 15,729 such duplicate entries in 'Adangal'.
- The application software had a provision to display the area of the sub-division for which the data was being entered. However, there was no validation check to ensure that the area of crops cultivated in a sub-division of land was within the total area of that sub-division. In 9,962 instances, the areas under different crops in a sub-division exceeded the total area of the sub-division itself.
- In 1,59,989 instances, the extent of land in which crops were cultivated was given as zero. There was no input control to ensure that the extent column was not left blank.
- In 'Adangal', different groups of crops like 'foodgrains', 'pulses', 'oil seeds', 'paddy', etc were represented by codes 1 to 13. However, in 70,899 instances, codes other than the numerals 1 to 13 were allowed to be entered due to the absence of a validation check to ensure that only authorised codes were keyed in. Thus the identity of the crop groups could not be established through the system.

When the above deficiencies in data capture were pointed out, the Department replied (July 2009) that necessary controls would be introduced in consultation with NIC.

1.4.9 Cadastral mapping project

As computerisation of Field Measurement Sketches (FMS) was considered an integral part CLR, the Department decided to generate an FMS through the computer system. The available 'ladder data'⁸⁶, using which the original manual sketches were drawn, was taken as the basis for the computerised system also. The required funds amounting to Rs 8.67 crore were obtained (March 2006 and May 2006) from GOI. Computers and application software were supplied to all districts by December 2007 and capture of data commenced immediately thereafter. The project, apart from being considerably delayed had several deficiencies as brought out hereunder.

1.4.9.1 Implementation

Capture of data for computerisation of FMS commenced in December 2007 and was to be completed in 30 months. However, the progress was slow and even after 18 months (June 2009), only three *per cent* of the work was completed. The Department, in their reply, stated (July 2009) that the delay was due to deployment of lesser number of personnel than required and that they were planning to train and deploy more people.

Slow progress in implementation of cadastral mapping

⁸⁶ Ladder data comprises a set of figures representing imaginary lines called G-lines and offsets therefrom, which identifies the vertices of an FMS. This is the standard survey procedure for drawing an FMS.

1.4.9.2 Mosaicing of FMS

The planned objective of mosaicing of Field Measurement Sketches to form village maps could not be achieved

One of the prime objectives of the cadastral mapping project was to mosaic the FMS generated to form a village map. The software, however, generated the sketches of each survey number without considering the size and shape of its surrounding survey numbers. As a result, during mosaicing, the sketches did not mesh with each other to form the village map.

The computer system was not capable of generating village maps, which had to be maintained manually. The project therefore, could not achieve one of its prime objectives. The Department acknowledged (August 2009) that mosaicing of FMS may not be possible with the present software.

1.4.9.3 Analysis of system generated FMS

Discrepancies existed between the system generated sketches and the dimensions displayed thereon

From the ladder data, the system generated an FMS and displayed the dimensions and area thereon. The FMS, however, differed from its manual version, both in shape and dimensions. The software had a provision to alter the displayed dimensions alone, without altering the sketch. The Department used this provision to match the displayed dimensions in the system-generated FMS with the manual FMS. Thus the system-generated sketch (claimed to be 'to-scale') was disproportionate to the dimensions and the area printed thereon. The ROR, a legal document, to be furnished to the public with these sketches would thus contain discrepancies. An analysis of data obtained from Perambalur District disclosed the following.

- In respect of 96 *per cent* of the sub-division of lands, the system calculated area was at variance with the related area captured in the system from manual records.
- Similarly, the lengths of boundary lines calculated by the system were at variance in the corresponding lengths captured from manual records in 62 *per cent* of the cases.

The Department in their reply stated (July 2009) that the deficiency pointed out in the software would be discussed with NIC and appropriate modifications carried out.

1.4.9.4 Extent of land calculated by the computer system

Areas of survey numbers did not agree with the areas of the component sub-divisions in 18 *per cent* of the digitized Field Measurement Sketches

The software was designed to draw the FMS of a plot of land with all its sub-divisions, from the same ladder data. It calculated the area of each sub-division of land and the total area under that survey number independently. The area of land calculated for each survey number had to be the sum total of the areas of all its component sub-divisions. It was, however, observed through a sample study, that due to lacunae in the application software, there were variations in 18 *per cent* (3907 survey numbers) of the digitized FMS. In respect of 953 survey numbers, the variations observed were in excess of five *per cent* of the total area.

The Department, in its reply (July 2009) promised to take up the matter with NIC for remedial action.

1.4.9.5 Capture of data in cadastral mapping system

The computer system stored areas of divisions of land under survey numbers, both as calculated by the system and as contained in the manual records. However, in respect of sub-divisions, the areas as per manual records were not stored. The Department adopted manually calculated areas in respect of divisions of land and system calculated areas in respect of sub-divisions while furnishing sketches to the public. This could lead to discrepancies. The Department stated (July 2009) that the issue would be discussed with NIC to make appropriate modifications in the software.

1.4.9.6 Maintenance of two sets of data in cadastral mapping database

The system had been designed to generate FMS based on dimensions calculated by the computer system but provided for display of dimensions and areas corresponding to the original manual sketches. Thus the Department stored two sets of data for boundary lengths and areas, (i) as maintained by the Department manually and committed to the public and (ii) a refined set of data calculated by the computer system from the ladder data. The latter was deemed to be more accurate than the earlier, on account of the sophisticated computer system involved and was free from manual compromises and miscalculations. Despite this, the Department decided not to exhibit any of the system-calculated figures in the digitized FMS to the public and to persist with the original manual figures.

The Department stored two sets of data for each Field Measurement Sketch with the intention of not disclosing system-calculated figures

The Department while accepting that having two sets of data could lead to complications, stated (July 2009) that efforts would be made in consultation with NIC to sort out the issues.

1.4.10 Conclusion

Due to inadequate planning, funds to the tune of Rs 9.94 crore received for this project were allowed to remain with ELCOT from 2000 to date without serving any purpose. Hardware procured at a cost of Rs 8.21 crore was not put to intended use for want of application software for four years and hardware/infrastructure valued at Rs 1.78 crore, provided for the purpose of cadastral mapping, remained idle for over 20 months. The Department was still to take corrective action regarding the deficiencies pointed out in the earlier review despite assurances given to the Public Accounts Committee and data continued to remain incomplete and lack integrity. The process of data capture for the '*Adanga*' project also remained incomplete and contained errors due to deficiencies in the software. The data relating to the '*Adanga*' project, captured at a total cost of Rs 1.68 crore, was not put to use, rendering the expenditure wasteful. The progress of the cadastral mapping project was poor and one of its objectives, i.e., mosaicing to form village maps could not be achieved.

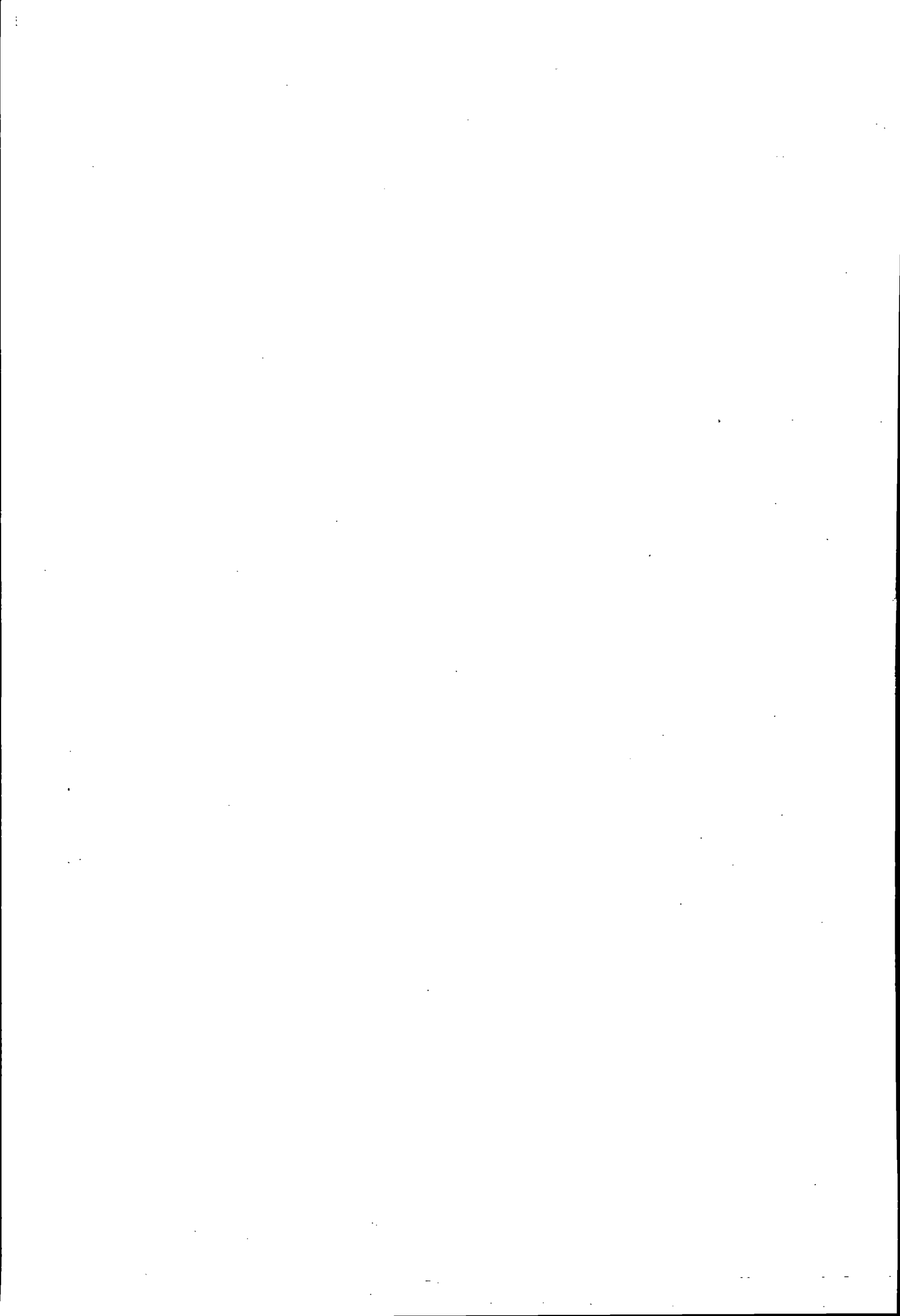
The computerisation efforts lacked proper planning and the progress of implementation was unsatisfactory. The deficiencies in the software resulted in incomplete, inaccurate and unreliable data that could not be used effectively for the intended purpose.

1.4.11 Recommendations

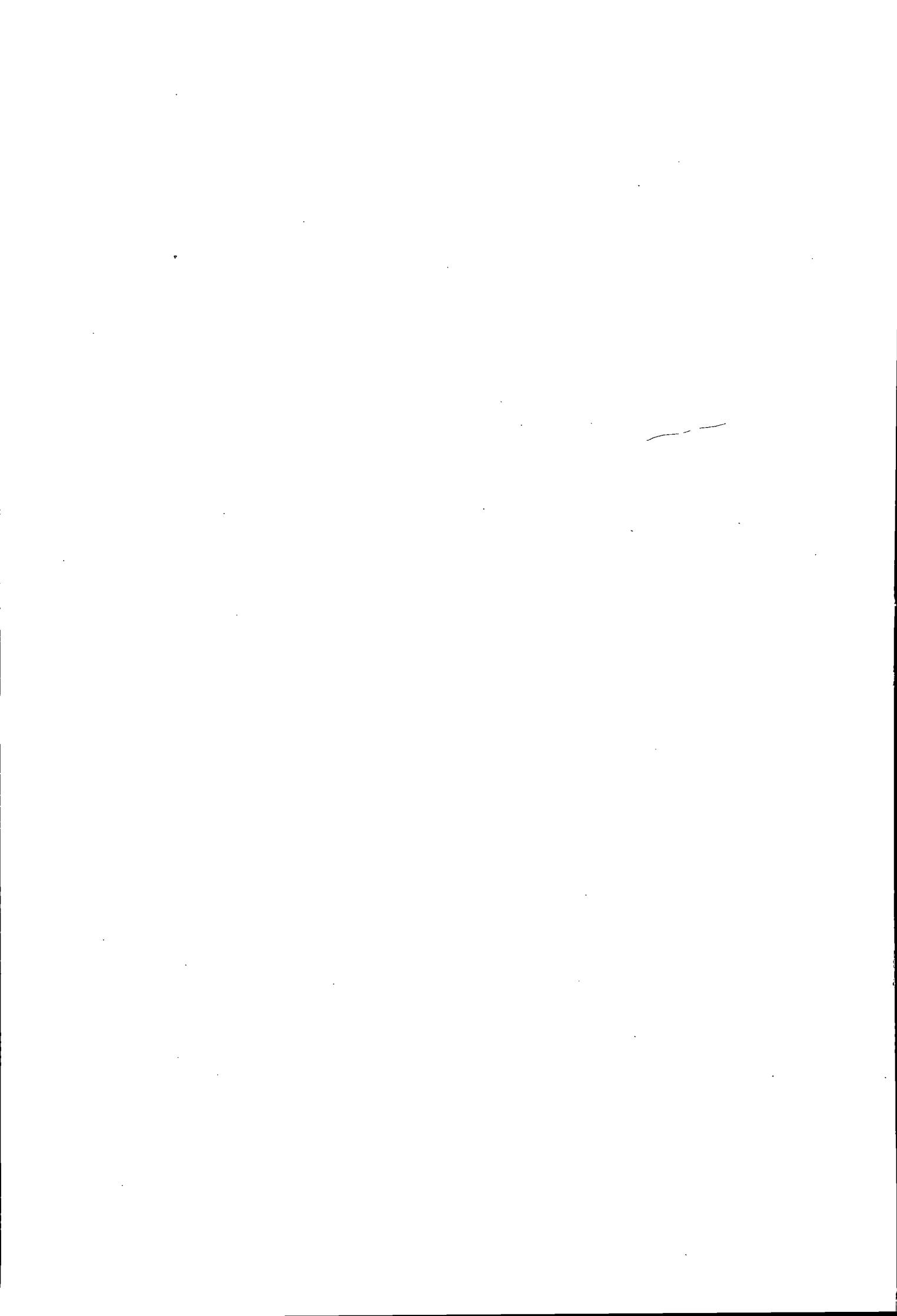
Audit would like to make the following recommendations to address the above mentioned deficiencies:

- Data relating to the 'A' register and 'Chitta' may be reviewed to ensure their correctness and completeness.
- Funds received and allocated for the project should be managed efficiently, so as to avoid blocking of resources.
- Proper utilisation of the purchased hardware and other infrastructure may be ensured through proper planning and monitoring of the scheme.
- Efforts should be made to complete the data entries relating to 'Adangal' in a time-bound manner to achieve the intended objectives.
- Necessary input controls and validation checks should be incorporated in the systems in use to ensure correct and complete capture of data.
- The practice of having two sets of data in the Field Measurement Sketches, one for departmental use and one for displaying to the public, should be sorted out.
- Development of the required web-based applications should be expedited and the equipment provided for connectivity should be put to intended use.

The above points were referred to Government in October 2009. Reply had not been received (October 2009).



CHAPTER II
AUDIT OF TRANSACTIONS



CHAPTER II

AUDIT OF TRANSACTIONS

Audit of transactions of the Departments of the Government and their field formations as well as autonomous bodies, brought out several instances of lapses in management of resources and failures in the observance of the norms of regularity, propriety and economy. These have been presented in the succeeding paragraphs.

2.1 Wasteful expenditure

MUNICIPAL ADMINISTRATION AND WATER SUPPLY DEPARTMENT

CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD

2.1.1 Wasteful expenditure on a dropped water supply project

Taking up the work of arresting the sewage polluting Kolavoy lake in Chengalpattu, without ensuring availability of water in the lake for supply to Chennai city, led to abandonment of the work, resulting in wasteful expenditure of Rs 1.35 crore.

Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) proposed (April 2002) to draw water from the Kolavoy lake in Chengalpattu to augment the water supply to Chennai city. The proposal included two components, viz. water supply¹ and sewage treatment².

On the basis of storage capacity of the lake, CMWSSB anticipated (March 2003) that 20 million litres of water per day (mld) could be drawn for supply to Chennai city. The Board decided (December 2003) to execute the sewage treatment component first, at a cost of Rs 3.40 crore and to develop the lake as a source of water supply, without ascertaining whether 20 mld of water would be actually available in the lake for water supply, from the Public Works Department (PWD) which controlled and maintained the lake. When the work was under execution, the PWD intimated (September 2004) that only five mld of water would be available for 90 days for Chennai city as against 20 mld for the whole year as contemplated by CMWSSB. As the project was then found unviable by CMWSSB in view of the availability of the meagre quantity of water, it decided (March 2005) to drop the water supply component and to hand over the infrastructure valuing Rs 2.50 crore, created under the sewage treatment component³, to

¹ Carrying water from Kolavoy lake to Chennai after treatment.

² Arresting sewage from Chengalpattu town polluting the lake water by intercepting sewage flowing in the open drains and diverting it to a collection well for pumping to a treatment plant proposed to be located at a distance of 4.4 km in a forest area.

³ Interception, diversion of sewage to pumping station through pipes (2.89 km out of 4.4 km of pumping main were completed) and pumping station.

Chengalpattu Municipality for use in another scheme, viz., the Chengalpattu Underground Sewerage Scheme (UGSS). The Tamil Nadu Water Supply and Drainage (TWAD) Board⁴, which prepared (December 2008) the project report for Chengalpattu UGSS, however, proposed to utilise only a few components valuing Rs 1.15 crore subject to technical clearance.

When the matter was referred (April 2009) to Government, it replied (July 2009) that out of Rs 2.50 crore spent on the work, components worth Rs 2.17 crore would be utilised by dovetailing them with the proposed Chengalpattu UGSS and also by retrieving and using the pipes in future projects of the local body.

The reply is not acceptable as the Superintending Engineer, Kancheepuram and Thiruvallur Circle of TWAD Board stated (September 2009) that only two components viz. the pumping main for a length of 2143 metres and the collection well at Thimmarajakulam, costing Rs 1.15 crore, were being considered for utilisation in the proposed UGSS and that a final decision would be taken after ascertaining their condition and obtaining technical approval.

Though Government admitted (July 2009) wasteful expenditure of Rs 33 lakh, the remaining expenditure on lease rent paid to Railways (Rs 40.17 lakh), cost of land development (Rs 25.48 lakh), construction of pumping station at Thirukalukundram (Rs 3.34 lakh), advertisement and centage charges (Rs 10.33 lakh), cost of retrieval of pipes (Rs 20.64 lakh) and other miscellaneous items (Rs 2.04 lakh) were not included by TWAD Board in the cost of the proposed UGSS. Hence, this expenditure of Rs 1.02 crore also turned out to be wasteful.

Thus, expenditure of Rs 1.35 crore out of Rs 2.50 crore spent on the sewage treatment component proved wasteful due to abandonment of the work taken up for the execution without ensuring the availability of water in the lake.

2.2 Avoidable/Excess expenditure

SCHOOL EDUCATION DEPARTMENT

2.2.1 Avoidable expenditure of Rs 5.63 crore on purchase of furniture for schools

Ordering of furniture for Government schools, costing Rs 69.09 crore from the Tamil Nadu Small Industries Corporation Ltd., without ascertaining the rates of furniture available in other priority institutions, resulted in avoidable expenditure of Rs 5.63 crore.

Based on a proposal (August 2006) of the Director of School Education (DSE), Government sanctioned (March 2007) Rs 69.11 crore for benches, desks, tables and chairs for 15,845 classrooms in 1,530 Government High Schools and Higher Secondary Schools in 29 districts. A loan of Rs 58.76 crore for the purpose had been obtained (February 2007) from the

⁴ The agency for construction and maintenance of water supply and drainage schemes for the State except Chennai city.

National Bank for Agriculture and Rural Development (NABARD). The balance of Rs 10.35 crore was to be met by the State Government. The DSE was permitted to procure the furniture by following the existing procedure.

As the cost involved was more than Rs 10 crore⁵, the DSE sought (June 2007) permission from the Government to call for tenders through notifications in newspapers and finalising them. The Government, citing Section 16 (c)⁶ of the Tamil Nadu Transparency in Tenders Act, 1998, issued (June 2007) instructions to the DSE to procure the furniture directly from the Tamil Nadu Small Industries Corporation Limited (TANSI), without going in for the open tender system. Accordingly, the DSE placed (July 2007) an order with TANSI for supply of the furniture, with the condition that the furniture be door-delivered to the schools by the end of November 2007. Rupees 69.09 crore was released to TANSI in November 2007 (Rs 20.73 crore) and in March 2008 (Rs 48.36 crore). The entire supply of furniture was completed in May 2008.

The Tamil Nadu Transparency in Tenders Act did not specifically insist that procurement should be made only from a particular public sector undertaking or a statutory board. However, Government did not initiate any action to obtain comparative rates from other institutions like the Tamil Nadu Khadi and Village Industries Board (TNKVIB), which also manufactured and supplied furniture to Government Departments, before placing orders on TANSI. It was found the rates of TNKVIB prevailing during July 2006 (the month in which the rates were quoted by TANSI) in respect of furniture of the same specifications supplied to schools were lower⁷ in respect of two of the items supplied viz., steel desks and teachers' tables. Audit also found that TNKVIB, on finding out about the sanction of funds for procurement of furniture to schools, had contacted (June 2007) the DSE with a request for purchase of the furniture from them, citing Section 16 (c) of the Tamil Nadu Transparency in Tenders Act, 1998. However, the offer of TNKVIB was not brought to the notice of Government by the DSE. The Government also did not consider TNKVIB for procurement of furniture.

Government stated (August 2009) that TNKVIB had requested (June 2007) the DSE to place indents on them for supply of furniture to the schools, but they had not enclosed their proforma invoice on that date.

⁵ Tamil Nadu Transparency in Tenders Rules, 2000 stipulate that all procurements above Rs 10 crore require publication of tender notices in the Indian Trade Journal.

⁶ As per Section 16 (c) of the Tamil Nadu Transparency in Tenders Act, 1998 the tender procedure need not be followed for procurement from certain Departments of Government, public sector undertakings, statutory boards and such other institutions, only in respect of goods manufactured by them.

⁷

(Rate per unit in Rupees)

		TANSI rate	TNKVIB rate	Difference
i)	Steel desk	2,080	1,800	280
ii)	Teachers' table	2,542	2,350	192

Thus, the failure on the part of the Government to obtain comparative rates from another priority institution resulted in avoidable expenditure of Rs 5.63 crore (Appendix 2.1).

***MUNICIPAL ADMINISTRATION AND WATER SUPPLY
DEPARTMENT***

TAMIL NADU WATER SUPPLY AND DRAINAGE BOARD

2.2.2 Avoidable liability due to rejection of valid tender

Rejection of a valid tender in the first call resulted in an avoidable liability of Rs 4.06 crore.

Government of Tamil Nadu sanctioned (October 2005) the Underground Sewerage Scheme - Phase I for Tuticorin Municipality under the World Bank-aided Third Tamil Nadu Urban Development Project (TNUDP) for execution by the Tamil Nadu Water Supply and Drainage (TWAD) Board.

The work of laying sewer lines was split up into three packages covering various municipal zones. The Chief Engineer (CE), Southern Region of the TWAD Board invited (January 2006) tenders for the three packages. While there was no response for Packages I and III, two tenders were received for Package II. The CE recommended the lowest bid of Rs 12.15 crore, but the tender committee rejected (July 2006) the tender on the ground that the tender notice had been published only in one English newspaper. There was no response for the second, third and fourth calls for all the three packages and the tenders were finalised in the fifth call. Package II was awarded (October 2007) for Rs 16.21 crore to the same contractor whose bid had been rejected in the first call. The work scheduled for completion in June 2009 was in progress and an expenditure of Rs 4.95 crore had been incurred on it up to May 2009. The tender notice for the sewage treatment plant which was essential for commissioning the scheme was issued only in January 2009, with a schedule of completion of 24 months.

Audit scrutiny revealed that the rejection of the bid in the first call (Package II) was not justified for the following reasons:

The World Bank guidelines for National Competitive Bidding stipulate that advertisements inviting tenders should be limited to the national press or the official gazette or a free and open access website. The Tamil Nadu Urban Infrastructure Financial Services Limited, the fund manager of TNUDP, while approving the bid documents, specified (20 January 2006) that the invitation for bids (IFB) should be published in at least one widely circulated national daily. The CE sent the IFB to the Director of Publications for arranging press publicity and placing in the Indian Trade Journal. It was also put on a website. Besides, wide publicity was given through all Superintending Engineers as well as the State Tender Bulletin. The IFB was also sent to all registered Class I contractors of the Board. The Director of

Publications released the advertisement in the New Indian Express, a national level newspaper and also in a Tamil daily⁸.

The CE, while sending (May 2006) the tender proposals to the TWAD Board, informed the Managing Director of the Board that the IFB had been published in one English newspaper, put on the website and sent to all registered Class I contractors of the Board. He, however, failed to mention that an advertisement had also been placed in a Tamil daily. Based on this information, the agenda for the tender committee meeting was prepared. The committee rejected the tender on the ground that the advertisement had been released only in an English newspaper.

Thus, the injudicious rejection of a valid tender in the first call resulted in an avoidable additional liability of Rs 4.06 crore.

The matter was referred to the Government in April 2009. Reply had not been received (October 2009).

HIGHWAYS DEPARTMENT

2.2.3 Avoidable expenditure on road improvement works

Failure to get substandard work rectified through a contractor during the defect liability period resulted in avoidable extra expenditure of Rs 2.57 crore on a road improvement work.

The Chennai-Mamallapuram road (reach from km 42/0 – 55/460 km) was widened to four lanes along with strengthening of the existing carriageway, during June 1999 to March 2002 at a cost of Rs 13.67 crore. The road was designed to withstand traffic for the next 10 years. The agreement provided for retention of 2.5 per cent of the total value of the work executed as a deposit for the defect liability period of five years. This amount would be released to the contractor on expiry of two years on production of a bond for the remaining three years, indemnifying the Government against any loss or expenditure incurred to rectify any defect due to substandard work.

A quality check conducted in June 2003 by the Director, Highways Research Station revealed substandard work by the contractor. Though the Director recommended disciplinary action against the field officers concerned, no action was taken by the Chief Engineer. The agreement provided for rectification of the defects by the contractor during the defect liability period (April 2002 to March 2007). The Divisional Engineer (DE), Chengalpattu, however, failed to get the defects rectified through the contractor. Instead, he released (June 2004) the retention money of Rs 34.16 lakh to the contractor after obtaining an indemnity bond valid upto March 2007. When the road condition deteriorated, the DE issued (February 2005) a notice to the contractor to rectify the damages at his cost. As the contractor did not respond, the DE, stating that the road was an important one⁹, rectified the

⁸ Makkal Kural

⁹ The road connects Mamallapuram, a tourist town, to Chennai City.

damage by improving the entire road at a cost of Rs 2.57 crore¹⁰ during May 2005 to May 2006. Though the rectification was done within the defect liability period, the DE failed to invoke the indemnity bond to recover the cost from the contractor.

When this was pointed out, the DE accepted (March 2008) that the improvement was necessitated due to poor quality of work executed by the contractor and promised to recover the cost from the contractor. The Superintending Engineer (Highways), Chennai Circle, however, stated (April 2009) that no action was taken against any officer for the substandard work and that the extra expenditure could not be recovered from the contractor as the validity period of the indemnity bond had already expired on 29 March 2007.

Failure to get the substandard work rectified through the contractor resulted in avoidable extra expenditure of Rs 2.57 crore on the road improvement work. Had the DE invoked the provisions of the indemnity bond within the validity period, the Department could have realised at least Rs 34.16 lakh as per the bond.

The matter was referred to the Government in April 2009. Reply had not been received (October 2009).

PUBLIC WORKS DEPARTMENT

2.2.4 Additional liability due to non-finalisation of tenders within the validity period

Delays in forwarding evaluated bids of two works by the Superintending Engineer, Buildings Circle, Trichirappalli resulted in non-finalisation of a tender in the first call and an additional liability of Rs 82 lakh on re-tender.

Scrutiny of the records of the Superintending Engineer (SE), Buildings (Construction and Maintenance) Circle, Trichirappalli revealed abnormal delays in forwarding evaluated bids of two works to the Chief Engineer (CE) for obtaining approval of the Tender Award Committee (TAC) and consequent non-finalisation of tenders before the validity periods. The cases are discussed below:

Case A:

Two bids, with a validity period of 90 days, i.e. up to 10 March 2008, for the work 'Construction of additional block, extension, repair and renovation of Government Hospital at Veppur in Perambalur District' were opened on 12 December 2007. The SE approved the evaluation of the bids on 14 December 2007 but forwarded it to the CE only on 27 February 2008. The SE got the validity period of the two bids extended up to 7 April 2008. The CE forwarded the bid proposals, recommending the lower offer of

¹⁰ Excludes cost of profile correction and surface course as they would be carried out during maintenance of the road.

Rs 1.74 crore to the TAC on 10 March 2008. A meeting of the TAC was held on 24 April 2008, but the bid proposals were not placed before it as their validity had expired by then and the tenderers had declined to extend the validity periods. The work was put to tender again in July 2008 and a single tender received from the contractor, who had made the lower offer earlier, for a value of Rs 2.05 crore, was accepted (October 2008) by the TAC. Therefore, the delay of 75 days (from 14 December 2007 to 26 February 2008) in forwarding the evaluated bids by the SE resulted in an additional liability of Rs 31 lakh.

Case B:

Two bids, with a validity period of 90 days, i.e. up to 17 March 2008, received for the work 'Construction of additional buildings, extension, repair and renovation of Government Hospitals at Manapparai and Thuvarankuruchy in Trichirappalli District' were opened on 18 December 2007. The bids were evaluated by the SE on 14 January 2008 and forwarded to the CE on 26 February 2008. The CE had not checked the evaluation report before the TAC meetings held on 27 February 2008 and 7 March 2008 and the validity of the two tenders were extended upto 13 April 2008. The CE could not finalise the tender even during the extended validity period and the tenderers refused to extend the validity period further as a result of which the tender could not be awarded to the lowest tenderer who had quoted Rs 4.20 crore. Re-tendering (July 2008) was done for the two hospitals separately and the lowest offers of Rs 3.26 crore for Manapparai Government Hospital and Rs 1.45 crore for Thuvarankuruchy Government Hospital were approved by the TAC in September 2008 and November 2008 respectively. The delay of 43 days (from 14 January 2008 to 25 February 2008) by the SE in forwarding the evaluated bids to the CE resulted in non-selection of a contractor for the work by the TAC during first call resulting in an additional liability of Rs 51 lakh.

Delays in forwarding the bid evaluation reports in the above cases resulted in a total additional liability of Rs 82 lakh to the Government. When this was pointed out, the SE without assigning any specific reasons, stated that the time availed of was as per the actuals for processing of tenders. The reply is not acceptable as the SE took abnormal time in forwarding the evaluated bids to the CE.

The matter was referred to the Government in April 2009. Reply had not been received (October 2009).

**MUNICIPAL ADMINISTRATION AND WATER SUPPLY
DEPARTMENT**

**CHENNAI METROPOLITAN WATER SUPPLY AND
SEWERAGE BOARD**

2.2.5 Use of costlier pipes

Costlier cast iron pipes were used in place of stoneware pipes resulting in extra expenditure of Rs 58.37 lakh.

The Detailed Project Report for the Madurai Underground Sewerage Scheme (Phase II) approved (July 2002) by the National River Conservation Directorate (NRCD) prescribed, among other design criteria, the use of stoneware pipes for gravity sewers upto a depth of 3.5 metres (m) and cast iron pipes for depths above 3.5 m. The Chennai Metropolitan Water Supply and Sewerage Board (Board) executed this work and provided for cast iron pipes for depths 2.5-3.5 m for gravity sewers for a distance of 10.52 km in the detailed estimates. The use of the costlier cast iron pipes resulted in extra expenditure of Rs 58.37 lakh.

When this was pointed out, the Board replied (July 2009) that NRCD had sanctioned the scheme based on the detailed estimate of the work, which provided for use of cast iron pipes for depths from 2.5 m to 3.5 m and stated that stoneware pipes were not suitable for greater depths and in areas where there was greater movement of heavy vehicles. The reply is not acceptable as the Detailed Project Report (DPR) approved by the NRCD envisaged use of stoneware pipes only up to 3.5 m depth and the Board had deviated from the norms prescribed in the DPR.

Further, the Board had executed Phase I of the Madurai Underground Sewerage Scheme with stoneware pipes up to 3.5m depth stating (December 2001) that stoneware pipes were preferable for laying sewers above the water table and that the ground water table in Madurai was four metres below the ground level. The contention of the Board that stoneware pipes were not suitable for laying in areas, where heavy vehicle movement was more, is not acceptable in view of the fact that stoneware pipes had already been used in Madurai city in Phase I as approved by NRCD.

The matter was referred to the Government in April 2009. Reply had not been received (October 2009).

2.2.6 Overpayment due to violation of agreement conditions

Incorrect calculation of price variation charges in Kumbakonam Underground Sewerage Scheme (Phase II) resulted in overpayment of Rs 36.65 lakh to a contractor.

Government of India approved (February 2001) the Kumbakonam Underground Sewerage Scheme under the National River Conservation Plan for execution by the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). Scrutiny of records relating to execution of the scheme disclosed overpayment of Rs 36.65 lakh as detailed below:

The terms and conditions of the contract envisaged payment of escalation charges to the contractor for variations in the prices of labour and materials with reference to the price index applicable on the start date. The escalation charges were to be calculated on the value of work measured during each quarter with reference to the prices prevailing in that quarter. Escalation charges were not admissible for additional items of work found necessary during execution of the work, for which payments were to be made at mutually agreed rates.

The Executive Engineer (EE) of CMWSSB paid (January 2004 to October 2007) escalation charges to the contractor on the basis of the payments made during each quarter instead of the value of actual work measured in that quarter. Audit noticed that the EE, in contravention of the terms and conditions of the contract, made payments of escalation charges, taking into account the payments made during each quarter, which also included works measured during the previous quarters. This resulted in overpayment of Rs 22.20 lakh. Further, the EE paid Rs 14.45 lakh towards escalation charges for removal of surplus earth, an additional item of work.

The matter was referred to the Government in April 2009. Reply had not been received (October 2009).

MUNICIPAL ADMINISTRATION AND WATER SUPPLY DEPARTMENT

TAMIL NADU WATER SUPPLY AND DRAINAGE BOARD

2.2.7 Avoidable expenditure due to defective agreement conditions

The Tamil Nadu Water Supply and Drainage Board incurred avoidable expenditure of Rs 30.56 lakh on rectification of flood damages due to non-inclusion of a risk insurance clause.

As per the general conditions of civil contracts laid down in the Tamil Nadu Building Practice Manual of the Public Works Department, a contractor is required to arrange for insurance against natural calamities such as fire, floods, earthquakes, etc. on his own. The Government is not liable for any loss arising out of such risks. The Tamil Nadu Water Supply and Drainage (TWAD) Board followed the provisions of the said manual while executing its works.

Government of India sanctioned (February 2001) the Trichirappalli-Srirangam Underground Sewerage Scheme for execution by the TWAD Board, which awarded (September 2003) the work for a total value of Rs 26.16 crore to a contractor for completion by March 2006.

Audit scrutiny of records revealed that the TWAD Board, while entering into an agreement with the contractor, failed to incorporate the above mentioned condition regarding risk insurance. Instead, a *force majeure* clause was included in the agreement for non-performance of the contract due to acts of God. It was also observed that the contractor did not take any risk insurance to cover losses or damages to the work, arising out of natural calamities.

During execution, the sewage treatment plant of the scheme was damaged due to floods in November 2005. The Chief Engineer, Eastern Region, TWAD Board, executed flood damage work during 2006-07 for Rs 30.56 lakh as an additional item. The expenditure on this work was borne by the TWAD Board as the contractor had not taken any risk insurance.

The Finance Director of the TWAD Board contended (September 2008) that the expenditure was met on the orders of the Managing Director in view of the *force majeure* clause in the agreement.

The reply is not acceptable as the TWAD Board had initially failed to incorporate the risk insurance clause prescribed in the Tamil Nadu Building Practice Manual, leading to avoidable expenditure of Rs 30.56 lakh.

The matter was referred to the Government in April 2009. Reply had not been received (October 2009).

AGRICULTURE DEPARTMENT

2.2.8 Blocking of Government funds and avoidable interest payment due to drawal of funds far in advance

Release of Rs 4.20 crore in advance to the Tamil Nadu State Agricultural Marketing Board resulted in blocking of funds. Government also ended up paying interest on their own funds released to the agency due to depositing of the funds in an interest-bearing Personal Deposit Account.

During September and October 2006, Government approved proposals of the Director of Agricultural Marketing and Agri-Business for establishment of terminal markets for vegetables and fruits in Chennai, Coimbatore and Madurai and cold storages for specific produce at three places¹¹ in the State. The projects were to be implemented on public-private partnership basis, with contribution from the State Government, Government of India, financial institutions and private entrepreneurs.

In March 2007, Government nominated the Chief Executive Officer (CEO) of the Tamil Nadu State Agricultural Marketing Board (Agri Marketing

¹¹ Cold storage for mango in Krishnagiri District, for onion in Coimbatore District and grapes in Theni District.

Board) as the nodal officer for identifying private entrepreneurs through a prequalification process and to prepare a Detailed Project Report (DPR). The exact amounts of contribution from the State Government, Government of India (GOI) and private entrepreneurs were to be decided only after the approval of the DPR. Under the original funding pattern, GOI was to contribute 49 *per cent* equity. GOI, however, modified the funding pattern in October 2008 and decided to provide subsidy not exceeding 40 *per cent* of the project cost, instead of equity participation.

The CEO, Agri Marketing Board called for tenders inviting 'Expression of Interest' for the cold storage and terminal market projects in November 2006 and October 2007 respectively. Due to lukewarm response from private entrepreneurs, re-tendering was done once for the terminal market projects and twice for the cold storage projects during 2007-08. As of April 2009, the terminal market projects were kept in abeyance due to changes in the funding pattern and the DPR proposed by the identified private entrepreneur for the cold storage projects was under consideration of the Government.

In the meantime, even before selection of the private entrepreneurs, the Government released (March 2007) Rs 4.20 crore¹² to the Agri Marketing Board. The Agri Marketing Board kept the funds in an interest-bearing Personal Deposit Account with the Government¹³ and earned an interest of Rs 28.80 lakh¹⁴ for the period from March 2007 to March 2009. The funds were transferred to a Personal Deposit Account not bearing interest on 26 March 2009. Interest-bearing Personal Deposit Accounts are meant for depositing the own funds of Government Companies/Corporations. Therefore, depositing scheme funds in interest bearing Personal Deposit Account was incorrect.

As the projects were proposed to be implemented in the public-private partnership basis, the hasty release of funds coupled with inordinate delay in identifying suitable private entrepreneurs resulted in blocking of Rs 4.20 crore¹⁵ for over two years and avoidable interest payment/liability of Rs 28.80 lakh.

¹² Terminal Markets : Rs 3 crore, cold storages : Rs 1.20 crore.

¹³ 8342 - Other Deposits - 103 - Deposits of Government Companies and Corporations.

¹⁴ Interest credited by Government for period up to December 2007 : Rs 12.52 lakh and interest to be paid for the period from January 2008 to March 2009: Rs 16.28 lakh.

¹⁵ Including Rs 13 lakh spent on advertisements calling tenders.

2.3 Idle investment/Blockage of funds

HEALTH AND FAMILY WELFARE DEPARTMENT

2.3.1 Unfruitful expenditure on establishing a Drug Testing Laboratory

A drug testing laboratory established at a cost of Rs 1.10 crore under a Centrally sponsored scheme could not perform its statutory functions effectively due to failure in filling up technical posts.

The Drugs and Cosmetics Act, 1940 and the rules made thereunder, envisage periodical testing of samples of Ayurvedic, Siddha and Unani medicines. The State Government proposed (March 2001) to strengthen the existing State Drug Testing Laboratory in Arignar Anna Government Hospital for Indian Medicine, Chennai under the Centrally sponsored scheme of 'Strengthening of Drug Testing Laboratories'. The objectives of the scheme were to ensure the quality of Indian medicines sold in the market. Based on this proposal, Government of India (GOI) released (March 2001 to October 2005) Rs 1.10 crore¹⁶ to the Department.

Construction of the building for the Drug Testing Laboratory at a cost of Rs 15 lakh was completed in February 2003 and machinery and equipment were purchased at a cost Rs 85 lakh during the period January 2002 and March 2008. Rupees 10 lakh was utilised for contractual labour.

The Special Commissioner of Indian Medicines and Homoeopathy submitted (January 2002 and August 2006) proposals for the creation of 43 posts (which included the statutory post of a Government Analyst) to make the Drug Testing Laboratory a statutory body and to carry out the tests prescribed by the pharmacopoeia in areas such as pharmacognosy, chemistry, microbiology etc. Against the 43 posts required, State Government sanctioned (May 2007) just eight posts, of which only the posts of Office Superintendent and Laboratory Assistant were filled up on regular basis in December 2007 and December 2008.

In the absence of the statutory post of a Government Analyst and the other technical staff, the laboratory could not perform its statutory function of ensuring the quality of Indian medicines available in the market effectively. During the years 2004-09, the laboratory tested only 987 samples received from the Tamil Nadu Medicinal Plant Farms and Herbal Medicine Corporation Limited (TAMPCOL), a Government undertaking, but had not commenced testing of Indian medicine samples of any other manufacturers as envisaged under the Drugs and Cosmetics Act, 1940.

Thus, Rs 1.10 crore incurred on establishment of the Drug Testing Laboratory had not served the intended purpose. Moreover, an amount of

¹⁶ GOI Funds released in March 2001 (Rs 50 lakh), March 2003 (Rs 35 lakh) and October 2005 (Rs 25 lakh) towards, Building : Rs 15 lakh, Machinery and Equipments : Rs 85 lakh and Contractual manpower : Rs 10 lakh.

Rs 37.03 lakh, subsequently released (July 2008) by GOI in order to strengthen the laboratory, was kept unutilised in a nationalised bank as the plan and estimate for the proposed building were under preparation (June 2009).

In their reply, Government accepted (June 2009) the facts and stated that the proposal for creation of the additional 35 posts was under consideration and that the drug enforcement mechanism in the State was at a take off stage. The fact, however, remained that the Government had failed to ensure the issue of good quality Indian medicines to the general public, even after five years of establishment of the Drug Testing Laboratory.

SCHOOL EDUCATION DEPARTMENT

2.3.2 Non-installation of computers for want of basic facilities

Computers procured at a cost of Rs 1.06 crore by the Director of School Education for 24 Government High Schools in Thanjavur District could not be installed for want of facilities like computer rooms and appropriate power supply.

The Director of School Education submitted (November 2006) a proposal to Government for the construction of computer laboratories and supply of computers to 500 high schools to impart computer education to the students, at a cost of Rs 63.75 crore. However, Government issued (July 2007) an order for purchase of computers at a cost of Rs 44.48 crore for 1,000 Government High Schools at the rate of 10 computers per school. Later, in December 2007, Government revised its sanction to Rs 44.53 crore and ordered the issue of seven computers to each of the 1,000 schools. The computers were to be installed in a classroom of 400 sq.ft. in each school. The Electronics Corporation of Tamil Nadu supplied the computers and accessories to the schools at a cost of Rs 35.58 crore between January 2008 and January 2009.

Scrutiny of records in the office of the Chief Educational Officer, Thanjavur revealed that out of 294 computers supplied to 42 high schools, only 126 had been installed in 18 schools. The remaining 168 computers, costing Rs 1.06 crore were not installed in 24 high schools for want of infrastructure facilities such as separate computer rooms and three phase power supply.

Thus, the supply of computers and accessories to high schools in Thanjavur District without ensuring availability of the required facilities for installation of the computers resulted in non-imparting of computer education to the students in the schools. The computers and accessories purchased at a cost of Rs 1.06 crore were lying idle (March 2009).

The matter was referred to the Government in May 2009. Reply had not been received (October 2009).

2.4 Regularity issues and other points

RURAL DEVELOPMENT AND PANCHAYAT RAJ DEPARTMENT

2.4.1 Lapse of unutilised Research and Development funds

Research and Development charges deducted out of a loan taken from the Housing and Urban Development Corporation reverted to it in the absence of any proposal from the Department, resulting in a loss of Rs 54.25 lakh.

The Tamil Nadu Rural Housing Corporation¹⁷ obtained loans on behalf of the Rural Development and Panchayat Raj Department from the Housing and Urban Development Corporation (HUDCO), a Government of India undertaking, for various rural development schemes. Government repaid these loans through budget provisions. The implementation of the schemes and proper utilisation of funds obtained from HUDCO was monitored by the Commissioner of Rural Development and Panchayat Raj.

The financing pattern, agreement and guidelines issued by HUDCO stipulated an additional front end fee of 0.25 per cent of the loan amount. This additional front end fee recovered from the loan amount was transferred to a Research and Development (R&D) Fund Account created and maintained by HUDCO for each borrower. The R&D Fund was available to a borrower for upgrading its organisational capabilities and capacity building viz., conducting training, seminars or workshops etc. The R&D Fund Account balance would lapse to HUDCO if the borrower failed to utilise the fund within five years from the date of credit to the Fund Account.

Government paid Rs 54.25 lakh to HUDCO towards the R&D Fund in respect of five loans amounting to Rs 217 crore taken between March 2002 and March 2003 (Appendix 2.2). Though the utilisation period of this amount lapsed between March 2007 and March 2008, the Commissioner, Rural Development and Panchayat Raj could not forward any proposal for utilisation of the same. Due to non-utilisation, the amount was credited as income to HUDCO after a lapse of five years.

The Secretary to Government, Rural Development and Panchayat Raj Department stated (July 2009) that the R&D Fund could not be utilised within the time limit as specific employees/officials to be trained were not available. The Secretary further stated that his department was busy with scheme implementation and hence could not utilise the R&D Fund and the request made (August 2008) to HUDCO to extend the time limit for utilising R&D fund was not accepted by it. The reply is not acceptable as the training envisaged under the R&D Fund was not limited to any specific group of personnel. Officials and elected members of local bodies could be sponsored for training/seminars/workshops in the areas of urban planning and

¹⁷ Tamil Nadu Rural Housing Corporation was converted to the Tamil Nadu Rural Housing and Infrastructure Development Corporation in January 2003 and redesignated as the State Rural Road Development Agency in February 2007.

management, disaster management, information technology project formulation, financial strengthening etc. There were 1,17,716 elected members in Panchayat Raj Institutions in the State and the total man power of the Rural Development Department itself was 28,957. Further, the R&D Fund created by HUDCO could also be utilised for all activities that would improve organisational effectiveness. Therefore, the reply furnished by the Government is untenable.

Failure of the Department / Government in utilising the R&D Fund within the prescribed time resulted in the Department losing Rs 54.25 lakh available for improving the organisational effectiveness of the Department.

SCHOOL EDUCATION DEPARTMENT

2.4.2 Non-reimbursement of leave encashment to Government

Delay by the Director of Local Fund Audit in certifying the earned leave accounts of teaching and non-teaching staff of the Corporation of Chennai resulted in non-reimbursement of surrender leave encashment amounting to Rs 79.38 lakh, initially paid by Government.

The teaching and non-teaching staff of the educational institutions of the Corporation of Chennai were declared as Government servants with effect from 01 April 1990. Government ordered (April 2004) that, initially, the expenditure towards the encashment of surrender leave made to these Government servants upon their retirement, was to be met by it from 01 October 2002 and subsequently, the same would be shared between it and the Corporation respectively, according to the number of days of leave earned by the staff during Government service i.e., 01 April 1990 to the date of retirement and the number of days of leave earned by the staff during the Corporation's service i.e., earned leave at credit as on 01 April 1990 of the retirees.

Government also ordered (April 2004) the Director of Local Fund Audit to certify the number of days of earned leave at credit as on 01 April 1990 of the retirees. Based on these certificates, the Educational Officers of the Corporation were to reimburse the Corporation's share to Government.

Government paid Rs 2.30 crore as surrender leave encashment to the staff of educational institutions of the Corporation of Chennai, who had retired during October 2002 to December 2008. The Corporation, however, did not reimburse to Government its share of Rs 79.38 lakh as the Director of Local Fund Audit had not certified the earned leave accounts of the retirees. After Audit pointed out (April 2009) non-certification of the earned leave accounts of the retirees, the Director certified (September 2009) the leave accounts of the staff who retired between October 2002 and May 2008 and called for leave particulars in respect of the staff who had retired between June and December 2008 from the Corporation.

Thus, due to delays in certifying the earned leave accounts of the retirees, the Corporation of Chennai had not paid its share of surrender leave encashment of Rs 79.38 lakh to the Government so far (September 2009).

The matter was referred to the Government in April 2009. Reply had not been received (October 2009).

FINANCE, AGRICULTURE, ADI-DRAVIDAR AND TRIBAL WELFARE AND PUBLIC WORKS DEPARTMENTS

2.4.3 Lack of responsiveness of Government to Audit

Response to Audit was inadequate as 3483 Inspection Reports involving 11395 paragraphs, issued upto September 2008, remained outstanding as of March 2009.

Important financial irregularities detected by Audit during periodical inspection of Government offices through test check of records are followed up through Inspection Reports (IRs) issued to the Heads of Offices, with copies of same to the next higher authorities. Government had issued orders in April 1967, fixing a time limit of four weeks for prompt response from the authorities, to ensure corrective action in compliance with the prescribed rules and procedures and accountability for the deficiencies and lapses. Half-yearly reports of pending IRs are, therefore, sent to the concerned Secretaries of the Departments by the Accountant General to facilitate monitoring of action on the audit observations.

As of March 2009, 11395 paragraphs relating to 3483 IRs (issued up to September 2008) remained to be settled for want of satisfactory replies. Of these, 513 IRs containing 968 paragraphs (issued up to 2005-06) had not been settled for more than three years. The year-wise position of the outstanding IRs and paragraphs is detailed in **Appendix 2.3**. Compilation of details by Audit revealed that in respect of the above unsettled paragraphs, even the initial replies had not been received for 459 IRs involving 2292 paragraphs, relating to 24 Departments as detailed in **Appendix 2.4**. This showed the absence of response from the authorities, as a result of which the deficiencies and lapses pointed out continued to remain unaddressed.

A scrutiny of the IRs issued up to September 2008 pertaining to three Departments viz., Public Works Department, Agriculture Department and Adi-Dravidar and Tribal Welfare Department revealed the following:

A total of 697 IRs involving 2030 paragraphs, issued up to September 2008, remained outstanding as of March 2009 as given in **Table 1**.

Table 1 : Inspection Reports outstanding as of March 2009

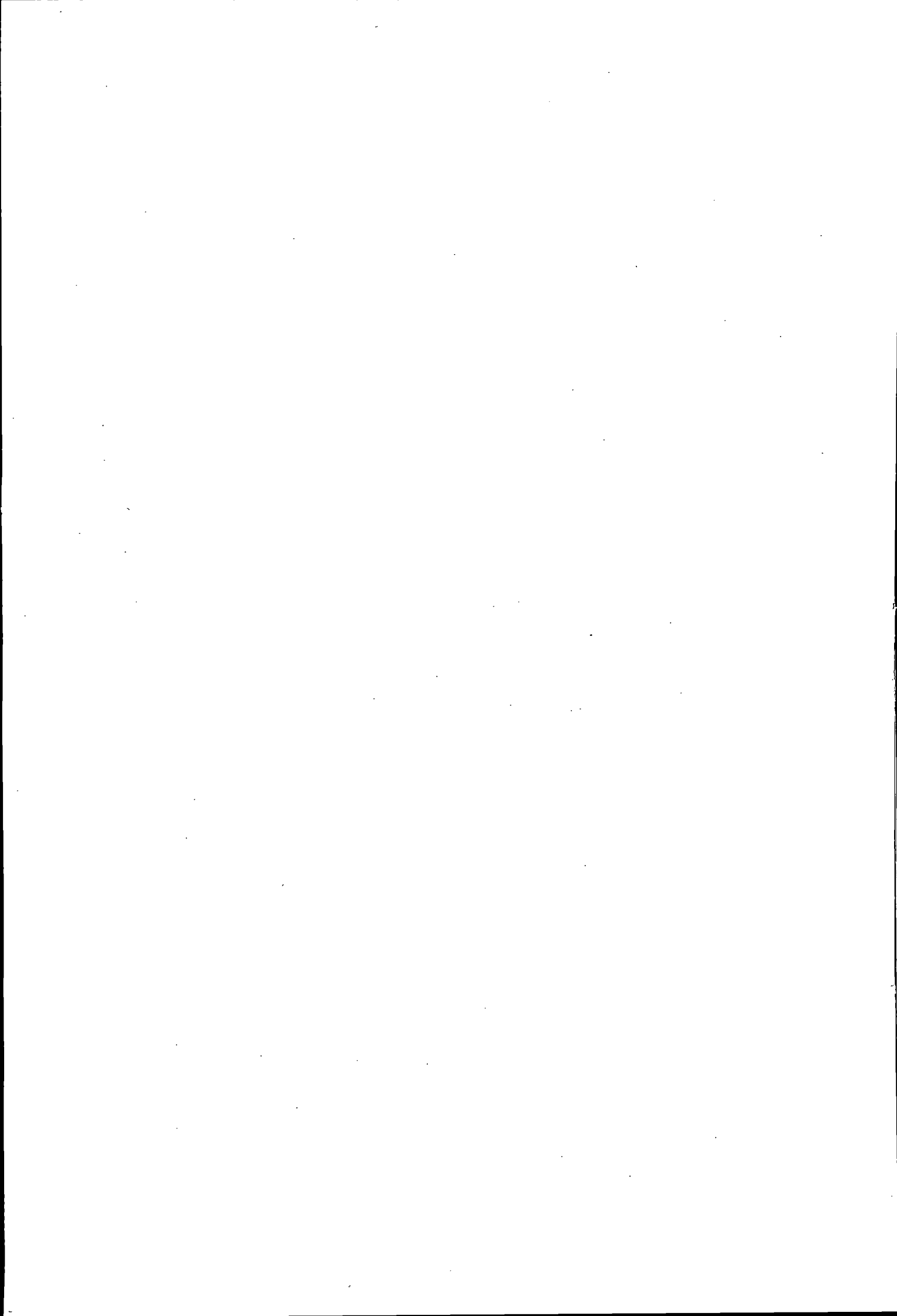
Year in which IRs were issued	Agriculture Department		Adi Dravidar & Tribal Welfare Department		Public Works Department		Total	
	IRs	Paras	IRs	Paras	IRs	Paras	IRs	Paras
Up to 2004-05	2	2	2	3	27	32	31	37
2005-06	27	40	10	20	30	62	67	122
2006-07	47	76	22	64	46	91	115	231
2007-08	119	251	31	202	82	157	232	610
2008-09	171	557	20	206	61	267	252	1030
Total	366	926	85	495	246	609	697	2030

Even initial replies had not been received as of March 2009 in respect of 118 IRs involving 485 paragraphs issued upto September 2008.

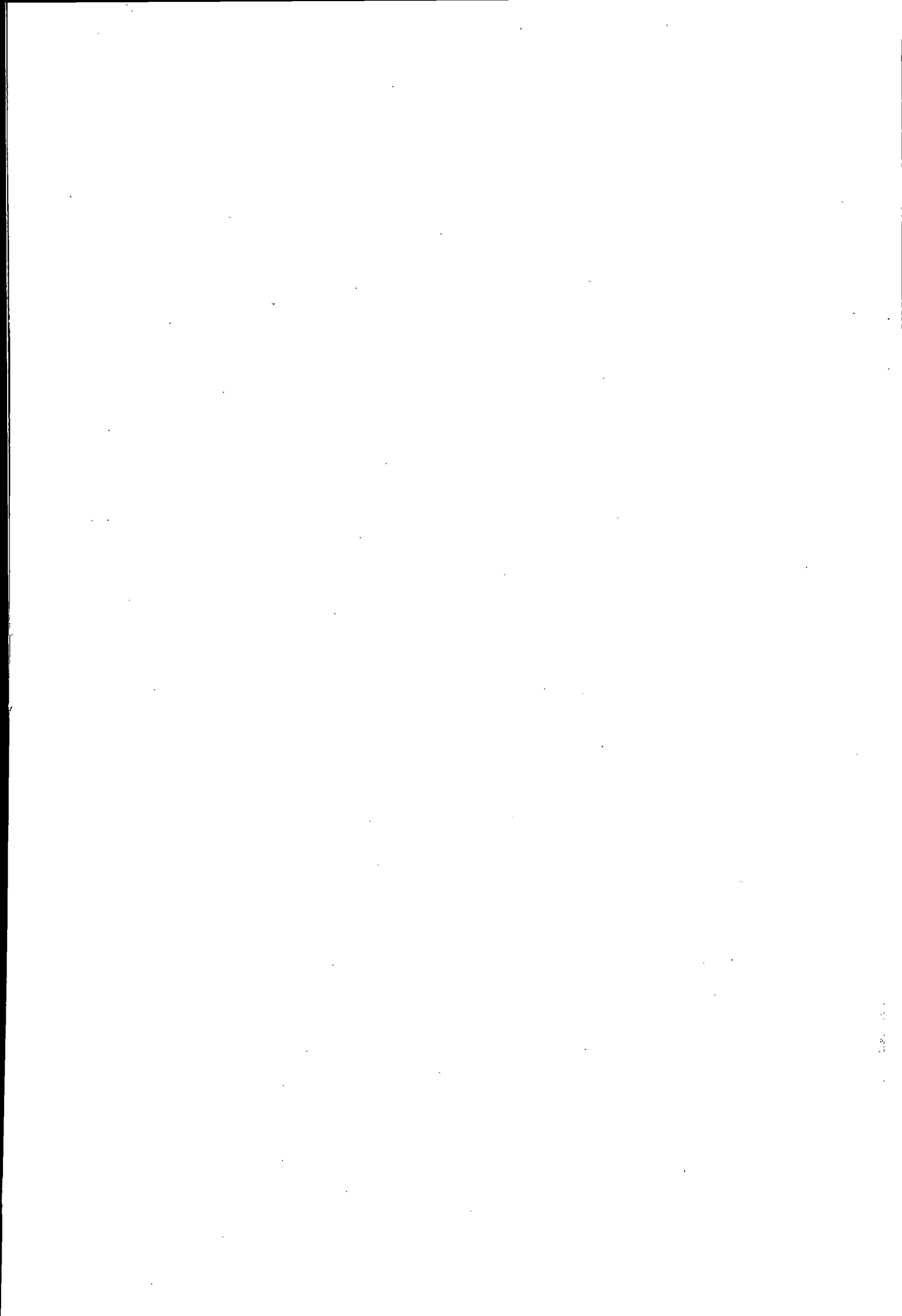
As a result of the long pendency, serious irregularities as detailed in **Appendix 2.5** had not been settled as of March 2009.

Government constituted Audit and Accounts Committees at both State and Departmental levels for consideration and settlement of outstanding audit observations. During the meetings of the above committees between April 2008 and March 2009 1,443 paragraphs were settled.

The matter was referred to the Government in October 2009. Reply had not been received (October 2009).



CHAPTER III
INTEGRATED AUDIT



CHAPTER III

INTEGRATED AUDIT

ANIMAL HUSBANDRY, DAIRYING AND FISHERIES DEPARTMENT

3.1 Integrated Audit of Fisheries Department

Highlights

Tamil Nadu with its coastline of 1,076 km is a leading State in the country in fish production. There are 591 marine fishing villages with a fisherman population of about 6.90 lakh. The prime responsibility of the Fisheries Department is to judiciously balance and enhance fish production with sustained conservation of resources, as well as to improve the socio-economic standards of fishermen.

- Funds amounting to Rs 24.48 crore remained unutilised for more than a year.

(Paragraph 3.1.6.7)

- Lack of infrastructure and deficiencies in the implementation of schemes resulted in annual production ranging from only 3.08 lakh tonnes to 3.97 lakh tonnes of marine fish during 2004-09, as against the State's potential of 7.19 lakh tonnes per year.

(Paragraph 3.1.7.1)

- Non-maintenance of ponds in usable condition, non-raising of fingerlings in ponds as per the norms of the Indian Council of Agricultural Research and poor fish production from reservoirs resulted in annual production ranging from only 0.87 lakh tonnes to 1.66 lakh tonnes of inland fish during 2004-09, as against the State's potential of 2.46 lakh tonnes per year.

(Paragraph 3.1.8.1)

- During 2004-07, only 954 (9.54 per cent) houses were constructed against 10,000 houses sanctioned for free distribution to fishermen.

(Paragraph 3.1.9.1)

- Non-receipt of adequate Central funds delayed the settlement of diesel subsidy claims of fishermen. Claims amounting to Rs 26.49 crore were still to be settled.

(Paragraph 3.1.9.2)

- Out of 1,564 posts sanctioned for the Department, 554 were vacant. Vacancies in technical posts constituted 35 to 40 per cent of the total vacancies which could affect the successful implementation of various programmes intended for improvement of marine/inland fisheries.

(Paragraph 3.1.10.1)

3.1.1 Introduction

Tamil Nadu is one of the States on the east coast, having a coastline of 1,076 km (13 *per cent* of the country's coastal line) with 13 coastal districts and 591 fishing villages. Of the east coast States, Tamil Nadu accounts for the maximum catch and ranks third in the total marine fish production¹ in the country. The present level of fish production in the State from inland and marine resources is 5.58 lakh tonnes. The State earned Rs 1,813 crore from marine exports, which was 13.41 *per cent* of the country's total marine exports during 2007-08.

The State has 1.90 lakh sq. km of Exclusive Economic Zone (EEZ) (9.4 *per cent* of the India's EEZ) and a continental shelf of about 41,412 sq. km. The State has a fisherman population of 6.90 lakh from 591 marine fishing villages scattered along the coast. There are three major fishing harbours, four minor fishing harbours and 363 fish landing places in the State.

The major objectives of the Fisheries Department are to :

- encourage fisher-folk to exploit under-utilised fish resources and to reduce fishing pressure on inshore areas;
- augment aquatic resource production in inshore areas by conserving measures, stock enhancements, establishing artificial reefs, etc;
- promote sustainable eco-friendly aquaculture practices;
- strengthen infrastructure for fish landing and marketing;
- ameliorate the socio-economic conditions of fisher-folk through welfare measures and
- give an impetus to ornamental fish culture and deep sea fishing, including tuna fishing.

3.1.2 Organisational structure

The Secretary to Government, Animal Husbandry, Dairying and Fisheries Department is the administrative head of the Department. The Commissioner of Fisheries (COF) is the head of the Department at the State level. At the field level, the State is divided into six regions headed by three Joint Directors of Fisheries and three Deputy Directors of Fisheries who are assisted by 44 Assistant Directors of Fisheries (ADF). For construction activities, a separate Engineering Wing, with one Superintending Engineer at Chennai and two Executive Engineers (EE) at the field level are functioning.

Besides, the Tamil Nadu Fisheries Development Corporation Ltd² and Tamil Nadu State Apex Fisheries Co-operative Federation Ltd³ are also functioning

¹ The first three are Kerala: 6.70 lakh tonnes, Gujarat : 6.07 lakh tonnes and Tamil Nadu : 4.26 lakh tonnes – (Source : Central Marine Fisheries Research Institute- Fish landing details for 2008).

² The Corporation objectives are fish seed production and stocking in reservoirs, fish processing and marketing and operating diesel outlets.

³ The Federation objectives are providing credit of all types including production, investment, marketing and welfare credits and providing technical, administrative, financial assistance to primary co-operative societies.

in the State to assist the Department in achieving its objectives. The organisational setup of these agencies is given in **Appendix 3.1**.

3.1.3 Audit objectives

The objectives of the integrated audit of the Department were to assess:

- the adequacy of financial management;
- the extent of budgetary controls;
- the effectiveness of programme implementation in increasing fish production and ensuring welfare of fisherfolk;
- the adequacy of manpower to implement the various programmes and
- the effectiveness of the internal audit system of the Department.

3.1.4 Audit criteria

The audit criteria against which the audit objectives were assessed are given below:

- The Tamil Nadu Marine Fishing Regulation Act, 1983, the Coastal Aquaculture Authority Act, 2005 and rules and regulations framed thereunder by GOI/State Government.
- Budget Manual of the Government of Tamil Nadu.
- Departmental Manual.
- Programme/scheme guidelines issued by GOI/ State Government.
- GOI/State Government orders on sanctioning of funds.

3.1.5 Audit coverage, methodology and sampling

The audit was conducted during February to June 2009 in the Secretariat, the office of the COF, four regional offices⁴, offices of 13⁵ Assistant Directors of Fisheries including one Staff Training Institute at Chennai, the Superintending Engineer (Fishing Harbour Project Circle) Chennai, the Executive Engineer (Fishing Harbour Project Division) Nagercoil, the Tamil Nadu Fisheries Development Corporation, Chennai and Tamil Nadu State Apex Fisheries Co-operative Federation, Chennai. The audit covered the period from 2004-05 to 2008-09.

⁴ Chennai, Coimbatore, Madurai and Thoothukudi.

⁵ ADFs (Marine), Chennai, Cuddalore and Ramanathapuram ; ADFs (Inland), Madurai, Metturdam and Villupuram ; ADFs (Extension & Training), Colachel; ADF (Fishing Harbour Management Wing), Thoothukudi ; ADFs (Aquaculture), Chidambaram and Ramanathapuram ; ADF (Research), Chennai; ADF(Exploratory), Kanyakumari and Staff Training Institute, Chennai.

The audit objectives and audit criteria were discussed with the Secretary to Government, Animal Husbandry, Dairying and Fisheries Department on 20 April 2009. The audit findings are based on the evidence collected from the records of the auditees and the replies furnished by the officers concerned. The audit findings were discussed with the Secretary to Government, Animal Husbandry, Dairying and Fisheries Department on 17 August 2009.

Out of 44 offices of ADFs, 13 were selected on the basis of the stratified random sampling method. The 44 ADF Offices were stratified on the basis of their functionality and within each stratum, the offices were arranged in the ascending order of expenditure incurred during 2007-08 and random numbers were generated so as to select 25 per cent of the total units in each category. One office of the Executive Engineer (Fishing Harbour Project Division) was selected out of the two offices, based on the random sampling method.

3.1.6 Allocation and expenditure

Allotment of funds vis-à-vis expenditure and savings are shown in Table 1.

Table 1 : Budget Allocation and Expenditure

(Rupees in crore)

Year	Budget Allocation			Expenditure	Savings	Percentage of saving
	Original	Supplemental	Total			
2004-05	68.25	11.93	80.18	68.81	11.37	14
2005-06	79.91	33.46	113.37	65.83	47.54	42
2006-07	99.31	15.34	114.65	75.75	38.90	34
2007-08	110.91	2.68	113.59	78.92	34.67	31
2008-09	120.73	11.01	131.74	80.59	51.15	39

(Source : Appropriation Accounts)

Audit noticed deficiencies in budgeting and expenditure control which are discussed in the following paragraphs :

3.1.6.1 Budgeting

Savings ranged between 14 and 42 per cent, supplementary provisions were in excess of requirements and surrender of funds ranged between 12 and 41 per cent

Budgeting was not realistic in view of the persistent and substantial savings ranging between 14 to 42 per cent during 2004-09.

Each year, supplementary provisions were obtained without justification, as the savings at the end of the year were more than the supplementary provisions during 2005-09. Persistent excess supplementary provisions indicated that the actual requirements for implementation of the schemes were not properly assessed and the expenditure was not monitored regularly.

Excess budgetary provisions forced the Department to surrender funds in the range of 12 to 41 per cent of the budget provisions. This indicated the absence of a mechanism for monitoring and reviewing expenditure as well as estimating the actual needs of the Department as detailed in Table 2.

Table 2 : Substantial surrenders

Year	Total budget provision	Surrender	Percentage
	(Rupees in crore)		
2004-05	80.18	9.37	12
2005-06	113.37	46.45	41
2006-07	114.65	38.06	33
2007-08	113.59	34.08	30
2008-09	131.74	51.97	39

(Source: Appropriation Accounts)

3.1.6.2 Inflated receipts

Receipts of the Department were inflated due to bringing of fishermen's contributions into the Government account

To alleviate the sufferings marine fishermen and women face during the lean seasons, the Government operates two schemes⁶. Under these schemes, each fisherman/fisherwoman contributes Rs 75 per month for eight months, totaling Rs 600 in a year and the Government also contributes the same amount. During lean months, Rs 1,200 is distributed to each beneficiary in four equal monthly instalments. As per GOI's instructions, the beneficiaries' contributions are to be kept in a savings account in a nationalised bank in the name of the Director of Fisheries.

It was noticed that the Department treated the beneficiaries' contributions as State receipts and remitted them into the Government account. Later, the Department withdrew the entire amount including the beneficiaries contributions under the expenditure head and disbursed the money to the beneficiaries. Thus remittance of the beneficiaries' contributions to the Government account resulted in inflation of Government receipts (about 80 per cent) during the period 2004-09 as detailed in Table 3.

Table 3: Inflated receipts

Year	Total receipts of the Department	Contribution made by fisherfolk under the two schemes	Percentage of inflated receipts to total receipts
	(Rupees in crore)		
2004-05	12.74	10.78	85
2005-06	17.44	13.63	78
2006-07	18.20	14.70	81
2007-08	21.27	16.40	77
2008-09	19.55	14.93	76

(Source: Appropriation Accounts and Budget documents)

The Department stated (August 2009) that Assistant Directors of Fisheries had been instructed to remit the beneficiary contributions in the bank account in the name of the COF from 2009-10 onwards.

- ⁶
- (i) National Savings-cum-Relief Scheme for marine fishermen is a GOI scheme meant for providing financial assistance to fishermen during the lean season.
 - (ii) Savings-cum-Relief Scheme for marine fisherwomen is a State scheme meant for providing financial assistance to fisherwomen during the lean season.

3.1.6.3 Non-availing of Government of India's assistance

Non-availing of GOI assistance due to delay in utilisation of funds received earlier

(a) Government of India (GOI) sanctioned Rs 1.80 crore in 2005-06 under the Centrally Sponsored Scheme of Motorisation of Traditional Crafts, the expenditure of which was to be shared equally between the State and GOI. The State Government contributed Rs 1.80 crore towards its share. Under the scheme, Rs 20,000 was to be given as subsidy to each beneficiary for purchase of out-board engines⁷ for unmotorised fishing boats. However, the Department utilised Rs 3.48 crore (97 per cent) including the State share during 2005-09. The State Government could not fully utilise the funds released by GOI in 2005-06 and the State's proposal (December 2006) for Central assistance for 2006-07 was turned down by GOI. The State did not seek any funds during 2007-08. In 2008-09, GOI released (October 2008) only Rs 50 lakh towards its share.

Thus, belated utilisation of Government of India funds by the Department resulted in non-availing of funds under the scheme during 2006-07 and 2007-08. This deprived the beneficiaries of the chance to get engines at subsidised rates to convert their traditional boats to motorised boats.

(b) Under the Centrally Sponsored Scheme, 'Development of Inland Fisheries and Aquaculture', GOI released Rs 1.25 crore during 1990-91 to 1995-96. The State was to release a matching grant of the same amount for the same period. However, the State Government sanctioned only Rs 2 crore, out of which, Rs 1.62 crore had been drawn and disbursed to Brackish Water Fish-farmer Development agencies⁸ to implement the scheme.

The State Government sanctioned the balance amount of Rs 88.07 lakh in November 2006 after a delay of 13 years and the utilisation certificate was furnished to GOI in May 2008. Audit noticed that since the utilisation certificate for the amount released by GOI had not been sent, the funds required by the State in subsequent proposals during 2002-06 were not sanctioned by GOI. Even though GOI had given administrative approval for the implementation of the Development of Inland Fisheries and Aquaculture during 2006-07 at a cost of Rs 9 crore, no funds had been released so far.

Thus, the inordinate delay in release of funds by the State Government, coupled with delays in furnishing of the utilisation certificate to GOI resulted in non-availing of GOI assistances for the last seven financial years for coastal aquaculture development.

3.1.6.4 Lease rents and royalty

Non-revision of lease rent and non-realisation of Government receipts in time

The Fisheries Department leased out its reservoirs to the Tamil Nadu Fisheries Development Corporation (TNFDC) on rent and royalty as fixed by the Government. As per a Government order of June 2007, TNFDC was required to pay lease at seven per cent on the annual value of the assets and royalty depending on the grades⁹ of fish catches from reservoirs. The

⁷ Separate engine which can be fitted to an unmotorised boat, whenever necessary.

⁸ Agencies established to popularise brackish water aquaculture activity, headed by Chief Executive Officers in the rank of Assistant Director of Fisheries under the Chairmanship of the District Collectors.

⁹ Fish are generally categorised under four grades, i.e. I, II, III and IV. Prawns etc are classified as special grade.

Government instructed (June 2007) the Department to form a Committee to assess the present value of assets so as to fix the rent. However, the Department sent a proposal only in February 2009 to the Government to form the Committee. The Committee was still to be formed and the Department was still to revise the lease rent in respect of five reservoirs whose leases had been renewed for 30 years, from July 2007 onwards.

It was observed that the royalty amount due upto March 2005 alone worked out to Rs 54.52 lakh after adjusting Rs 14 lakh payable by the Department to TNFDC. For the years 2005-09, the royalty amounts due for collection were still to be calculated as the Department did not have the details of the fish catches from the reservoirs. Thus by not revising lease rents and not working out the royalty charges, the Department could not ensure the realisation of Government revenues in time.

3.1.6.5 Auction of conch shells pending

Prior to 1993-94, conch shells were being extracted from the sea and sold by the Department. After the introduction (April 1993) of the licence system for conch fisheries, the procurement and sale of conches by the Department was stopped. However, as of March 2009, 3.89 lakh conches valued at Rs 1.12 crore remained undisposed and were available with the ADF Ramanathapuram and Thoothukudi. Even though the Government permitted (2005) the Department to dispose of the conches through the open tender system, the Department could not finalise the procedure to auction them. Thus, potential Government revenue of Rs 1.12 crore could not be realised.

3.1.6.6 Interest liability

(a) The Government availed (March 2001) of a loan of Rs 5 crore with an interest rate of 15 *per cent* from the National Co-operative Development Corporation (NCDC) under the 'Integrated Marine Fisheries Development Programme'. The COF withdrew the funds and transferred (2001) the same to the Tamil Nadu State Apex Fisheries Co-operative Federation Ltd (TAFCOFED) to implement the programme. TAFCOFED utilised only Rs 69 lakh upto October 2002. In order to avail of a reduced rate of interest offer of NCDC, the Government repaid Rs 4.31 crore to NCDC in November 2003 and availed of the loan at an interest rate of 10 *per cent* in December 2003. However, again TAFCOFED could not spend the entire amount of borrowed funds and refunded Rs 4.31 crore to the Government in March 2007, thus creating an additional liability of interest payment of Rs 2.05 crore to the Government.

(b) In a dispute between the Department and a contractor in execution of a work¹⁰, the Department was ordered to pay Rs 10.99 lakh to the contractor as per the High Court's order in September 2001. The Government sanctioned the funds in March 2002 but for want of budgetary support, the Department was not able to settle the dues of the contractor as per the orders of the Court. The amount was finally paid to the Registrar of the High Court in July 2007. Due to the delay, the Department had to pay interest at the rate of 12 *per cent* per annum to the contractor up to the date of payment. Thus, non-provision of the required funds and the inordinate delay in honouring the Court's order resulted in additional liability of interest payment of Rs 7.58 lakh for the Department.

¹⁰ Construction of Quay wall at Valinokkam in Ramanathapuram District.

Non-auctioning of
conch shells worth
Rs 1.12 crore

Avoidable interest
liability of
Rs 2.13 crore

3.1.6.7 Drawal of funds in advance

Drawal of Rs 24.48 crore in advance in 11 cases

As per codal provisions, no money on any account is to be drawn in advance of requirement or transferred to deposit accounts as reserve in order to prevent it from lapsing so as to utilise the funds in subsequent financial years. However, Audit noticed that during 2004-09, funds sanctioned for implementation of various schemes, except under the scheme 'Tamil Nadu Irrigated Agriculture Modernisation and Water Bodies Restoration and Management Project', were drawn and credited to the Personal Deposit Account of the COF. Based on the sanction of the COF, the funds credited to the Personal Deposit Account were later released to the field units. In 11 cases, funds amounting to Rs 24.48 crore were drawn in advance between March 2005 and March 2008 and utilised in subsequent years, indicating that the requirements of funds were not properly assessed and drawals were not need based as given in **Appendix 3.2**.

3.1.6.8 Non-closure of Personal Deposit Account

As per the provisions of the Tamil Nadu Financial Code, Personal Deposit Accounts are to be closed at the end of each financial year. However, the Personal Deposit Account of COF was not closed every financial year during 2004-08. In 2008-09, the Personal Deposit account was closed by transferring Rs 66.36 lakh to a savings bank account instead of crediting the amount to the concerned service head of the Government Account.

3.1.6.9 Parking of Government funds

Parking of Rs 44.78 crore outside Government Account in four cases

(i) Government sanctioned (1991-94) Rs 1.40 crore for an aquaculture estate at Tharuvikulam in Toothukudi district. The funds were drawn and transferred (December 1991 and July 1993) by the COF to TNFDC for execution of the work. However, TNFDC could utilise only Rs 0.14 crore towards consultancy fees, site clearance etc. and the balance amount of Rs 1.26 crore remained outside the Government Account for 15 years, without being utilised for the purpose for which it was sanctioned.

(ii) Similarly, out of Rs 70 lakh released (March-July 2007) to TNFDC/TAFCOFED for development of post-harvest infrastructure facilities in the State, unspent funds of Rs 41 lakh remained with TNFDC/TAFCOFED as of March 2009.

(iii) Government entrusted (April 2008) the upgradation and maintenance of an auction hall at Chinnamuttam fishing harbour to TNFDC and permitted upgradation works from its own sources with subsidy from the Marine Products Export Development Authority (MPEDA). Meanwhile, based on a proposal of the COF to upgrade the hall in order to meet international quality standards and to complete the work before 31 March 2008, as per the requirements of MPEDA, Government sanctioned (May 2008) Rs 50 lakh under World Bank-aided Tsunami Reconstruction project. The COF withdrew (May 2008) the amount and kept it in a savings bank account. Thus

Rs 50 lakh received by the COF under the World Bank-aided Tsunami reconstruction project remained blocked for over one year.

(iv) A total amount of Rs 42.61 crore relating to the Free Housing Scheme for fishermen was lying unutilised (March 2009) with various agencies like DRDA, Fisheries Co-operative societies and the Engineering Wing of the Department.

Thus, release of funds far in advance of requirement resulted in parking of the funds and defeated the objectives of the programme.

3.1.7 Programme management

The fishing sector is broadly classified into the marine fisheries sector and the inland fisheries sector. The Department implements various programmes to achieve sustainable fish production through involvement of marine and inland fisherfolk, to strengthen the infrastructural facilities for fish landing and marketing and to ensure the socio- economic welfare of fisherfolk.

The activities of the Department were carried out through the implementation of various schemes under the State Plan, Centrally sponsored schemes (100 per cent share) and Centrally sponsored shared schemes during 2004-09.

3.1.7.1 Utilisation of marine resources

The marine fisheries potential of the State was estimated at 7.19 lakh tonnes¹¹ against the all India potential of 39.34 lakh tonnes. The marine fish production of the State and the export of marine products from the State during 2004-09 are given in Table 4.

Export of marine fish products decreased from 15.35 per cent in 2004-05 to 11.65 per cent in 2008-09

Table 4: Marine fish production and export

Year	Fish production from marine fisheries (in lakh tonnes)	Marine products exported		State's contribution in country's export of marine products (in per cent)
		Tamil Nadu	India	
		(in tonnes)		
2004-05	3.08	70,809	4,61,329	15.35
2005-06	3.90	72,418	5,12,164	14.14
2006-07	3.92	72,883	6,12,641	11.90
2007-08	3.93	72,644	5,41,701	13.41
2008-09	3.97*	61,735**	5,30,020**	11.65

* Provisional figures up to March 2009 ** Provisional figures up to February 2009

(Source : Endeavour Reports and particulars obtained from the Department)

Despite some improvement in marine fish production during 2005-08, the marginal decline in the State's contribution to all-India export of marine fish products from 15.35 per cent in 2004-05 to 11.65 per cent in 2008-09 indicated that the potential of marine fisheries was still to be optimally exploited by the State.

Deficiencies in the implementation of programmes aimed to improve marine fisheries are discussed below :

¹¹ As per Tenth Five Year Plan documents : 3.69 lakh tonnes up to 50 m depth and 3.50 lakh tonnes beyond 50 m depth.

3.1.7.2 Non-utilisation of offshore fish resources

Non-utilisation of off-shore fish resources due to non-implementation of planned schemes

The Government proposed (2002) to acquire five vessels of 18 metres length fitted with AL402 engines to facilitate fishing in the area of 50 to 70 metres depth during the Tenth Plan at a cost of Rs 3.25 crore. It also planned to supply 500 intermediate range fishing boats to fisherfolk at 25 per cent subsidy. The outlay for this was estimated at Rs 2.50 crore. The Department did not take any effective action to implement either of the schemes. Even though GOI offered assistance for introducing intermediate range fishing boats, the Department did not send any proposal to GOI. Thus, the Government lost the opportunity to optimise the utilisation of offshore fish resources.

3.1.7.3 Non-exploration of fishery resources

Absence of survey boats led to non-conduct of surveys

The State Government reorganised (June 2000) the Department of Fisheries on functional lines and exclusively created two offices at Kanyakumari and Chennai for exploring marine fishery. The objective of exploratory fisheries was to create a database of varieties of fish, availability of fish in various seasons and locations and dissemination of important findings of surveys to fisherfolk. Audit, however, noticed that no survey had been conducted from April 2007 onwards by ADF, Kanyakumari and from July 2001 onwards by ADF, Chennai for want of survey boats. Thus, the objective of creation of these two offices to disseminate data on fish availability to the fisherfolk was not served.

3.1.7.4 Artificial Reef

Scheme for fabrication and laying of artificial reef not yet taken up

An artificial reef is an underwater habitat for marine life which is helpful in increasing the productivity of the ecosystem. Fish congregate in these areas for food, shelter and breeding purpose, leading to an increase in their production.

Government sanctioned (2007-09) Rs 40 lakh for fabrication and laying of artificial reefs in Kancheepuram, Kanyakumari, Thanjavur and Thiruvallur districts. Efforts of the COF to execute the work through TAFCOFED failed due to lack of engineering staff to execute the work. The COF decided (December 2008) to fabricate and lay the artificial reefs through the Central Marine Fisheries Research Institute, Cochin (CMFRI). Rupees 40 lakh was given to CMFRI in December 2008 and February 2009 to implement the programme. However, despite the availability of funds since May 2007, the scheme had not been taken up (May 2009).

3.1.7.5 Sea ranching programme

Under sea ranching programme, Rs 40 lakh remained unutilised with the Commissioner of Fisheries.

Coastal fish habitats are affected by pollution, reduction in mangrove cover, sedimentation as well as excess fishing pressure in the inshore region. In order to redress the problems of over-exploitation and to stall depletion of inshore resources, the scheme of sea ranching of commercial shrimps was launched in March 2003.

Under the programme, the Department was to stock 15-20 day post-larvae seed collected from hatcheries. After rearing them, the fingerlings were to be released in the sea. The Government sanctioned Rs 1.28 crore in December 2004 to ranch 53 million shrimp seeds at 12 places in five coastal

districts¹². The implementation of the programme was entrusted to TAFCOFED. The tenders for supply of fish seed and feed were finalised in October 2005. TAFCOFED, however, even after four years, could utilise only Rs 1.08 crore for rearing and stocking of 48 million shrimp seeds and Rs 20 lakh remained unutilised.

Further, Government sanctioned Rs 20 lakh in June 2008 for sea ranching in five more places. As of March 2009, unutilised Government funds of Rs 40 lakh were available under this scheme with the COF. Thus, the objective of the scheme was still to be fully achieved.

3.1.7.6 Construction of fishing harbours

The existing fishing harbours and landing centres in the State provided safe berthing for less than 20 per cent (2,200 boats) of the total mechanised boats available in the State. All the fishing harbours were established prior to 1994. The introduction of Hazard Analysis and Critical Control Point (HACCP) and European Union norms¹³ for import of sea food from developing countries necessitated the development of infrastructural facilities for hygienic handling of fish.

The State Government's proposal to construct three¹⁴ fishing harbours at an estimated cost of Rs 94.05 crore during the Tenth Plan period was at various stages of implementation as detailed in Table 5.

Table 5: Status of construction of fishing harbours

Place	Date of initial sanction and estimated cost	Date of revised administrative sanction and revised cost	Present stage of work (May 2009)	Audit observation
Colachal	September 2006 Rs 23.50 crore	June 2008 Rs 27.10 crore	Work of construction of breakwater was awarded in October 2008 and to be completed in two years	The construction of wharf, dredging etc., to be taken up after completion of breakwater. Thus there was scope for further cost escalation and time over run
Thengai - pattinam	December 2005 Rs 30.55 crore	March 2009 Rs 40 crore	Tendering under progress	Even as tendering was not completed, there was scope for further cost escalation
Poombuhar	Estimated at a cost of Rs 40 crore. Clearance from Archaeological Department was awaited.			

(Source : Records of Fisheries Department)

3.1.7.7 Modernisation of fishing harbours

As a long-term rehabilitation measure to support the livelihood of fishermen affected by the tsunami, Rs 18.62 crore was sanctioned (October 2005) under the World Bank aided 'Emergency Tsunami Reconstruction Project' for reconstruction and modernisation of four¹⁵ fishing harbours and Rs 2.57 crore was released (October 2005) by Government. The Department entrusted the

¹² Nagapattinam, Pudukottai, Ramanthapuram, Thanjavur and Thoothukudi.

¹³ A systematic approach to identification, assessment and control of hazards like biological, chemical and physical contamination of commercial food products, recognised by the World Health Organisation, Food and Agriculture Organisation etc.

¹⁴ Colachel, Poombuhar and Thengapattinam.

¹⁵ Chinnamuttam, Mallipattinam, Nagapattinam and Pazhayar.

Three fishing harbours not yet constructed

Modernisation of fishing harbours at four places not taken up

preparation of a detailed project report (DPR) for the purpose to a consultant, viz. M/s SMEC International Private Ltd., Australia in September 2007. The consultant submitted a DPR to the Department for one harbour viz. Chinnamuttam, although for all the four harbours DPRs were to be submitted within 12 months from the date of entrustment of the work of preparation of the DPRs. The Department had so far spent (April 2009) just Rs 0.44 crore as against Rs 2.57 crore received for this purpose and Rs 2.13 crore remained unutilised. The work of modernisation of the fishing harbours was still to take off as of March 2009.

3.1.7.8 Construction of Fish Landing Centres

Out of 22 fish landing centres in the State, only 11 were in use

There were 363 fish landing places¹⁶ in the State's coastal area. However, Fish Landing Centres¹⁷ (FLCs) had been constructed only in 22 places. Of the 22 FLCs constructed, only 11 were in use as detailed below.

(a) Of the 13 FLCs constructed prior to 2000, only two FLCs were being used. Kottaiptinam was in full use and another one at Rameswaram was being used partially. Of the remaining 11 FLCs, one FLC was used by the Navy and 10 FLCs are not being used due to siltation (March 2009).

(b) Of the 20 FLCs proposed to be constructed during 2000-09, nine FLCs were constructed and were being used. Of the remaining 11 FLCs, the one proposed in Veerapandipattinam was abandoned due to public protest and in 10 other places¹⁸, the FLCs sanctioned under the Tsunami Rehabilitation programme during 2007-08 were at the tendering stage.

Thus, the intended objective of providing FLCs at these 21 places was still to be achieved.

3.1.7.9 Maintenance of Fish Landing Centres

Absence of proper arrangements for maintenance of fish landing centres

Proper arrangement for maintenance of FLCs is essential to ensure hygiene. Audit, however, observed that no arrangements had been made for the maintenance of nine FLCs¹⁹ constructed in 2004. The Department's efforts to entrust (2006) the maintenance of FLCs to TAFCOFED failed as it expressed its inability to do the work. Even though the Government decided (April 2007) to hand over the management of FLCs to stakeholders like fishermen's co-operative societies, fish product exporters etc., no follow-up action was taken up for the proper maintenance of the nine FLCs by the Department.

¹⁶ Places on the seashore where fishermen unload their catches.

¹⁷ Places where facilities for unloading of fish catches and for repairing traditional and small sized mechanised fishing vessels are available.

¹⁸ Annamalaicherry in Thiruvallur District, Ekkiyarkuppam in Villupuram District, Kadalur Periyakuppam in Kancheepuram District, Keezharakarai in Ramanathapuram District, Periya Mangodu in Thiruvallur District, Periyathalai in Thoothukudi District, Mugathuvarakuppam in Thiruvallur District, R.Pudupattinam in Pudukottai District, Thresapuram and Uvari in Tirunelveli District.

¹⁹ Arcottuthurai and Nagapattinam in Nagapattinam District, Jagathapattinam in Pudukottai District, Mandapam and Soliyakudi in Ramanathapuram District, Mudasalodai in Cuddalore District, Pulicat in Thiruvallur District, Punnakayal in Thoothukudi District and Sethubavachatram in Thanjavur District.

In the four²⁰ test-checked units, the Assistant Director Fisheries (ADF) confirmed the absence of proper maintenance arrangements for FLCs and attributed the non-maintenance to shortage of manpower.

3.1.7.10 Absence of guidelights

Guidelights²¹ should be available in coastal areas for the safe return of fisherfolk who venture out to sea. Despite this, it was found that guidelights were available only in 53 places as against 363 marine fish landing places in the State. Of the available 53 guidelights, only 38 were in working condition as of March 2009. The absence of guidelights could affect the safety of fishermen working at night.

3.1.7.11 Infrastructure for enforcement of Marine Fisheries Regulation Act, 1983

In order to conserve sea stock, the Government imposed a ban on operation of mechanised boats for a specific period every year and also on use of certain types of nets under the Tamil Nadu Marine Fisheries Regulation Act, 1983. In 1999, Government purchased five patrol boats for Rs 4.50 crore for enforcement of the Act. The boats had not been operated for the past nine years. Though this was commented upon in the CAG's Audit Report of 1999-2000, the Department had not taken any action either to use the boats or to dispose of them. As no new boats were purchased for this purpose during 2004-09, effective monitoring of banned boats and nets could not be ensured as required under the Tamil Nadu Marine Fisheries Regulation Act, 1983.

3.1.7.12 Registration of fishing vessels

The Tamil Nadu Marine Fisheries Regulation Act, 1983 provides for registration of all fishing vessels by the Fisheries Department. As of March 2009, 5,596 mechanised fishing boats, 15,513 *vallams*²² and 29,668 catamarans were registered. However, in the two test-checked offices²³, the Department reported that 376 boats (five *per cent*) were not registered.

3.1.8 Inland fisheries

The total inland water resources available in the State were estimated at 3.70 lakh hectares²⁴. These included water bodies such as reservoirs, irrigation tanks (major and minor), seasonal tanks, ponds, rivers, backwaters, hatcheries and swamps.

²⁰ Mudasalodai in Cuddalore district, Pulicat in Thiruvallur district, Mandapam and Soliyakudi in Ramanathapuram district.

²¹ Masonry pillars in the shore providing light to enable fisherfolk to navigate their crafts safely to the shore during night time and during inclement weather conditions.

²² A country craft similar to a Catamaran.

²³ ADF, Chinnamuttam and Ramanathapuram.

²⁴ Reservoirs: 0.52 lakh hectares, major Irrigation and long seasonal tanks: 0.97 lakh hectares; minor Irrigation and short seasonal tanks and ponds: 1.58 lakh hectares and estuaries, backwaters and swamps: 0.63 lakh hectares.

Non-availability of patrol boats for monitoring the use of banned boats and nets

3.1.8.1 Underutilisation of inland water resources

The total potential of inland fisheries was estimated in the State Plan document at 2.46 lakh tonnes per year. As against this, the actual fish production from inland fisheries during 2004-09 varied between 0.87 lakh tonnes and 1.66 lakh tonnes as shown in Table 6.

Table 6: Inland fish production

Year	Inland fish production (in lakh tonnes)
2004-05	0.87
2005-06	1.57
2006-07	1.60
2007-08	1.65
2008-09	1.66

(Source: Endeavour Reports of the Department)

Deficiencies in the implementation of programmes to improve inland fisheries are discussed below:

3.1.8.2 Fish seed production

To produce more fish and conserve fish species, the Government undertakes the production of quality fish seeds. The fish seed production involves three main stages viz. (i) maintenance of brood fish for breeding in ponds, (ii) hatching of eggs and (iii) rearing of young fish at various stages like post larva, early fry, late fry and fingerlings. The early fry are reared in nursery ponds for about 15 days. Late fry are grown in rearing ponds to the stage of fingerlings in 30 to 90 days. The fingerlings so reared, are stocked in reservoirs and ponds for ultimate fish production.

Shortfall in production of 7.20 crore fish seeds in the States.

In six districts, seed production was only 18 to 47 per cent of the total requirement

The average inland fish production per annum in the State was 1.29 lakh tonnes. To attain this, the requirement of the State was 23.20 crore fingerlings. As against this, the fingerling production including the private sector was only 16 crore. The remaining 7.20 crore fingerlings were obtained from neighbouring States. The district-wise fingerling production in six districts for which details were available indicated that only 18 to 47 per cent of the total requirement was produced in the districts as detailed in Appendix 3.3. Departmental records showed that one of the reasons for the decrease in fish seed production was the mismatch between the breeding season and the availability of water in the tanks.

3.1.8.3 Seed production centres

In eight seed production centres, only 52 to 62 per cent of early fry was produced during 2004-09

The Department had eight seed production centres with breeder ponds covering 10.5 hectares. Only eight hectares (75 per cent) of the brood area was in usable condition and operation (March 2009). Though the total production capacity was 40.25 crore of early fry per annum, the targets were fixed in the range of 27.50 crore to 31.35 crore during 2004-09. The actual early fry production against the target fixed during the same period ranged between 15.60 crore (52 per cent) and 16.96 crore (62 per cent) of the production capacity (Appendix 3.4).

3.1.8.4 Fish seed rearing centres

In 28 fish seed rearing centres, only about 50 per cent of the targeted fingerlings were produced

There are 28 fish seed rearing centres in the State with a seed rearing area of 18.5 hectares. As of March 2009, only 10 hectares of rearing area was in usable condition and in operation and 8.5 hectares were under repairs. The actual fingerlings production during 2004-09 was only about 50 per cent of the targets fixed (Appendix 3.5). Of the 28 centres, the actual fingerling production was less than 25 per cent of the targets fixed in three to 11 centres during 2004-09. The major reason for not utilising the optimum capacity in controlled conditions by the Department to produce early fry and fingerlings was the absence of bigger ponds for seed production. Audit noticed that 33 per cent of breeder ponds, 46 per cent of nursery ponds and 34 per cent of rearing ponds, were unusable, as shown in Table 7.

Table 7: Status of ponds in use

Sl. No.	Nature of ponds	Total ponds	No. of ponds in use	Percentage of facilities in use
1.	Breeder ponds	60	40	67
2	Nursery ponds	521	283	54
3	Rearing ponds	91	60	66

(Source: Departmental reports/records)

The details of area of total ponds (Breeder, Nursery and Rearing) and the status of ponds are given in Appendix 3.6. Out of a total of 1,86,715 sq.m of ponds area, 67,811 sq.m. (36 per cent) was unusable. Vacancies in technical posts like Fishery Overseers etc and non-availability of water contributed to the reduced production of fish seed.

In the 52 reservoirs of the Department, the targets fixed for stocking of fingerlings were achieved. However, the expected exploitation could not be achieved

3.1.8.5 Fish production from reservoirs

There are 52 reservoirs under the control of the Department. These reservoirs are stocked with quality fingerlings by the Department. The Department fixes targets for stocking and exploitation of table fish in reservoirs. These targets are fixed based on the productivity of the reservoirs during previous years.

The targets and achievements for stocking in the reservoirs during 2004-09 are shown in Table 8.

Table 8: Stocking of fingerlings in reservoirs

Year	Target for stocking	Achievement	Percentage of actual
	(in lakh)		
2004-05	94.61	88.78	93
2005-06	94.61	84.53	89
2006-07	90.90	87.50	96
2007-08	91.60	96.95	105
2008-09	92.35	NA	NA

NA – Not Available

(Source: Endeavour reports of the Department)

Though the Department achieved 89 to 105 *per cent* of the targets fixed for stocking during 2004-08, it could not achieve the expected exploitation as shown in **Table 9**.

Table 9: Exploitation of fish in reservoirs

Year	Stocked variety			Unstocked variety			Total		
	T	A	P	T	A	P	T	A	P
	(in tonnes)			(in tonnes)			(in tonnes)		
2004-05	643.50	251.83	39	828.20	302.67	37	1417.70	554.50	39
2005-06	643.50	352.02	55	828.20	667.47	81	1417.70	1019.49	72
2006-07	720.05	498.28	69	1061.10	684.80	65	1781.15	1183.08	66
2007-08	726.85	429.38	59	1069.15	679.10	64	1796.00	1108.48	62
2008-09	860.79	N.A		1095.95	N.A		1956.74	N.A	

T : Target A : Achievement P : Percentage NA : Not Available

(Source: Periodical reports of the Department)

Audit noticed that the targets for stocking and exploitation were fixed based on the fish productivity of the reservoirs in the previous years and were not based on the norms of the Indian Council of Agricultural Research. As per these norms, the size of the fingerlings for stocking should be 10 cm, whereas the sizes of the ponds available with the Department in the reservoir for seed rearing were not adequate to raise fingerlings beyond five to six cm. As the sizes of the ponds were small, fingerlings were raised up to only six cm and the targets were fixed based on the production of such fingerlings. One of the reasons for not achieving the expected exploitation was stocking of fingerlings of lesser size.

3.1.8.6 Cage culture of fishes in water bodies

Non-implementation of cage culture of fishes in Aliyar Reservoir

Cage culture of fishes is rearing of fishes from fingerlings to table fish in enclosures which permit water exchange and waste removal. Cage culture of fishes can be adopted in perennial water bodies where there is sufficient water depth.

To improve inland fish production, the Government sanctioned (May 2005) Rs 5 lakh for cage culture in Aliyar Reservoir. The implementation of this pilot project was entrusted to the Tamil Nadu Fisheries Development Corporation (TNFDC). Under this project, 22 cages were created and 11,800 fish seeds were stocked in cages at a cost of Rs 3.58 lakh. However, the implementation of the scheme was discontinued (May 2006) due to damage caused to the cages by heavy winds. Considering the speed of the winds and the high tide, TNFDC decided to implement the project in Amaravathy reservoir. However, no action had been taken to implement the project in Amaravathy reservoir so far.

In March 2008, under the National Agriculture Development Programme (NADP), Government sanctioned Rs 10.50 lakh for cage culture in inland water bodies. The amount sanctioned was drawn and deposited in the Personal Deposit Account of the COF in April 2008. Later, in May 2008, Rs 10.50 lakh was released to TNFDC to implement the scheme in the Aliyar reservoir. As of March 2009, Rs 11.92 lakh remain unutilised and available with TNFDC.

3.1.8.7 Propagation of an endangered species

Poor planning led to non-propagation of an endangered species, viz 'mahseer'

Establishment of a 'mahseer' hatchery at Sholaiyar dam to propagate the endangered mahseer fish artificially was contemplated in 1998. During 2007-08, the Department established the hatchery at a cost of Rs 18.17 lakh. However, no fingerlings of mahseer fish had been raised in the hatchery as of May 2009 as the collection of mahseer breeders from the reservoirs was difficult. The Department attributed (April 2009) the non-propagation to the difficulty in collection of breeder seeds from the dam which had a minimum water level of 135 feet as the mahseer fish were a bottom dwelling variety. Considering the dam's minimum water level and dwelling habit of the endangered species, the Department could have planned to get the breeder fish from other sources. Thus poor planning resulted in the Department not being able to propagate the endangered species even after 10 years of launching of the programme.

3.1.8.8 Implementation of World Bank assisted project

Shortfall in physical achievement of three activities under IAMWARM project

The Tamil Nadu Irrigated Agriculture Modernisation and Water bodies Restoration and Management Project (IAMWARM) is a World Bank funded project, which aims to improve the productivity of water and agriculture for enhancing farm income by convergence of line Department activities using water as an integrated approach.

Under this project, Rs 17.30 crore was approved by the World Bank for the Fisheries Department. During 2007-09, 25 sub-basins were selected for implementation of this project at a cost of Rs 6.90 crore. Though eight activities²⁵ were undertaken by the Department under this project, the physical achievements against the targets fixed in respect of three activities, namely, (i) establishment of seed banks in irrigation tanks, (ii) fish seed rearing in cages and (iii) ornamental fish culture, ranged between seven to 27 per cent as shown in Table 10.

Table 10: Physical achievements under IAMWARM Project

Name of the activity	Target (in numbers)	Achievement in numbers (percentage)
Fish seed bank	11	3 (27)
Fish seed rearing in cages	74	5 (7)
Ornamental fish culture	9	1 (11)

(Source: Periodical reports)

As against the sanctioned amount of Rs 6.90 crore, the Department had so far spent only Rs 4.02 crore as detailed in Appendix 3.7, indicating slow progress in the implementation of the project. The objective of the project to improve the productivity of water was not achieved due to the Department's incapacity

²⁵

1. Aquaculture in farm ponds, 2 .Establishment of seed banks in irrigation tanks
3. Fish seed rearing in cages, 4 .Ornamental fish culture, 5. Improvement to Government fish seed farms, 6. Supply of fishing implements, 7. Kiosks and
8. Aquaculture in irrigation tanks.

to establish farm ponds, fish seed tanks, fish seed rearing in cages, ornamental fish culture etc., as planned under this project.

3.1.8.9 Overlapping of schemes

Activities taken up under IAMWARM were not to be undertaken under any of the State/Centrally sponsored schemes. Audit noticed that activities like provision of kiosks, construction and improvement to fish seed farms and aquaculture in irrigation tanks were taken up under two schemes viz. 'National Agricultural Development Programme' and IAMWARM.

3.1.8.10 Absence of cold storage facilities

Non-operation of cold storage facilities established in four places

The Government sanctioned (August 2006) establishment of cold storage facilities including ice plants with cold storage facilities, ice crushers, insulated transport vehicles and kiosks (fish stalls) at a cost of Rs 90 lakh in four²⁶ places under the 'Assistance to States for Infrastructure Development for Exports and allied activities Scheme'. The Department established the cold storage facilities during 2007-08. Procurement of vehicles for the cold storage facilities was made through TAFCOFED. Audit noticed that none of the cold storage facilities were operational as of March 2009 because no agency had been appointed to maintain them. Though the maintenance of cold storage facilities was entrusted to TAFCOFED, owing to shortage of technical manpower, TAFCOFED transferred the four vehicles to the Department for maintenance and upkeep.

Thus, as of March 2009, cold storage facilities for fisherfolk to stock the fish was not available in the Government sector.

3.1.8.11 Non-supply of bicycles

Non-procurement and supply of 91 bicycles

Government sanctioned (August 2004) Rs 6 lakh for supply of 200 bicycles fitted with ice boxes to fish vendors in order to ensure supply of safe and hygienic fish to customers. Fifty *per cent* of the cost of each bicycle was to be met from Government subsidy and the balance from the beneficiary. The procurement and supply of bicycles to fisherfolk was entrusted to the Tamil Nadu Fisheries Development Corporation (TNFDC) in September 2004. The details of actual procurement and supply of the bicycles with ice boxes as of August 2008 are as shown in Table 11.

Table 11: Procurement and supply of ice boxes and bicycles

No. of bicycles purchased	No. of ice boxes purchased	Procurement cost (Rupees in lakh)	Fishermen benefited	
			Bicycle	Icebox
9	100	3.83	9	68

(Source: Scheme files)

The Department had not taken any effective action to procure and supply the remaining bicycles and iceboxes as planned. As of March 2009, a sum of Rs 2.16 lakh remained unutilised and available with the Department.

²⁶

1. Arokiapuram, 2. Jagathapattinam, 3. Soliakudy and 4. Therespuram.

The Department stated (August 2009) that bicycles were not procured in one lot, as storing of huge number of a bicycles would create storage problems and would result in damages to bicycles due to rust etc.

3.1.9 Implementation of welfare schemes

Improving the socio-economic standards of fisherfolk was one of the prime responsibilities of the Department. Deficiencies in the implementation of major welfare schemes are discussed in the succeeding paragraphs.

3.1.9.1 Fishermen Free Housing scheme

In order to alleviate the lot of fisherfolk, free houses were to be provided under two schemes viz. (i) Fishermen Free Housing Scheme (State) and (ii) Development of Model Fishermen Village Scheme (Centrally Sponsored Scheme, shared by the State and GOI in the ratio of 50:50)

The details of funds sanctioned and houses constructed under these schemes during 2004-07 were as shown in Table 12.

Table 12: Achievement under Fishermen Free Housing scheme

Year	No. of houses sanctioned		Amount released (Rupees in crore)		Houses constructed	Expenditure incurred as of March 2009 (Rupees in crore)
	Under the State Scheme	Under the GOI Scheme	Under the State Scheme	Under the GOI Scheme		
2004-05	2000	2000	7.40	8.00	844	1.66
2005-06	2000	2000	7.40	0.75	49	0.71
2006-07	2000	-	7.40	-	61	0.78
Total	6000	4000	22.20	8.75	954	3.15

(Source: Scheme files of Fisheries Department)

Audit noticed that the unit cost of a house under the Centrally Sponsored Scheme was Rs 40,000 whereas under the State Scheme, it was Rs 37,000. The unit cost of Rs 37,000 per unit was fixed in 1998-99 and the same was adopted for sanctioning of funds in 2006-07. As the Department could not construct the houses within the sanctioned amount of Rs 37,000 per unit, the Department decided (2005-06) to allow beneficiaries to construct their houses on their own and to release the funds in stages. However, only 110 houses were constructed as of February 2009, against the target of 6,000 houses during 2005-07.

Due to non-utilisation of funds sanctioned earlier, the GOI released only Rs 74.60 lakh out of Rs 4 crore sanctioned in 2005-06. For the years 2006-09, GOI did not sanction any funds for the scheme. As of March 2009, Rs 42.61 crore (relating to the period 1991-92 to 2006-07) remained unspent under these schemes and were available with implementing agencies like DRDAs, Fisheries Co-operative Societies and Fishing Harbour Project Divisions. Thus, release of funds without ensuring utilisation, resulted in

blocking of the funds on one hand and non-provision of free houses to the fisherfolk on the other hand.

The Department stated (August 2009) that the houses could not be constructed within the unit cost of Rs 37,000 and that fisherfolk took time to hand over the sites to the executing agencies, causing delays in constructing the houses.

3.1.9.2 Diesel subsidy to beneficiaries

Backlog in payment of diesel subsidy

To help mechanised fishing boat operators, GOI reimburses excise duty by way of subsidy towards purchase of high speed diesel (HSD) under the Centrally sponsored scheme for 'Marine Fisheries, Infrastructure and Post Harvest operations'. Under the scheme, Rs 1.50 per litre is to be paid as subsidy to the fisherfolk. GOI and the State Government shared the subsidy at Rs 1.20 per litre and Rs 0.30 per litre respectively. If payment of sales tax on purchase of HSD was exempted by the State, GOI would pay Rs 1.50 per litre as subsidy to the fisherfolk.

Based on the State's claim, GOI released funds every year to the State. Details of subsidy claimed by the State and released by GOI under the scheme during 2006-09 are given in **Table 13**.

Table 13: Receipt of diesel subsidy from GOI

(Rupees in crore)

	2006-07	2007-08	2008-09
Subsidy claimed	12.66	19.91	29.49
Subsidy received	2.59	3.00	3.00
Subsidy pending as of March 2009	26.49 (cumulative)		

(Source: Diesel subsidy claim records)

As per the State's proposal, Rs 26.49 crore was to be obtained from GOI towards diesel subsidy as of March 2009. Since GOI released subsidy under this scheme on the basis of availability of funds and the annual release of subsidy was Rs 3 crore, the backlog in payment of subsidy increased to Rs 26.49 crore.

The Department stated (August 2009) that as and when proposals were received from the fisherfolk, amounts were disbursed to fisherfolk, on first-come first serve basis. The reply is not acceptable as diesel subsidy claims of Rs 26.49 crore remained to be settled to them as of March 2009.

3.1.9.3 Group accident insurance scheme

Insurance claim were pending for more than five years

To provide insurance cover to fisherfolk, GOI implements a 'Group Accident Insurance Scheme' as a component of 'National Scheme of Welfare of

Fishermen'. Under this scheme, both the State and GOI pay (on 50:50 basis) a total annual premium of Rs 14 to the National Federation of Fishermen's Co-operatives (FISHCOPFED) for each fisherman registered with the fishermen's co-operative societies. Under this scheme, fishermen are insured for Rs 50,000 against death and Rs 25,000 towards partial permanent disability. Audit noticed that 260 out of 700 claims made by the Department were pending as of March 2009. Of the 260 claims, 113 claims (45 per cent) were pending for more than five years.

The pendency in settling the claims indicated lack of co-ordination between the Department and FISHCOPFED and the Department's lackadaisical attitude in providing financial assistance to the families of the affected fishermen.

3.1.10 Human Resource Management

3.1.10.1 Shortage of manpower

As against the sanctioned strength of 1,564 posts of the Department, 554 posts (35 per cent) were vacant as of March 2009. Vacancies in the posts of Inspectors of Fisheries, Research Assistants and Sub-Inspectors of Fisheries, who would be responsible for facilitating hygienic handling of fish, collecting information on fish landing, supplying quality seeds and enforcing the Marine Fisheries Regulation Act, constituted 35 to 40 per cent of the total vacancies. Audit noticed that in all the test-checked offices, the Inspectors of Fisheries were holding additional charge of one or two posts. Keeping the technical posts vacant would, in the long run, severely affect successful implementation of various programmes intended for improvement of marine and inland fisheries.

3.1.10.2 Functioning of Training Institute

In order to impart orientation training to fresh recruits and service officers once in every five years and to acquaint them on developments in the fisheries sector, a Staff Training Institute was established in 1962. Audit noticed that the syllabus for the orientation course was 30 years old. Though the Department constituted (April 2008) a committee to revise the syllabus based on latest technologies and developments in fisheries, revision of the syllabus was still to be done. Thus the main objective of running the institute for training technical personnel of the Department remained largely unachieved as the syllabus had not been revised after incorporating the recent developments in the fisheries sector. Audit also noticed that no refresher course had been conducted during the past five years for service officers.

3.1.10.3 Training in operation and maintenance of boats

In order to make adequate manpower available for the operation and maintenance of boats and modern fisheries, there were five²⁷ offices of ADF (extension and training) in the State. Out of the five offices, training was imparted by four offices. Audit noticed that during the period 2004-09, only 122 fishermen were trained. The details of persons trained in the four offices

²⁷ Colachal, Mandabam, Nagapattinam, Radhapuram and Thoothukudi.

Of the sanctioned strength of 1,564 posts, 554 posts were kept vacant

Non-conducting of refresher course for service officers for the past five years

During 2004-09, only 122 fishermen were trained in operation and maintenance of boats and modern fisheries

are furnished in **Appendix 3.8**. The Department attributed the poor intake to lack of opportunities in the Government sector for the trained youth.

3.1.11 Internal control mechanism

3.1.11.1 Non-conducting of inspections by Commissioner of Fisheries

No inspection of regional offices conducted by Commissioner of Fisheries during 2004-09

As per the departmental manual, the Deputy Director of Fisheries at Headquarters Office should inspect the Regional Offices under his control every year. Though there were six Regional Offices under the Commissioner's control, not a single office was inspected by him during 2004-09.

Similarly, the Regional Directors have to inspect annually the subordinate offices under their control. However, Audit noticed that the Chennai Regional Director of Fisheries did not inspect any field unit during 2004-09. In reply, the Department stated (August 2009) that suitable instructions had been issued to all the Superintendents of the offices of Commissioner of Fisheries to complete the work.

3.1.11.2 Internal audit

Pendency in internal audit ranged between 76 and 100 per cent during 2004-09

All the offices of the Department are to be audited by internal audit parties once in a year as per the departmental manual. There are 54 field units/offices in the State. Even though a separate wing was functioning for conducting internal audit of field units, 31 to 81 per cent of its sanctioned posts were vacant during 2004-09. The pendency in internal audit of field units by the internal audit parties ranged between 76 and 100 per cent as shown in **Table 14**.

Table 14: Pendency in Internal Audit

Year	2004-05	2005-06	2006-07	2007-08	2008-09
Number of offices to be audited	54	54	54	54	54
Number actually audited	13	5	1	Nil	Nil
Number to be audited	41	49	53	54	54
Percentage of pendency	76	91	98	100	100

(Source: Records of Internal Audit Wing)

Audit noticed that no audit plans had been prepared by the Department during 2004-09 to conduct internal audit and there were pendencies in internal audit. The Department stated (August 2009) that as soon as the posts were filled up, suitable action would be taken to reduce the pendency.

3.1.11.3 Non-auditing of Federation accounts

Annual Accounts of TAFCOFED not audited since 2001-02

There are 589 Primary Co-operative Societies in the State and TAFCOFED is the State level apex Fisheries Co-operative Society. The COF is the functional Registrar of all fisherfolk co-operative societies in the State. As per the

Tamil Nadu Co-operative Societies Act, the Registrar is to audit the accounts of every Co-operative Society within six months from the closure of the financial year or such further period, not exceeding nine months in aggregate.

It was observed that the annual accounts of TAFCOFED were audited (September 2008) only up to 2000-01, after a delay of eight years. As funds were transferred by COF under various schemes to TAFCOFED for implementation of schemes, lack of audit of the accounts gave scope for irregularities, misappropriation, misutilisation of funds etc. The Department stated (August 2009) that the Director of Co-operative Audit had been requested to depute an auditor in the rank of Co-operative Audit Officer to clear the pendency of audit.

3.1.11.4 Non-maintenance of Registers

Non-maintenance of register of valuables by Commissioner of Fisheries

As per the departmental manual, a Register of Valuables is to be maintained by all departmental officers to record the receipts received in the form of demand drafts/cheques. This register was not maintained by COF during 2004-09. All the cheques/DDs received by the Commissioner from field units towards refund of unspent money under various schemes were sent to banks for realisation without any proper accounting of cheques/DDs received. Thus, the accounting of all cheques/DDs received by the Commissioner was not ensured. In reply, the Department stated (August 2009) that a separate Register of Valuables had since been opened to record the receipt of valuables.

3.1.12 Conclusion

Budgetary provisions were made in excess of requirements, which resulted in substantial surrenders year after year. Delays in utilisation of sanctioned funds, non-auctioning of conch shells worth Rs 1.12 crore since the last 10 years, delays in revising lease rent for leased reservoirs, drawal of funds in advance etc., indicated that the Department's financial management was not satisfactory. Non-maintenance of ponds in usable condition, less fish production from reservoirs and delays in establishing new fishing harbours and fish landing centres resulted in under-utilisation of inland fishery/ marine fishery resources of the State.

3.1.13 Recommendations

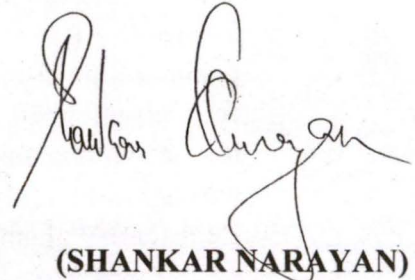
- Provision of funds should be made after assessment of project requirements and schemes should be implemented speedily to avoid excess budgetary provisions and substantial surrenders at the end of the year.
- The Commissioner of Fisheries should ensure the realisation of Government revenues in time.

- Drawal of funds in advance and keeping them in personal deposit accounts in order to avoid lapse of funds, should be curtailed and monitored at the Government level.
- Schemes intended for providing infrastructural facilities for marine fisheries should be stepped up and completed within a time-bound schedule.
- Ponds in the Government sector should be maintained in usable condition and adequate infrastructure should be provided for raising fingerlings as per the norms of the Indian Council of Agricultural Research.
- Government should speed up construction activities under the Fishermen Free Housing scheme and settle the diesel subsidy claims of fishermen without any delays.

The above points were referred to Government in September 2009. Reply had not been received (October 2009).

Chennai
The

5 MAR 2010

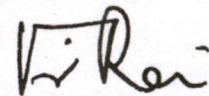


(SHANKAR NARAYAN)
Principal Accountant General (Civil Audit)
Tamil Nadu and Puducherry

Countersigned

New Delhi
The

11 MAR 2010



(VINOD RAI)
Comptroller and Auditor General of India

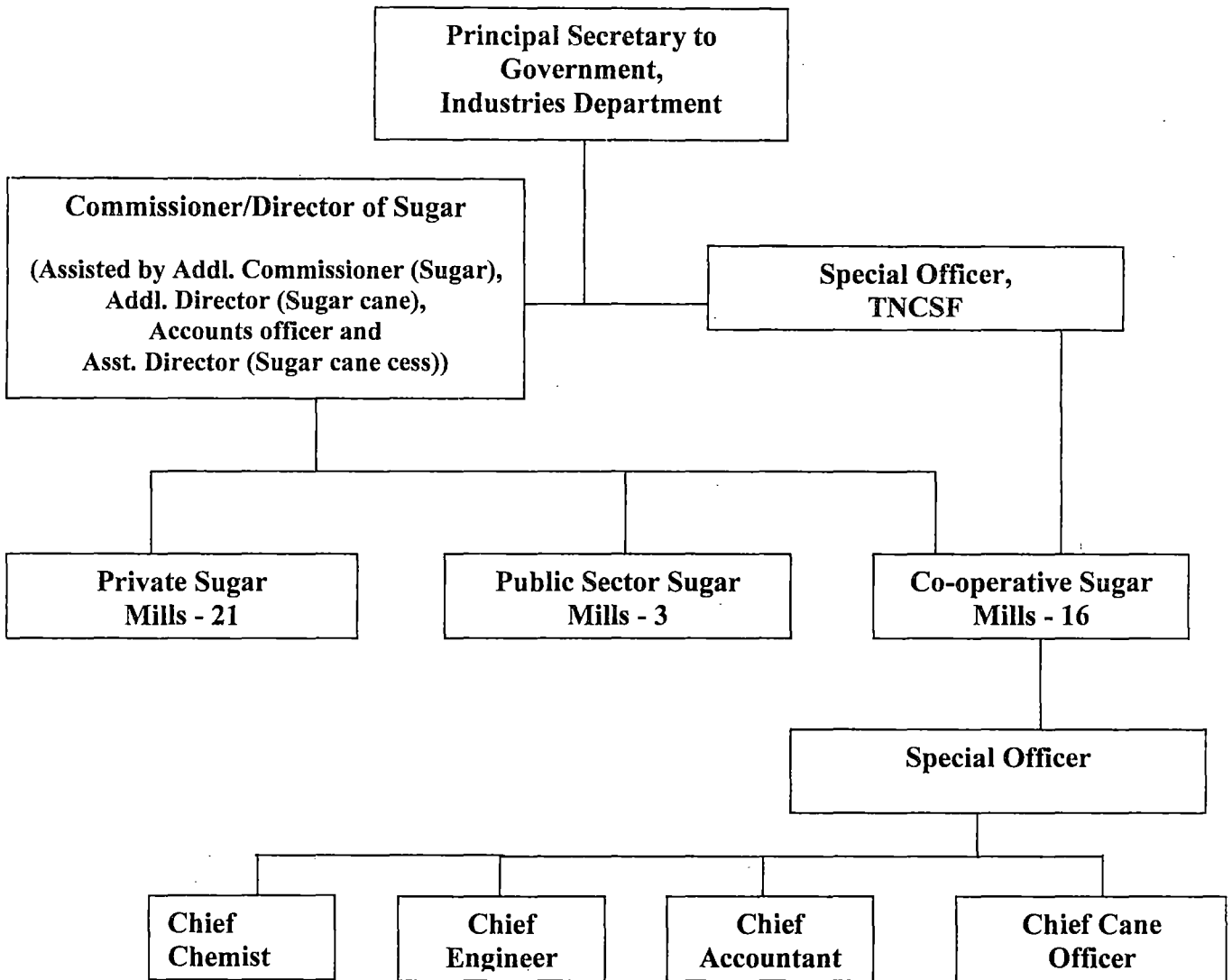
APPENDICES



Appendix 1.1

(Reference : Paragraph 1.1.2; Page 4)

Organisational chart of Co-operative Sugar Mills



Appendix 1.2

(Reference : Paragraph 1.1.6; Page 5)

Financial performance of Co-operative Sugar Mills

(Rupees in lakh)

Sl. No.	Name of sugar mill	Share capital	Profit (+) / loss (-) during the year				Cumulative Loss 31 March 2008	Net worth
			2004-05	2005-06	2006-07	2007-08		
1	Amaravathi	334.69	-447.13	-936.17	-49.71	-535.44	6,592.64	-6,001.31
2	Ambur	198.09	-385.72	-559.97	-1,592.38	-1,764.65	9,805.85	-8,953.43
3	Chengalrayan	1,453.48	575.65	-828.37	-1,145.53	-3,514.97	11,423.75	-7,453.75
4	Cheyar	1,733.32	571.99	392.81	-305.66	-928.00	3,397.50	1,381.27
5	Dharmapuri	374.90	337.43	109.34	630.68	-2,037.89	4,224.37	-2,066.07
6	Kallakurichi - I	1,391.50	233.23	-1,257.88	-2,415.22	-3,099.30	19,269.01	-16,438.54
7	Kallakurichi-II	2,534.27	605.08	918.63	380.57	-746.11	1,494.21	2,068.62
8	MRK	1,664.21	828.21	27.67	-644.59	-2,226.16	6,687.85	-1,935.21
9	National	532.31	-1275.85	-1395.24	-2,000.39	-3,313.65	16,793.71	-15,965.89
10	NPKRR	1,121.12	-1315.20	-1662.78	-2,667.53	-3,789.86	22,337.55	-18,809.68
11	Salem	459.23	-488.01	-139.18	79.09	-1,493.44	8,495.58	-7,045.40
12	Subramaniaya Siva	2,018.94	608.77	-122.91	57.21	-1,380.97	6,935.20	-3,051.59
13	Tirupattur	538.34	-319.14	-434.48	-1,311.93	-1,935.88	9,242.90	-8,409.59
14	Tiruttani	863.84	-1063.49	-888.24	-2,042.81	-3,064.31	13,478.22	-10,650.06
15	Vellore	618.31	209.04	-138.89	-1,566.30	-2,262.38	7,367.72	-4,922.36
	Total	15,836.55	-1,325.74	-6,915.66	-14,594.50	-32,093.01	1,47,546.06	-1,08,252.99

(Source : Performance indicators of respective sugar mills)

Appendix 1.3

(Reference : Paragraph 1.1.7; Page 9)

Sugar cane area registered and sugar cane crushed by Co-operative Sugar Mills

Sl. No.	Name of sugar mill	Year of establishment	Installed capacity (MT per day)	Annual sugar cane requirement for 100 per cent capacity utilisation (lakh MT)	Sugar cane area registered (Acre)			Annual crushing during (lakh MT)			Average capacity utilisation (percentage)			Average sugar production (lakh quintal)		
					2006-07	2007-08	2008-09	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09
1	Amaravathy	1,960	1,250	2.15	4,156	4,360	2,308	2.34	2.50	1.99	108.84	116.28	92.56	2.33	2.42	1.96
2	Ambur	1,960	1,400	2.40	9,580	7,192	5,420	2.56	3.01	2.22	106.67	125.42	92.50	2.35	2.75	2.12
3	Chengalrayan	1,980	3,000	5.16	15,539	15,212	16,962	6.02	7.43	5.45	116.67	143.99	105.43	5.53	6.33	5.10
4	Cheyyar	1,991	2,500	4.30	15,953	12,903	9,135	4.65	6.13	4.51	108.14	142.56	104.88	4.09	5.72	4.27
5	Dharmapuri	1,972	2,000	3.44	10,947	11,764	11,612	3.34	4.54	2.30	97.09	131.98	66.86	3.71	4.78	2.57
6	Kallakurichi - I	1,967	2,500	4.30	12,811	14,209	14,750	4.91	5.82	4.72	114.19	135.35	109.77	4.51	5.15	4.45
7	Kallakurichi-II	1,997	2,500	4.30	13,350	12,750	12,165	4.73	6.02	4.67	110.00	140.00	108.60	4.72	5.60	4.69
8	MRK	1,990	2,500	4.30	16,231	14,306	10,595	4.71	5.52	3.96	109.53	128.37	92.09	4.33	4.57	3.32
9	National	1,966	2,500	4.30	13,343	11,005	6,422	2.55	3.82	4.04	59.30	88.84	93.95	2.61	3.53	3.62
10	NPKRR	1,987	3,500	6.02	15,100	11,772	8,532	3.22	4.55	3.47	53.49	75.58	51.00	2.91	3.63	2.82
11	Salem	1,964	2,500	4.30	10,274	9,963	9,408	5.33	5.97	4.35	123.95	138.84	101.16	5.37	5.65	4.36
12	Subramaniaya Siva	1,992	2,500	4.30	14,083	14,549	12,911	4.70	6.02	4.75	109.30	140.00	110.47	4.99	6.27	5.18
13	Tirupattur	1,977	1,250	2.15	9,335	9,040	5,808	2.63	3.19	2.37	122.33	148.37	110.23	2.82	3.30	2.60
14	Tiruttani	1,984	2,500	4.30	14,231	11,120	6,136	2.55	4.03	2.68	59.30	93.72	62.33	2.23	3.25	2.33
15	Vellore	1,977	2,500	4.30	13,757	9,515	6,782	4.03	4.96	3.21	93.72	115.35	74.65	3.82	4.46	2.99
	Total		34,900	60.02	1,88,690	1,69,660	1,59,610	58.27	73.51	54.69	97.08	122.48	90.44	56.32	67.41	52.38

NA : Details not available

Appendix 1.4

(Reference : Paragraph 1.1.7.1; Page 10)

Performance of nurseries in Co-operative Sugar Mills

Name of the CSM	No. of years during which target was not achieved		
	Primary Nursery	Secondary Nursery	Commercial Nursery
Dharmapuri	Achieved*	Achieved	3 (2005-06, 2006-07 and 2007-08)
Salem	Achieved*	Achieved	1 (2007-08)
NPKRR	1 (2007-08)	3 (2006-07, 2007-08 and 2008-09)	4 (2004-05, 2005-06, 2006-07 and 2007-08)
Vellore	--	1 (2007-08)	2 (2006-07 and 2007-08)
Tiruttani	1 (2007-08)	4 (2004-05, 2006-07, 2007-08 and 2008-09)	3 (2004-05, 2006-07 and 2007-08)

* Target achieved without sourcing breeder seeds from research stations.

Appendix 1.5

(Reference : Paragraph 1.1.7.3 and 1.1.8.1; Page 11 and 14)

Quantity of overage sugar cane crushed by test-checked Co-operative Sugar Mills

(In M.T.)

Name of Co-operative Sugar mill	2004-05		2005-06		2006-07		2007-08		Total		
	Cane crushed	Quantity of overage cane	Cane crushed	Quantity of overage cane	Cane crushed	Quantity of overage cane	Cane crushed	Quantity of overage cane	Cane crushed	Percentage of over age cane	Quantity of overage cane
Dharmapuri	1,74,958	21,887	3,50,607	68,438	4,71,158	3,50,212	2,62,491	68,510	12,59,214	40.43	5,09,047
NPKRR	82,028	7,383	2,61,890	68,091	4,52,265	1,53,770	3,41,124	1,33,038	11,37,307	31.85	3,62,282
Salem	No overage cane		4,65,559	1,76,912	5,76,798	1,78,807	No overage cane		10,42,357	34.13	3,55,719
Vellore	1,48,553	9,068	3,85,618	2,52,996	5,54,415	4,09,737	3,68,263	2,88,855	14,56,849	65.94	9,60,656
Total	4,05,539	38,338	14,63,674	5,66,437	20,54,636	10,92,526	9,71,878	4,90,403	48,95,727	44.69	21,87,704

(Data on cane crushing is for cane year (October to September) and differs from the data given in Appendix 1.3, which relates to financial year).

Appendix 1.6

(Reference : Paragraph 1.1.7.3 and 1.1.8.1; Page 11 and 14)

Sugar recovery rate in test-checked Co-operative Sugar Mills

Name of CSM	Crushing season	Annual average recovery rate	Recovery rate in the first month of the crushing season	Recovery rate in the last month of the crushing season
Dharmapuri CSM	2004-05	10.44	10.74	9.24
	2005-06	9.34	10.40	10.21
	2006-07	9.10	10.29	8.48
	2007-08	9.13	9.81	8.93
	2008-09	9.62	10.48	NA
NPKRR CSM	2004-05	8.42	8.20	8.55
	2005-06	8.90	6.57	8.33
	2006-07	8.33	7.12	3.69
	2007-08	8.01	7.06	4.04
	2008-09	8.48	7.12	NA
MRK CSM	2004-05	9.69	8.91	7.64
	2005-06	8.65	7.63	7.37
	2006-07	8.71	8.20	5.90
	2007-08	8.28	7.81	6.06
	2008-09	8.76	9.44	7.89
Salem CSM	2004-05	8.69	8.93	7.00
	2005-06	9.94	8.77	9.44
	2006-07	9.98	8.95	7.34
	2007-08	9.83	9.14	9.64
	2008-09	10.05	9.28	10.58
Tiruttani CSM	2004-05	7.24	6.63	6.09
	2005-06	8.41	6.26	9.26
	2006-07	7.87	7.42	4.83
	2007-08	8.65	7.20	7.13
	2008-09	8.89	7.30	9.85
Vellore CSM	2004-05	9.74	9.21	9.74
	2005-06	9.18	8.29	8.64
	2006-07	8.94	7.28	4.61
	2007-08	9.32	8.71	6.00
	2008-09	10.07	9.00	10.07

NA: Not Available

(Source : Details extracted from the annual monthly returns and furnished by respective sugar mills).

Appendix 1.7

(Reference : Paragraph 1.1.7.7; Page 12)

Additional expenditure on transport charges due to diversion of sugar cane

Sl. No.	Name of the Mill	Additional expenditure* on transport charges (Rs in lakh)
1.	Vellore co-operative Sugar mill	22.14
2.	MRK co-operative Sugar mill	2.37
3.	Salem co-operative Sugar mill	8.09
4.	NPKRR co-operative Sugar mill	57.52
5.	Dharmapuri co-operative Sugar mill	12.72
6.	Tiruttani co-operative Sugar mill	22.28
Total		125.12 or Rs 1.25 crore

* Amount incurred in excess of the per MT transport cost for own cane

Appendix 1.8

(Reference : Paragraph 1.1.8.1; Page 13)

Under-utilisation of crushing capacity by Co-operative Sugar Mills

Name of the Mill	Crushing season	Crushing capacity per day	Total cane crushed* (MT)	Actual cane crushing hours	Cane crushed per hour	Cane crushed per day	Capacity utilisation
Dharmapuri CSM	2004-05	2,000	1,74,959	2,085.30	83.90	1,845.81	92.29
	2005-06	2,000	3,50,608	4,162.00	84.24	1,853.28	92.66
	2006-07	2,000	4,71,158	5,775.15	81.58	1,794.84	89.74
	2007-08	2,000	2,62,492	3,170.00	82.80	1,821.70	91.09
	2008-09	2,000	2,54,303	3,136.00	81.09	1,784.01	89.20
Average							90.99
Tiruttani CSM	2004-05	2,500	50,127	679.25	73.80	1,623.55	64.94
	2005-06	2,500	1,57,433	2,311.50	68.11	1,498.39	59.94
	2006-07	2,500	4,17,284	4,495.20	92.83	2,042.23	81.69
	2007-08	2,500	3,35,273	3,613.25	92.79	2,041.38	81.66
	2008-09	2,500	1,59,825	1,888.45	84.63	1,861.92	74.48
Average							72.54
MRK CSM	2004-05	2,500	2,99,934	2,706.30	110.83	2,438.22	97.53
	2005-06	2,500	4,18,021	3,788.00	110.35	2,427.79	97.11
	2006-07	2,500	6,02,789	5,469.00	110.22	2,424.84	96.99
	2007-08	2,500	4,37,281	4,089.00	106.94	2,352.70	94.11
	2008-09	2,500	2,63,442	2,500.45	105.36	2,317.87	92.71
Average							95.67
Vellore CSM	2004-05	2,500	1,48,533	1,450.50	102.40	2,252.83	90.11
	2005-06	2,500	3,85,618	3,764.55	102.43	2,253.55	90.14
	2006-07	2,500	5,54,415	5,414.45	102.40	2,252.70	90.11
	2007-08	2,500	3,68,263	3,751.40	98.17	2,159.67	86.39
	2008-09	2,500	1,81,077	1,906.05	95.00	2,090.03	83.60
Average							88.07
Salem CSM	2004-05	2,500	1,65,748	2,047.30	80.96	1,781.10	71.24
	2005-06	2,500	4,65,559	4,199.05	110.87	2,439.19	97.57
	2006-07	2,500	5,76,798	5,066.30	113.85	2,504.70	100.19
	2007-08	2,500	4,49,993	3,874.25	116.15	2,555.29	102.21
	2008-09	2,500	4,59,317	4,155.10	110.54	2,431.94	97.28
Average							93.70
NPKR CSM	2004-05	3,500	82,029	920.30	89.13	1,960.90	56.03
	2005-06	3,500	2,61,891	2,593.30	100.99	2,221.72	63.48
	2006-07	3,500	4,52,266	4,519.45	100.07	2,201.56	62.90
	2007-08	3,500	3,41,125	3,506.00	97.30	2,140.54	61.16
	2008-09	3,500	2,28,513	2,399.30	95.24	2,095.31	59.87
Average							60.69

(Source : Annual returns furnished by respective sugar mills)

* Data on cane crushing is for cane year (October to September) and differs from the data given in Appendix 1.3, which relates to financial year.

Appendix 1.9

(Reference : Paragraph 1.1.8.2 (ii); Page 15)

Stoppage of operations due to machinery breakdowns

Name of CSM	Details of major break downs of machinery during 2004-09 in the test-checked CSMs			Remarks
	Name of machinery / part that broke down	Crushing season	Hours lost due to break down	
(1)	(2)	(3)	(4)	(5)
NPKRR CSM	Boiler – Economiser coil	2005-06	9.00	Economiser coil was replaced in July 2008 after repeated break down during three continuous years
		2006-07	107.45	
		2007-08	231.45	
	Bagasse carrier and return bagasse carrier (RBC)	2006-07	39.00	Proposal for renewal of RBC was approved in March 2009. However, work was not completed as of May 2009
	Transmission gears - turbine	2006-07	81.15	Rectified in the same season
	Clarifier	2006-07	135.30	Clarifier central shaft was replaced in December 2007
Dharmapuri CSM	Fibrizer	2005-06	4.00	Fibrizer hubs were replaced in October 2008 after repeated break down during three continuous years
		2006-07	21.10	
		2007-08	31.45	
	Cane carrier	2005-06	17.15	Problems in maintenance and upkeep.
		2006-07	32.50	
		2007-08	3.30	
	Milling roller	2005-06	68.30	
		2006-07	39.20	
		2007-08	25.55	

Contd..

(1)	(2)	(3)	(4)	(5)
MRK CSM	Bagasse carrier and return bagasse carrier (RBC)	2006-07	66.15	Accumulation of bagasse and structural weakness in RBC
	Boiler	2004-05	52.00	No remedial action for the consistent problem due to leakage in boiler tubes. There is a proposal to go in for a new boiler.
		2005-06	79.00	
		2006-07	39.00	
		2007-08	135.45	
Vellore CSM	Milling roller	2004-05	11.05	Defects in fibrizer hub and roller shaft were rectified in the same year
		2005-06	70.30	
		2006-07	48.30	
	Boiler	2006-07	40.30	Damaged steam line replaced during 2007-08
		2007-08	13.00	
Tiruttani CSM	Milling roller	2005-06	39.25	Problems in machinery maintenance. A proposal for re-alignment / re-conditioning of the milling rollers at a cost of Rs 16 lakh in January 2007 and March 2008 was not approved by the Budget advisory committee headed by COS
		2006-07	258.50	
		2007-08	168.45	
	Fibrizer	2007-08	40.15	Human error
	Rake carrier	2005-06	18.00	Worn out spares have not been replaced
		2006-07	61.45	
Salem CSM	Fibrizer	2005-06	19.45	Defective maintenance work
		2006-07	122.25	
		2007-08	46.30	
	Milling roller	2005-06	22.30	
		2006-07	24.45	
		2007-08	9.00	

Appendix 1.10

(Reference : Paragraph 1.1.8.3; Page 16)

Manpower position in Co-operative Sugar Mills

Sl. No.	Name of sugar mill	Sanctioned staff strength	Existing strength against sanctioned posts	Existing strength without post sanction (Surplus staff)	Vacancies [#]
(1)	(2)	(3)	(4)	(5)	(6) (3) - (4)
1	Amaravathy*	516	291	17	225
2	Ambur*	516	239	4	277
3	Chengalrayan*	509	413	140	86
4	Cheyar*	496	356	15	140
5	Dharmapuri	505	370	60	135
6	Kallakurichi - I*	529	339	2	190
7	Kallakurichi-II*	355	191	12	164
8	MRK	495	367	76	128
9	National*	529	271	74	258
10	NPKRR	548	421	82	127
11	Salem	506	140	133	366
12	Subramaniaya Siva	NA	NA	NA	NA
13	Tirupattur*	444	357	68	87
14	Tiruttani	504	327	26	177
15	Vellore	514	395	79	119

NA - Details are not available

[#] With reference to sanctioned strength and available manpower against that

* Position as of December 2008.

Appendix 1.11

(Reference : Paragraph 1.1.8.4; Page 17)

Losses due to excess consumption of bagasse

Name of the Sugar mill	Year	Sugar cane crushed*	Bagasse as per norm (sugar cane crushed x 27/100)	Bagasse to steam ratio	Possible qty of steam (4) x (5)	Steam required for processing (3) x 50%	Possible bagasse savings (6-7)/5	Actual bagasse savings for sale	Excess consumption of bagasse (8)-(9)	Bagasse rate/mt**	Revenue loss- value of the bagasse consumed in excess
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dharmapuri CSM	2004-05	1,74,959	47,239	1:2.25	1,06,288	87,480	8,359	0	8,359	260	21,73,380
	2005-06	3,50,608	94,664	1:2.25	2,12,994	1,75,304	16,751	119	16,632	260	43,24,390
	2006-07	4,71,158	1,27,213	1:2.25	2,86,228	2,35,579	22,511	318	22,193	260	57,70,149
	2007-08	2,62,492	70,873	1:2.25	1,59,464	1,31,246	12,541	980	11,561	260	30,05,934
	2008-09	2,54,303	68,662	1:2.25	1,54,489	1,27,151	12,150	70	12,080	260	31,40,800
NPKRR CSM	2004-05	82,029	22,148	1:2.20	48,725	41,015	3,505	0	3,505	260	9,11,268
	2005-06	2,61,891	70,711	1:2.20	1,55,563	1,30,946	11,190	0	11,190	260	29,09,371
	2006-07	4,52,266	1,22,112	1:2.20	2,68,646	2,26,133	19,324	2,909	16,415	260	42,67,924
	2007-08	3,41,125	92,104	1:2.20	2,02,628	1,70,563	14,575	12,204	2,371	260	6,16,549
	2008-09	2,28,513	61,698	1:2.20	1,35,736	1,14,256	9,764	60	9,704	260	25,23,040
MRK CSM	2004-05	2,99,934	80,982	1:2	1,61,964	1,49,967	5,999	0	5,999	260	15,59,657
	2005-06	4,18,021	1,12,866	1:2	2,25,731	2,09,011	8,360	0	8,360	260	21,73,709
	2006-07	6,02,789	1,62,753	1:2	3,25,506	3,01,395	12,056	7,000	5,056	260	13,14,503
	2008-09	2,63,442	71,129	1:2	1,42,258	1,31,721	5,269	0	5,269	260	13,69,940
Vellore CSM	2004-05	1,48,533	40,104	1:2	80,208	74,267	2,971	0	2,971	260	7,72,372
	2005-06	3,85,618	1,04,117	1:2	2,08,234	1,92,809	7,712	3,971	3,741	260	9,72,754
	2006-07	5,54,415	1,49,692	1:2	2,99,384	2,77,208	11,088	4,449	6,639	260	17,26,218
	2007-08	3,68,263	99,431	1:2	1,98,862	1,84,132	7,365	416	6,949	260	18,06,808
	2008-09	1,81,077	48,891	1:2	97,782	90,539	3,622	0	3,622	260	9,41,600
Tiruttani CSM	2007-08	3,35,273	90,524	1:2	1,81,047	1,67,637	6,705	4,823	1,882	260	4,89,440
	2008-09	1,59,825	43,153	1:2	86,306	79,913	3,197	215	2,982	260	7,75,190
Grand total											4,35,34,996

* Data on cane crushing is for cane year (October to September) and differs from the data given in Appendix 1.3, which relates to financial year.

** Least price during 2004-09 has been adopted for calculation

Appendix 1.12

(Reference : Paragraph 1.1.8.6 (i); Page 18)

Revenue loss due to low capacity utilisation of distillery
in Salem Co-operative Sugar Mill

Year	Maximum capacity utilisation during the last five years	Actual production (KL)	Short fall* (KL)	Total cost of production per KL (Rs)	Annual average sale realisation per KL (Rs)	Profit margin per KL (Rs)	Loss due to short fall in production (Rs)
2004-05	10,597	6,239	4,358	9,397	22,050	12,653	5,51,41,774
2005-06	10,597	4,462	6,135	15,356	18,690	3,334	2,04,54,090
2006-07	10,597	10,597	0	12,101	19,700	7,599	0
2007-08	10,597	8,174	2,423	11,257	23,000	11,743	2,84,53,289
2008-09	10,597	8,197	2,400	13,398	26,130	12,732	3,05,56,800
						Total	13,46,05,953

* With reference to 2006-07 production

Appendix 1.13

(Reference : Paragraph- 1.1.8.7 ; Page 19)

Revenue loss due to underutilisation of co-generation plant in MRK
Co-operative Sugar Mill

Year	Target units per day	Units exported per day	Short fall per day	No of crushing days	Total units lost for export	Revenue loss at Rs 3.15* per unit (Rupees)
2004-05	60,000	50,377	9,623	126	12,12,498	38,19,368.70
2005-06	60,000	41,361	18,639	173	32,24,547	1,01,57,323.00
2006-07	60,000	34,711	25,289	252	63,72,828	2,00,74,408.00
2007-08	60,000	35,680	24,320	202	49,12,640	1,54,74,816.00
2008-09	60,000	35,503	24,497	126	30,86,622	97,22,859.30
Total						5,92,48,775.00

* Rate payable as per the agreement entered into with Tamil Nadu Electricity Board

Appendix 1.14

(Reference : Paragraph- 1.1.9.1 (ii); Page 22)

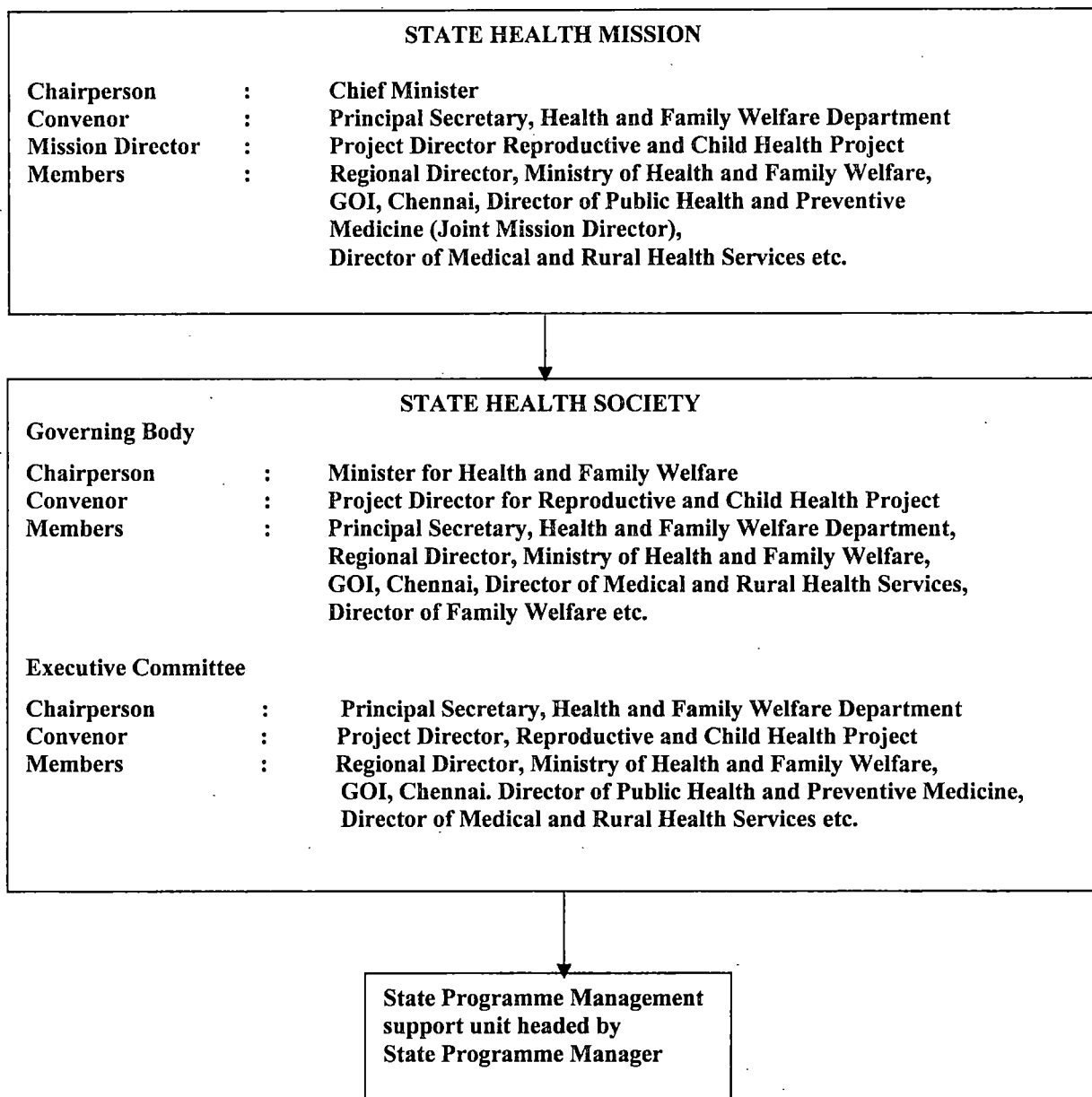
Revenue loss due to conversion of free sugar into levy sugar

Name of CSM	Year	Quantity converted as levy (MT)	Annual average free sale sugar price per MT (Rs)	Levy price per MT (Rs)	Loss per MT	Total loss (Rs)
Ambur	2008-09	3,915.7	15,470	13,500	1,970	77,13,929
Chengalvayan	2008-09	8,469.6	16,199	13,500	2,699	2,28,59,450
Cheyvar	2008-09	2,010.4	16,260	13,500	2,760	55,48,704
KKI	2008-09	4,927.4	16,958	13,500	3,458	1,70,38,949
MRK	2008-09	2,008.4	14,919	13,500	1,419	28,49,919
National	2008-09	160.2	15,975	13,500	2,475	3,96,495
NPKRR	2008-09	2,717.7	16,420	13,500	2,920	79,35,684
Subramaniya Siva	2008-09	1,574.2	15,309	13,500	1,809	28,47,728
Tirupathur	2008-09	1,612.8	16,670	13,500	3,170	51,12,576
Tiruttani	2008-09	3,083.4	16,137	13,500	2,637	81,30,926
Vellore	2008-09	2,548.8	14,883	13,500	1,383	35,24,990
Total						8,39,59,350

Appendix 1.15

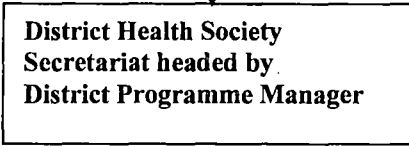
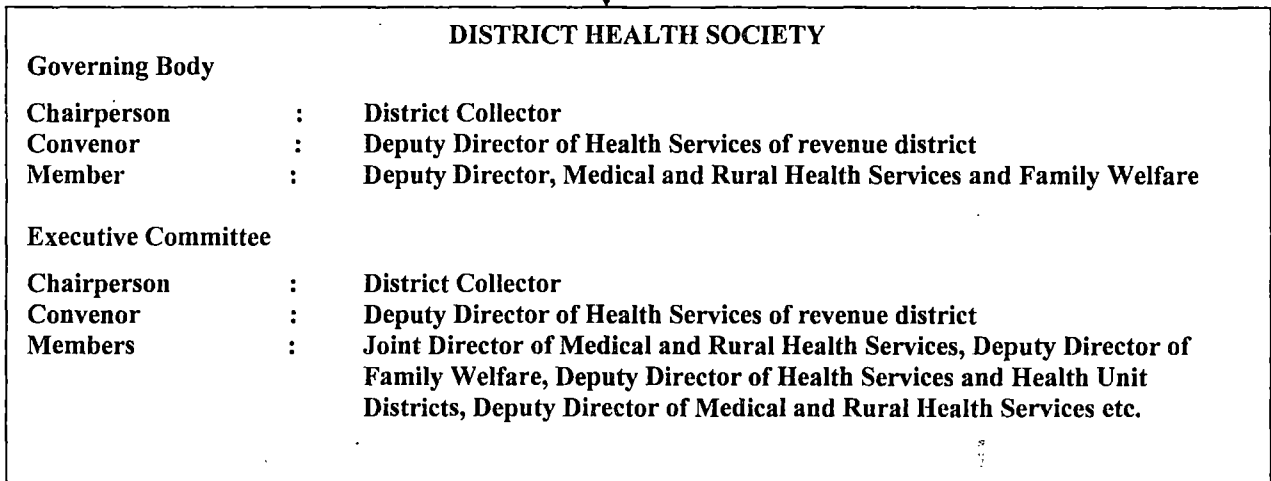
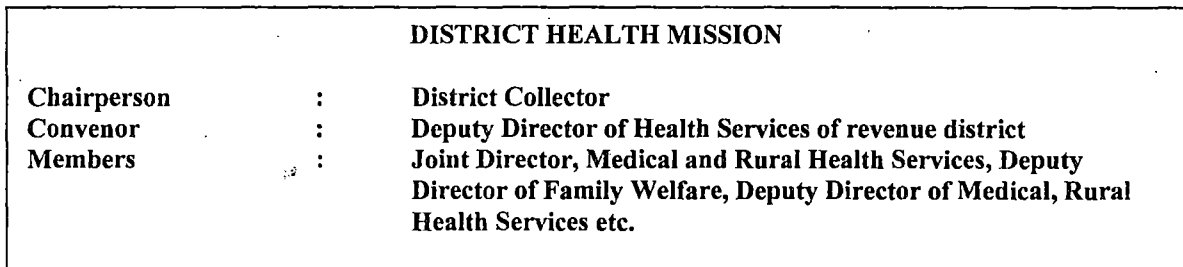
(Reference: Paragraph 1.2.2; Page 28)

Organogram of State Health Mission and State Health Society



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Organogram of District Health Mission and District Health Society



Appendix 1.16

(Reference: Paragraph 1.2.5; Page 29)

List of test-checked units – National Rural Health Mission

Sl. No.	Sample district		Block PHC	PHC at		Sub Centre	
1	Erode	1.	Erode BPHC at Chithode	1	Nasiyanur	1	Kumalanguttai
				2	Thindal	2	Manickampalayam
				3	Ammapettai	3	Nanjappa Gounder valasu
				4	Olagadam	4	Thindal
				5	Pethampalayam	5	Manickampalayam
				6	Vijayamangalam	6	Nerinjipet
		2.	Ammapettai BPHC at Gurusvareddiyur	7	Sembadampalayam	7	Vedikaranpalayam
				8	Vedikaranpalayam	8	Ellispet
				9	Pethampalayam	9	Kanjikoil
				10	Vijayamangalam	10	Veeranampalayam
				11	Vijayamangalam	11	Vijayamangalam
				12	Vijayamangalam	12	Vijayamangalam
2	Vellore	4.	Arcot BPHC at Pudupadi	13	Ladavaram	13	Athithangal
				14	Melvisharam	14	Karikanthangal
				15	Melvisharam	15	Melvisharam I
				16	Melvisharam	16	Melvisharam III
				17	Attupakkam	17	Eluppaithandalam
				18	Panapakkam	18	Kadambanallur
		5.	Nemili BPHC at Punnai	19	Panapakkam	19	Jagirthandalam
				20	Panapakkam	20	Panapakkam II
				21	Pudurnadu	21	Pudurnadu
				22	Pudurnadu	22	Serkanur
				23	Nimmiyampattu	23	Nimmiyampattu
				24	Nimmiyampattu	24	Vellakottai
3	Kanyakumari	7.	Thovalai BPHC at Aralvaimozhi	25	Arumanallur	25	Boothanpandi
				26	Thadikarankonam	26	Veeravanallur
				27	Thadikarankonam	27	Azhagiapandiapuram
				28	Thadikarankonam	28	Kesavanputhoor
				29	Alagappapuram	29	Alagappapuram North
				30	Alagappapuram	30	Rajavur
		8.	Agastheeswaram BPHC at Agastheeswaram	31	Kottaram	31	Kanniyakumari West
				32	Kottaram	32	Leepuram
				33	Pechiparai	33	Cheruthikonam
				34	Pechiparai	34	Thirunandhikarai
				35	Thiruvattar	35	Andoor
				36	Thiruvattar	36	Saroor
4	Villupuram	10.	Kolliyanur BPHC at Kandamanadi	37	Arasamangalam	37	Arasamangalam
				38	Thogaipadi	38	Pillur
				39	Thogaipadi	39	Kappur
				40	Thogaipadi	40	Thogaipadi
				41	Anniyur	41	Anniyur
				42	Anniyur	42	Nangathur
		11.	Kanai BPHC at Kedar	43	Kanai	43	Kalpattu
				44	Kanai	44	Kangeyanur
				45	Veerapandi	45	Adhichanur
				46	Veerapandi	46	Veerapandi I
				47	Vilandhai	47	Manampoondi
				48	Vilandhai	48	Vilandhai

Contd..

Sl. No.	Sample district	Block PHC	PHC at		Sub Centre		
5	Pudukottai	13. Pudukkottai BPHC at Adhanakottai	25	Perungalur	49	Adappakkarachatram	
					50	Mullur	
			26	Varappur	51	A. Mathur	
						52	Semmattividuthi
		14. Thirumaiyam BPHC at Natchandupatti	27	Konapet	53	Athanur	
					54	Vengalur	
			28	Rangium	55	Kannanur	
						56	Kullipirai
		15. Thiruvarankulam BPHC at Thiruvarankulam	29	Arayapatti	57	Pachikottai	
			58	Kallankudi			
30	Vallatharakottai		59	Puvarasakudi			
				60	Kulavaipatti		
6	Kancheepuram	16. Kattankulathur at Nandivaram	31	Maraimalai Nagar	61	Maraimalainagar	
					62	Singaperumalkoil	
			32	Reddipalayam	63	Appur	
						64	Chettipunniyam
		17. Kancheepuram at Thiruppukuzhi	33	Keelperanamallur	65	Ayyangarkulam	
					66	Keelperanamallur	
			34	Perumpakkam	67	Perumbakkam	
						68	Thenambakkam
		18. Sriperampudur at Maduramangalam	35	Panruti	69	Echur	
			70	Senthamangalam			
36	Vallam		71	Pillaipakkam			
				72	Vallam		
7	Thiruvannamalai	19. Chengam at Melpallipattu	37	Chennasamudram	73	Chennasamudram	
					74	Pudur	
			38	Paramananthal	75	Kamaraj nagar	
						76	Paramananthal
		20. Thiruvannamalai at Kattampoondi	39	Meyyur	77	Adiannamalai	
					78	Kaveriyanpoondi	
			40	Su.Valavetti	79	Kadagaman	
						80	Veraiyur
		21. Arani (East) at S.V. Nagaram	41	Mullanthiram	81	Agrapalayam	
			82	Mullanthiram			
42	Nesal		83	Nesal			
				84	Vellapadi		

* In Tamil Nadu, there is no Community Health Centre (CHC). Hence, Block PHC has been taken in place of CHC.

Appendix 1.17

(Reference: Paragraph 1.2.6; Page 30)

Goals and achievements under NRHM

SL. No.	Activity – Goals – Tamil Nadu	Time line for all States (Target in percentage)	Tamil Nadu status/ achievement (in percentage) as of March 2009
1	385 CHCs (BPHC) strengthened / to be established with 7 specialists and 9 Staff Nurses to provide service guarantees as per IPHS	30 by 2007 50 by 2009 100 by 2010	Nil (100 non-achievement by 2009)
2	1421 PHCs strengthened/ established with 3 Staff Nurses to provide service guarantees as per IPHS	30 by 2007 60 by 2009 100 by 2010	1376 PHCs (97) out of 1421 were strengthened as 24X7 delivery care services with 3 SNs by 2009.
3	2 ANM Sub Health Centres to be strengthened/ established to provide service guarantees as per IPHS in 8706 places.	30 by 2007 60 by 2009 100 by 2010	Nil (100 non-achievement by 2009)
4	District Health Action Plan 2005-2012 prepared by each district of the state.	50 by 2007 100 by 2008	DHAP prepared by 29 districts from 2008-09 and not perspective plan for 2005-12. (100 non-achievement by 2009)
5	State and District Health Society established and fully functional with requisite management skills	50 by 2007 100 by 2008	SPMU functioning with requisite management skills. DPMUs not formed(100 non-achievement) in 29 districts by 2009
6	Systems of community monitoring put in place	50 by 2007 100 by 2008	Not put in place at State/ District/ Block levels except Village Health and Sanitation Committees (100 non-achievement by 2009)
7	Facility and household surveys carried out in each and every district of the State	50 by 2007 100 by 2008	Yes. Surveys carried out but not consolidated at State level.
8	Annual State and District specific Public Report on Health published	30 by 2008 60 by 2009 100 by 2010	Not published (100 non-achievement by 2009)
9	Mobile Medical Units provided to each district of the State.	30 by 2007 60 by 2008 100 by 2009	MMUs provided in 385 blocks (Not according to specifications of GOI)

Appendix 1.18

(Reference: Paragraph 1.2.7.2; Page 33)

Financial performance of NRHM in test-checked districts

(Rupees in lakh)

Districts	2005-06			2006-07			2007-08			2008-09		
	Receipt	Expenditure	CB	Receipt	Expenditure	CB	Receipt	Expenditure	CB	Receipt	Expenditure	CB
Erode	7.72	2.83	4.89	333.01	212.89	125.01	707.29	626.77	205.53	1,084.75	644.47	645.81
Kanyakumari	2.18	0.63	1.55	234.37	148.09	87.83	417.24	115.18	389.89	635.07	309.77	715.19
Pudukottai	4.03	1.20	2.83	359.92	216.58	146.17	486.01	299.51	332.67	772.53	402.78	702.42
Vellore	17.11	5.71	11.40	473.92	255.98	229.34	857.94	503.12	584.16	1,257.39	977.88	863.67
Villupuram	10.59	7.83	2.76	504.97	380.45	127.28	868.24	1,046.69	-51.17	1,582.52	667.30	864.05
Kancheepuram	5.65	.60	5.05	375.18	200.36	179.87	585.48	254.79	510.56	918.98	503.73	925.81
Thiruvannamalai	13.29	7.42	5.87	402.99	261.82	147.04	804.57	320.81	630.80	1,330.24	499.27	1,461.77
Total	60.57	26.22	34.35	2,684.36	1,676.17	1,042.54	4,726.77	3,166.87	2,602.44	7,581.48	4,005.20	6,178.72

CB : Closing Balance

Appendix 1.19

(Reference: Paragraph 1.2.7.2; Page 33)

District-wise and year-wise details of components

District	Year	Name of the component
Erode	2006-07	Scan Centre Audit (TA/DA), Bemonc services in 385 PHCs, Hiring of Private Anaesthetist, Referral control room, District Programme Management Unit, IEC, Provision for telephones, Training
	2007-08	Family Health Clinic, Medical Emergency Referral Control room, Hiring of Private Anaesthetist, Hiring of Paediatricians, Repairs in 24x7 PHCs, Telephones, Mobility Support, IEC/JSY (Wall writing), IEC/HMIS, SPMU/BPMU, Gestational Diabetes, Birth Companion, Infection Management, Gender Equity and Upgradation of PHCs to IPHS.
	2008-09	Hiring of Private Anaesthetist, Hiring of Paediatricians, Maintenance Grant to Bemonc PHC, Upgradation of PHCs to IPHS, World Population Day, MMU, Gestational Diabetes and Infection Management
Kanyakumari	2006-07	Support to Medical College, RTI/STI Clinics in 385 Bemonc centres, RCH outreach services, DPMU, IEC.
	2007-08	Bemonc Services, Family Health Clinic, Hiring of Private Anaesthetist, Repairs in 24x7 PHCs, Telephones, Mobility Support, IEC/JSY (Wall writing), IEC/HMIS, SPMU/BPMU, Gestational Diabetes, Birth Companion, Infection Management and Upgradation of PHCs to IPHS.
	2008-09	Hiring of Private Anaesthetist, Hiring of Paediatricians, Maintenance Grant to Bemonc PHC, Upgradation of PHCs to IPHS, World Population Day, MMU, Gestational Diabetes and Infection Management
Pudukottai	2006-07	Scan Centre Audit (TA/DA), Bemonc Services in 385 PHCs, Hiring of Private Anaesthetist, Referral Control Room, DPMU, IEC, Provision for Telephones and Training.
	2007-08	Hiring of Private Anaesthetist, Hiring of Paediatricians, Repairs in 24x7 PHCs, Mobility Support, IEC/JSY (Wall writing), IEC/HMIS, SPMU/BPMU, Training, Gestational Diabetes, Birth Companion, Infection Management, Gender Equity, Upgradation of PHCs to IPHS and Scan Centre Audit.
	2008-09	Hiring of Private Anaesthetist, Hiring of Paediatricians, Maintenance Grant to Bemonc PHC, Upgradation of PHCs to IPHS, World Population Day, Scan Centre Audit, Gestational Diabetes, Infection Management and Gender Equity.
Vellore	2006-07	Scan Centre Audit (TA/DA), Bemonc Services in 385 PHCs, Hiring of Private Anaesthetist, Support to Medical College, DPMU, IEC, Provision for Telephones and Training.
	2007-08	Medical Emergency Referral Control room, Hiring of Private Anaesthetist, Hiring of Paediatricians, Repairs in 24x7 PHCs, Mobility Support, IEC/HMIS, SPMU/BPMU, Gestational Diabetes, Birth Companion, Infection Management, Gender Equity, Upgradation of PHCs to IPHS and Scan Centre Audit.
	2008-09	Hiring of Paediatricians, Maintenance Grant to Bemonc PHC, Upgradation of PHCs to IPHS, World Population Day, Scan Centre Audit, Infection Management and Gender Equity.

Contd..

District	Year	Name of the component
Villupuram	2006-07	Blood Donation, Bemonc Services in 385 PHCs, Hiring of Private Anaesthetist, DPMU, IEC, Provision for Telephones and Training.
	2007-08	Bemonc Services, Hiring of Private Anaesthetist, Hiring of Paediatricians, Telephones, Mobility Support, IEC/JSY (Wall writing), SPMU/BPMU, Gestational Diabetes, Birth Companion, Infection Management, Gender Equity and Upgradation of PHCs to IPHS.
	2008-09	Hiring of Private Anaesthetist, Hiring of Paediatricians, Maintenance Grant to Bemonc PHC, Upgradation of PHCs to IPHS, World Population Day, MMU, Gestational Diabetes, Infection Management and Gender Equity.
Kancheepuram	2006-07	Blood Donation Camp, Scan Centre Audit (TA/DA), Hiring of Private Anaesthetist, DPMU, IEC, Provision for Telephones and Training.
	2007-08	Hiring of Private Anaesthetist, Hiring of Paediatricians, Repairs in 24x7 PHCs, Mobility Support, IEC/JSY (Wall writing), IEC/HMIS, SPMU/BPMU, Gestational Diabetes, Training, Birth Companion, Infection Management, Gender Equity and Upgradation of PHCs to IPHS, Ambulance services for Emergency Transport of Mother and Children.
	2008-09	Hiring of Private Anaesthetist, Hiring of Paediatricians, Maintenance Grant to Bemonc PHC, Upgradation of PHCs to IPHS, World Population Day, Ambulance services for Emergency Transport of Mother and Children and Gestational Diabetes.
Thiruvannamalai	2006-07	Scan Centre Audit (TA/DA), Referral Control Room, RCH outreach service, DPMU, IEC, Provision for Telephones and Training.
	2007-08	Hiring of Private Anaesthetist, Hiring of Paediatricians, Repairs in 24x7 PHCs, Telephones, Mobility Support, IEC/JSY (Wall writing), IEC/HMIS, SPMU/BPMU, Birth Companion, Infection Management, Gender Equity, Upgradation of PHCs to IPHS and Scan Centre Audit.
	2008-09	Hiring of Private Anaesthetist, Hiring of Paediatricians, Maintenance Grant to Bemonc PHC, Upgradation of PHCs to IPHS, World Population Day, Scan Centre Audit, Janani Suraksha Yojana.

Appendix 1.20

(Reference: Paragraph 1.2.7.5; Page 34)

Diversion of NRHM funds

Sl. No.	Diverted by	Month/ Year of diversion	Amount diverted (Rs in crore)	Scheme from which diverted	Scheme to which diverted	Purpose for which diverted
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Mission Director, State Health Society	October 2006	2.57	NRHM ¹ , RCH Component	Varumun Kappom Thittam (State scheme)	For additional Diagnostic Service
2	Mission Director, State Health Society	October 2006	7.00	NRHM funds Reproductive and Child Health	Minor civil works, water supply, purchase of equipment etc in paediatric wards in 15 Government Medical College Hospitals	-
3	Mission Director, State Health Society	September 2007	0.20	NRHM State Programme Management	Dr. Muthulakshmi Reddy Maternity Benefit Scheme (State scheme)	IEC activity
4	Director of Public Health and Preventive Medicines	2007-08	0.90	VBD control activities social mobilisation and purchase of insecticides	Purchase of Jeeps and Vehicles Mounted Fogging Machines (VMFM) (Central scheme)	-
5	Mission Director, State Health Society	2008-09	8.50	NRHM (State share)	To TNMSC for procurement of medicines to District PHCs/ Taluk Hospital	-
6	Mission Director, State Health Society	2008-09	25.05	NRHM (State share)	Purchase of equipment to Medical Colleges at Thiruvarur, Villupuram and Dharmapuri	-
7	Mission Director, State Health Society	2008-09	2.60	NRHM		Purchase of linen and furniture
8	Mission Director, State Health Society through TNHSP	2008-09	4.81	NRHM	Operation of emergency management services (Ambulance Services 108) (World Bank aided Tamil Nadu Health Systems Project)	For the purchase of equipments, consumable and extrication kits for ambulances through EMRI an NGO, (already rejected item)
9	Mission Director, State Health Society	March 2009	2.32	NRHM (State share)	Upgradation of Paediatric Intensive care unit at ICH & HC ² , Chennai	
Total			53.95			

1 National Rural Health Mission (NRHM); Reproductive and Child Health (RCH) Tamil Nadu Health System Project (TNHSP); Emergency Management Research Institution (EMRI) Tamil Nadu Medical Services Corporation (TNMSC); Non-Governmental Organisation (NGO) Primary Health Centre (PHC)

2 ICH & HC (Institute of child Health and Hospital for Children)

Appendix 1.21

(Reference: Paragraph 1.2.8.2; Page 39)

Manpower in test-checked districts

Post	Pudukottai				Erode				Vellore				Villupuram				Kanyakumari			
	S	M	V	P	S	M	V	P	S	M	V	P	S	M	V	P	S	M	V	P
Doctors	124	107	17	14	168	161	7	4	169	163	6	4	196	178	18	9	83	83	--	--
Lab Asst.	31	14	17	55	51	36	15	29	44	35	9	20	68	53	15	22	23	13	10	43
Lab Technician																				
ANM	62	61	1	2	100	85	15	15	91	91	--	--	112	112	--	--	--	--	--	--
Pharmacist	53	49	4	8	68	56	12	18	66	63	3	5	89	81	8	9	32	26	6	19
Drivers	33	25	8	24	47	43	4	9	45	29	16	36	56	44	12	21	23	20	3	13

Post	Kancheepuram				Thiruvannamalai			
	S	M	V	P	S	M	V	P
Doctors	128	123	5	4	192	192	0	--
Lab Asst.	46	45	1	2	73	48	25	34
Lab Technician								
ANM	62	61	1	2	90	88	2	2
Pharmacist	47	35	12	26	81	70	11	14
Drivers	31	22	9	29	45	27	18	40

S: Sanctioned; M: Men in position; V: Vacancy; P: Percentage.

Appendix 1.22

(Reference: Paragraph 1.2.8.2 (ii); Page 40)

Shortages in infrastructure facilities in test-checked districts with reference to IPH standards

Test-checked health centres/ District	Blood Bank	X ray facility	Operation theatre	Labour room	Emergency/ Casualty room	Staff quarters	Separate public utilities [@]
(i) BPHC (three per district)							
Erode	3	3	2	--	3	1	1
Kanyakumari	3	1	--	--	3	--	--
Pudukottai	3	3	1	--	3	--	2
Vellore	3	--	--	--	3	--	--
Villupuram	3	2	1	--	3	1	2
Kancheepuram	3	1	--	--	1	--	1
Thiruvannamalai	3	2	--	--	2	2	1
Total	21 (100)	12 (57)	4 (19)	--	18 (86)	4 (19)	7 (33)
(ii) PHC (six per district)							
Erode	NR	NR	6	--	6	6	6
Kanyakumari	NR	NR	5	--	5	4	2
Pudukottai	NR	NR	6	--	6	5	4
Vellore	NR	NR	6	--	6	6	6
Villupuram	NR	NR	4	--	6	6	3
Kancheepuram	NR	NR	6	--	6	6	1
Thiruvannamalai	NR	NR	6	--	6	6	2
Total	NR	NR	39 (93)	--	41 (98)	39 (93)	24 (57)
(iii) HSC (12 per district)					Examination room		
Erode	NR	NR	NR	0	0	11	12
Kanyakumari	NR	NR	NR	7	12	7	7
Pudukottai	NR	NR	NR	0	4	1	12
Vellore	NR	NR	NR	9	8	8	9
Villupuram	NR	NR	NR	2	2	3	12
Kancheepuram	NR	NR	NR	4	4	7	12
Thiruvannamalai	NR	NR	NR	4	9	4	12
Total	NR	NR	NR	27 (90)	32 (99)	41 (99)	76 (90)

NR: Not required to be provided. @: Separate toilets for men and women
(Figures in brackets represent percentage of shortfall)

Appendix 1.23

(Reference: Paragraph 1.2.9.2; Page 44)

Year-wise performance under routine immunisation programme
in test-checked districts

Sl. No.	Test-checked districts	Percentage of achievement under immunisation during			
		2005-06	2006-07	2007-08	2008-09
1.	Erode	97	96	98	94
2.	Kancheepuram	99	99	99	89
3.	Kanyakumari	98	95	102	92
4.	Pudukottai	98	99	101	86
5.	Thiruvannamalai	100	100	101	98
6.	Vellore	100	101	99	86
7.	Villupuram	100	94	101	78
	State	97	98	99	89

Appendix 1.24

(Reference: Paragraph 1.2.9.2; Page 44)

Year-wise performance under routine immunisation programme in test-checked districts (detailed break-up)

District	Year	Infant target	OPV	DPT	BCG	Measles	Fully Imm.	TTM	
			Achievement					Target	Ach.
Erode	2005-06	40,640	39,730 (98)	39,622 (97)	39563 (97)	39,610 (97)	39,321 (97)	44,704	42,573 (95)
	2006-07	39,811	38,751 (97)	38,708 (97)	39120 (98)	38,509 (97)	38,181 (96)	43,792	43,001 (98)
	2007-08	39,575	39,059 (99)	39,139 (99)	39033 (99)	38,920 (98)	38,907 (98)	43,533	43,258 (99)
	2008-09	39,300	38,036 (97)	38,018 (97)	38095 (97)	37,670 (96)	37,123 (94)	43,230	42,324 (98)
Kanyakumari	2005-06	27,350	27,260 (100)	27,240 (100)	28361 (104)	26,764 (98)	26,720 (98)	30,085	28,348 (94)
	2006-07	27,350	27,329 (100)	27,361 (100)	29431 (108)	26,211 (96)	26,094 (95)	30,085	27,320 (91)
	2007-08	24,922	26,124 (105)	25,986 (104)	28289 (114)	25,345 (102)	25,308 (102)	27,414	26,934 (98)
	2008-09	24,600	24,418 (99)	24,185 (98)	23417 (95)	22,704 (92)	22,650 (92)	27,060	25,570 (94)
Pudukottai	2005-06	28,522	28,745 (101)	28,723 (101)	28523 (100)	28,684 (101)	27,810 (98)	31,375	31,610 (101)
	2006-07	27,564	28,324 (103)	28,198 (102)	27837 (101)	27,894 (101)	27,182 (99)	30,321	29,138 (96)
	2007-08	27,116	27,408 (101)	27,410 (101)	27482 (101)	27,666 (102)	27,387 (101)	29,828	30,666 (103)
	2008-09	27,077	26,457 (98)	26,439 (98)	26502 (98)	25,347 (94)	23,317 (86)	29,785	28,970 (97)
Vellore	2005-06	61,400	61,698 (100)	61,599 (100)	61225 (100)	61,705 (100)	61,675 (100)	67,540	65,328 (97)
	2006-07	61,200	61,902 (101)	61,914 (101)	62013 (101)	61,790 (101)	61,818 (101)	67,320	68,607 (102)
	2007-08	61,300	61,342 (100)	61,346 (100)	60688 (99)	60591 (99)	60,558 (99)	67,430	68,216 (101)
	2008-09	61,300	58,989 (96)	58,989 (96)	58833 (96)	52,609 (86)	52,527 (86)	67,430	66,920 (99)
Villupuram	2005-06	59,720	62,478 (105)	62,484 (105)	64318 (108)	61,279 (103)	59,862 (100)	65,692	66,867 (102)
	2006-07	60,973	62,977 (103)	62,984 (103)	63238 (104)	61,041 (100)	57,179 (94)	67,070	68,704 (102)
	2007-08	60,246	63,468 (105)	63,390 (105)	65009 (108)	63,806 (106)	60,601 (101)	66,271	67,073 (101)
	2008-09	60,208	59,551 (99)	59,576 (99)	60565 (101)	57,278 (95)	46,665 (78)	66,229	65,013 (98)
Kancheepuram	2005-06	56,523	55,551 (98)	55,526 (98)	55025 (97)	55,756 (99)	55,718 (99)	62,175	59,403 (96)
	2006-07	55,242	54,759 (99)	54,755(99)	54320(98)	54,839(99)	54,732(99)	60,766	59,596(98)
	2007-08	55,400	55,053(99)	55,067(99)	54793(99)	54,932(99)	54,787(99)	60,940	60,217(99)
	2008-09	55,706	53,375 (96)	53,347 (96)	53781 (97)	49,546 (89)	49,468 (89)	61,277	58,252 (95)
Thiruvannamalai	2005-06	41,156	41,439 (101)	41,434 (101)	41178 (100)	41,279 (100)	41,226 (100)	45,272	45,696 (101)
	2006-07	40,537	40,966(101)	40,947(101)	40681(100)	40,707(100)	40,574(100)	44,591	45,413(102)
	2007-08	40,623	41,830(103)	41,850(103)	41417(102)	41,339(102)	41,163(101)	44,685	45,458(102)
	2008-09	40,623	41,582 (102)	41,582 (102)	40461 (100)	40,131 (99)	39,960 (98)	44,685	44,938 (101)

(Figures in bracket indicate percentage of achievement to target)

Appendix 1.25

(Reference: Paragraph 1.2.9.3 (i); Page 45)

Performance under family planning methods

Year		Method				
		Sterilisation	IUD insertion	OP users	CC users	MTP
2005-06	ELD	4,50,000	450,000	2,24,000	3,75,000	1,50,000
	Actual	3,80,028	3,94,076	1,36,776	2,02,097	69,333
	<i>per cent</i>	84	88	61	54	46
2006-07	ELD	4,50,000	4,50,000	1,75,000	3,75,000	1,50,000
	Actual	3,56,936	3,59,056	1,28,040	1,41,903	64,742
	<i>per cent</i>	79	80	73	38	43
2007-08	ELD	4,00,000	4,50,000	1,75,000	3,75,000	150,000
	Actual	3,52,856	3,53,149	1,29,515	1,51,234	61,435
	<i>per cent</i>	88	78	74	40	41
2008-09	ELD	4,00,000	4,50,000	1,75,000	3,75,000	1,50,000
	Actual	3,43,971	3,12,447	1,32,318	1,64,954	59,759
	<i>per cent</i>	86	69	76	44	40

ELD: Expected level of demand (Cases required to be covered)

Actual : Number of cases actually covered

Per cent : Achievement with reference to ELD

Appendix 1.26

(Reference: Paragraph 1.2.9.3 (i); Page 45)

Achievements of family welfare programme in sample districts

Sl. No.	Programme	Year	Erode		Kanyakumari		Pudukottai		Vellore		Villupuram		Kancheepuram		Thiruvannamalai	
			ELD	Achievement	ELD	Achievement	ELD	Achievement	ELD	Achievement	ELD	Achievement	ELD	Achievement	ELD	Achievement
1.	IUD insertion	2005-06	18,000	13,763(76)	10,000	94,15(94)	12,000	13,215(110)	22,000	17,045(77)	22,000	19,184(87)	16,000	11,846 (74)	17,000	17,200 (102)
		2006-07	18,000	12,157(68)	10,000	66,54(67)	12,000	11,430(95)	22,000	14,757(67)	22,000	17,542(80)	16,000	12,854 (80)	17,000	14,863 (87)
		2007-08	18,000	13,115(73)	10,000	65,14(65)	12,000	9,666(81)	22,000	13,144(60)	22,000	11,524(52)	16,000	12,638 (79)	17,000	12,124 (71)
		2008-09	17,000	11,407(67)	10,000	5,333(53)	12,000	6,675(56)	22,000	13,434(61)	22,000	10,688 (49)	16,500	11,309 (69)	17,000	9,687 (57)
2.	OP	2005-06	10,200	5,743(56)	5,100	3,676(72)	5,100	3,301(65)	12,800	6,771(53)	13,400	6,344(47)	10,300	5,542 (54)	7,700	5,176 (67)
		2006-07	8,000	4,823(60)	4,000	3,073(77)	4,000	3,236(81)	10,000	4,926(49)	10,500	6,006(57)	8,000	5,522 (69)	6,000	4,916 (82)
		2007-08	8,000	5,771(72)	4,000	2,972(74)	4,000	2,716(68)	10,000	5,182(52)	10,500	6,284(60)	8,000	5,696 (71)	6,000	4,820 (80)
		2008-09	7,500	5,561 (74)	4,500	2,286(51)	4,000	1,859 (47)	9,000	7,126 (79)	8,500	6,654 (78)	8,500	5,208 (61)	6,000	4,529 (76)
3.	CC	2005-06	17,000	8,531(50)	8,500	4,330(51)	8,500	7,329(86)	19,000	11,181(59)	20,000	12,279(61)	16,000	4,399 (27)	13,000	6,220 (48)
		2006-07	17,000	6,476(38)	8,500	3,899(46)	9,500	4,818(57)	19,000	6,324(33)	20,000	6,351(32)	16,000	3,262 (20)	13,000	4,972 (38)
		2007-08	10,700	6,337(37)	8,500	3,537(42)	8,500	4,400(52)	19,000	7,555(40)	20,000	7,919(40)	16,000	3,783 (24)	13,000	4,917 (38)
		2008-09	17,000	6,890 (41)	8,500	3,259 (38)	8,500	3,664 (43)	19,000	10,192 (54)	20,000	7,656 (38)	16,000	41,95 (26)	13,000	4,560 (35)
4.	MTP	2005-06	3,500	2,062(59)	3,500	1,111(32)	2,000	707(35)	6,500	2,969(46)	4,000	1,431(36)	4,500	1,857 (41)	2,500	874 (35)
		2006-07	3,500	1,727(49)	3,500	1,167(33)	2,000	631(32)	6,500	2,315(36)	4,000	1,244(31)	4,500	1,477 (33)	2,500	689 (28)
		2007-08	3,500	1,796(51)	3,500	846(24)	2,000	618(31)	6,500	2,484(38)	4,000	1,380(35)	4,500	1,163 (26)	2,500	522 (21)
		2008-09	3,500	1,615 (46)	3,500	907 (26)	2,000	571 (29)	6,500	2,420 (37)	4,000	1,405 (35)	4,500	1,171 (26)	2,500	395 (16)

ELD: Expected level of demand

(Figures in brackets represent percentage of achievement to target)

Appendix 1.27

(Reference: Paragraph 1.2.9.3 (i); Page 45)

Sterilisation performance

Year	Target	Vasectomy		Tubectomy		Laparoscopic sterilisation		Total	Percentage to target
		No.	P	No.	P	No.	P		
2005-06	4,50,000	629	0.2	3,34,175	88	45,224	12	3,80,028	84
2006-07	4,50,000	735	0.2	3,17,303	89	38,899	11	3,56,936	79
2007-08	4,00,000	1,353	0.4	3,12,164	88	39,339	11	3,52,856	88
2008-09	4,00,000	2,462	0.7	3,04,133	88	37,376	11	3,43,971	86

No. : Number of cases

P : Percentage to total achievement

Appendix 1.28

(Reference: Paragraph 1.2.11.2; Page 50)

Infant and maternal deaths

Year	Infant deaths				Maternal Deaths
	0-7 days	8-28 days	29-365 days	Total	
2004-05	11,653	3,298	6,947	21,898	1,220
2005-06	10,160	2,899	6,178	19,237	1,030
2006-07	9,198	2,742	4,880	16,820	1,020
2007-08	9,370	2,671	5,144	17,185	1,007
2008-09	8,395	2,472	4,710	15,577	854
Total	48,776	14,082	27,859	90,717	5,131

Appendix 1.29

(Reference: Paragraph 1.2.11.2; Page 50)

Administration of IFA tablets

Year	No. of Ante Natal Mothers registered (Target)	No. of Ante-Natal Mothers who received IFA administration (Achievement)*
2005-06	11,89,607	7,33,241 (62)
2006-07	11,79,982	8,70,201 (74)
2007-08	11,50,285	5,69,810 (50)
2008-09	11,51,652	6,20,211 (54)
Total	46,71,526	27,93,463 (60)

* Figures in brackets indicate percentage

Appendix 1.30

(Reference: Paragraph 1.2.12.1 (iii); Page 51)

Meetings of DHM and DHS in test-checked districts

District	DHM (yearly twice)			GB of DHS (yearly twice)			EC of DHS (every month)			Date of registration of DHS
	P	A	S	P	A	S	P	A	S	
Erode	5	0	5	5	1	4	33	0	33	26.06.2006
Kancheepuram	5	0	5	5	6	0	33	13	20	12.06.2006
Kanyakumari	5	0	5	5	0	5	34	4	30	26.05.2006
Pudukottai	5	0	5	5	1	4	33	0	33	26.06.2006
Thiruvannamalai	5	0	5	5	1	4	34	11	23	03.05.2006
Vellore	5	0	5	5	0	5	34	0	34	18.05.2006
Villupuram	5	0	5	5	0	5	32	2	30	05.07.2006
Total	35	0	35	35	9	27	233	30	203	

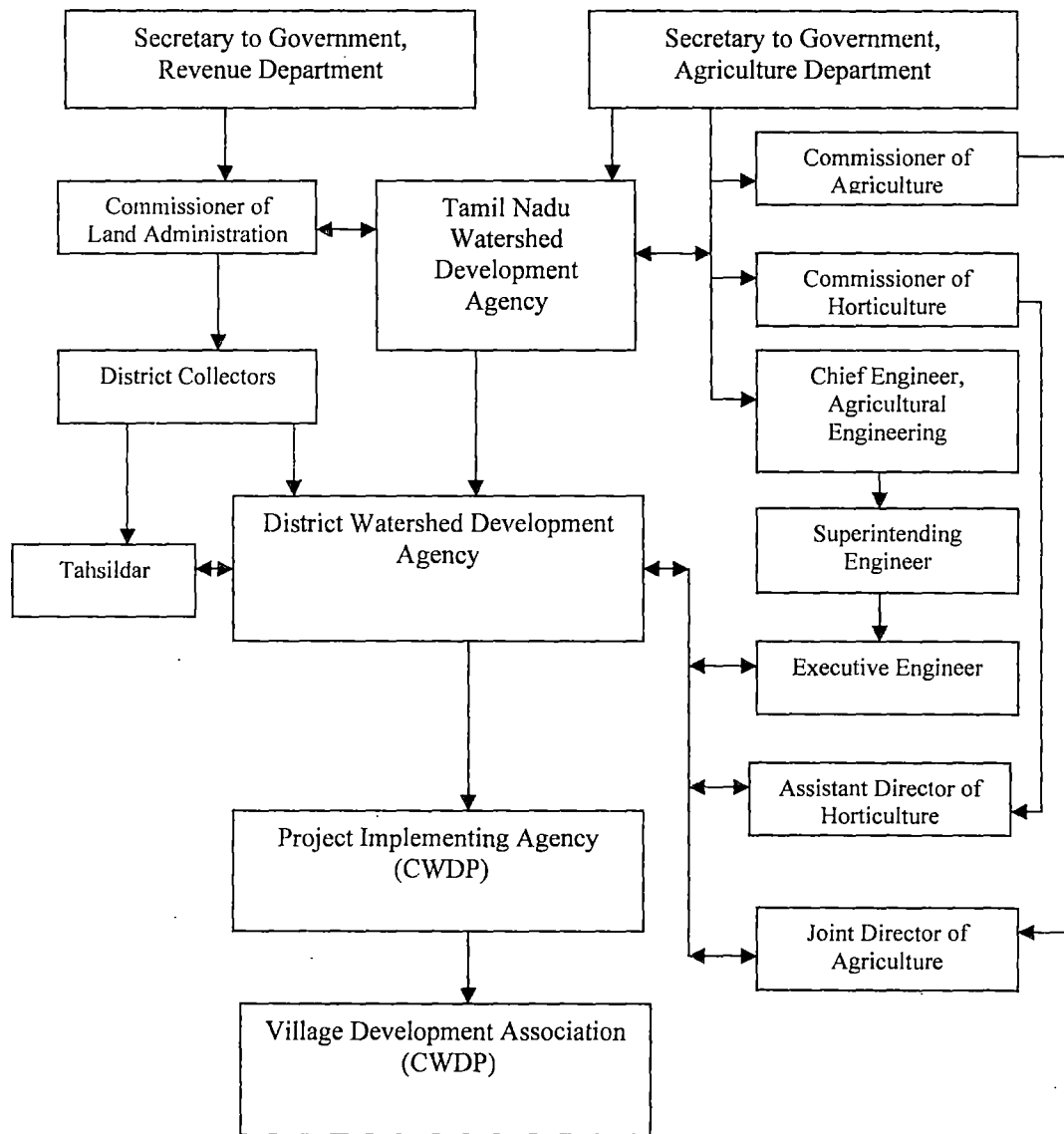
(Shortfall is arrived at taking into account the prescribed/actual meetings held from the date of registration of respective societies)

P : Prescribed; A: Actual; S: Shortfall.

Appendix 1.31

(Reference : Paragraph 1.3.2 ; Page 56)

Organisational chart of CWDP



Appendix 1.32

(Reference : Paragraph 1.3.3 ; Page 56)

List of offices test-checked for performance audit of CWDP

Department	Government and State levels	District level *	Sub-district level (Name of the district is given within brackets)
Revenue	State Government Secretariat and Commissioner of Land Administration	District Collectors of six test-checked districts	Taluk offices: Coimbatore North,, Pollachi, Udumalpet (Coimbatore), Cheyyur, Madurantakam (Kancheepuram), Krishnagiri, Uthangarai (Krishnagiri) Andipatti (Theni), Manapparai, Musiri, Srirangam (Trichirappalli) and Chengam (Thiruvannamalai) – 12 offices.
Agriculture	State Government Secretariat Commissioner of Agriculture	Joint Directors of Agriculture in six test-checked districts	Assistant Directors of Agriculture: Periyannayakanpalayam, Sarkarsamakulam, Palladam, Udumalpet (Coimbatore) Kancheepuram, Madurantakam, Uthiramerur Walajabad (Kancheepuram), Bargur, Kaveripattinam, Krishnagiri, Uthangarai (Krishnagiri), Andipatti, Cumbum, Kadamalaikundu, Theni (Theni), Lalgudi, Musiri, Thottiyam, Thuraiyur (Trichirappalli), Arni, Chengam, Cheyyar and Thiruvannamalai (Thiruvannamalai) – 24 offices.
Horticulture	Commissioner of Horticulture	Joint Directors of Horticulture in six test-checked districts	Assistant Directors of Horticulture Periyannayakanpalayam (Coimbatore) Kancheepuram (Kancheepuram), Bargur (Krishnagiri), Theni (Theni) Thiruverumbur (Trichirappalli), Thiruvannamalai (Thiruvannamalai) – six offices.
Agricultural Engineering	Chief Engineer (Agricultural Engineering)	Executive Engineers in six test-checked districts	Assistant Executive Engineers of Sub Divisions: Coimbatore, Tiruppur, Pollachi (Coimbatore) Nandanam, Madurantakam, Kancheepuram (Kancheepuram), Krishnagiri (Krishnagiri), Theni, Uthamapalayam (Theni), Trichirappalli, Lalgudi, Musiri (Trichirappalli), Thiruvannamalai (Thiruvannamalai)- 13 offices.
Agency	Tamil Nadu Watershed Development Agency	District Watershed Development Agencies in six test-checked districts	Project Implementing Agencies (Assistant Directors of Agriculture as shown against Agriculture Department) and Village Development Agencies under them – 24 offices.

* In the six test-checked districts of Coimbatore, Kancheepuram, Krishnagiri, Theni, Trichirappalli and Thiruvannamalai.

Appendix 1.33

(Reference : Paragraph 1.3.7 ; Page 59)

Fund utilisation by test-checked Districts

(Rupees in lakh)

District	Year	Opening balance	Receipts	Total available funds	Scheme expenditure	Other expenditure	Total expenditure	Closing Balance	Percentage of scheme expenditure to total available funds
Coimbatore	2004-05	37.05	122.13	159.18	49.34	-0.09	49.25	109.93	
	2005-06	109.93	113.71	223.64	151.43	0	151.43	72.21	
	2006-07	72.21	29.08	101.29	10.66	60.86	71.52	29.77	
	2007-08	29.77	44.88	74.65	45.39	28.09	73.48	1.17	
	Total			346.85	256.82				74
Kancheepuram	2004-05	53.90	129.23	183.13	61.01	25.58	86.59	96.54	
	2005-06	96.54	254.63	351.17	174.43	80.00	254.43	96.74	
	2006-07	96.74	7.38	104.12	53.71	4.21	57.92	46.20	
	2007-08	46.20	51.10	97.30	8.23	54.00	62.23	35.07	
	Total			496.24	297.38				60
Krishnagiri	2005-06	51.00	0	51.00	43.77	0	43.77	7.23	
	2006-07	7.23	3.69	10.92	6.40	0	6.40	4.52	
	2007-08	4.52	1.64	6.16	0	5.00	5.00	1.16	
	Total			56.33	50.17				89
Theni	2004-05	53.61	164.12	217.73	93.15	0	93.15	124.58	
	2005-06	124.58	68.28	192.86	148.95	0	148.95	43.91	
	2006-07	43.91	64.42	108.33	45.43	0	45.43	62.90	
	2007-08	62.90	48.29	111.19	21.44	39.07	60.51	50.68	
	Total			398.72	308.97				77
Trichirappalli	2004-05	107.41	137.91	245.32	75.84	0	75.84	169.48	
	2005-06	169.48	145.61	315.09	234.84	16.39	251.23	63.86	
	2006-07	63.86	91.33	155.19	23.19	132.00	155.19	0	
	2007-08	0	9.34	9.34	4.02	0.45	4.47	4.87	
	Total			491.60	337.89				69
Thiruvannamalai	2004-05	84.96	170.86	255.82	90.39	30	120.39	135.43	
	2005-06	135.43	95.46	230.89	217.81	12.52	230.33	0.86	
	2006-07	0.86	97.74	98.6	35.03	7.46	42.49	56.11	
	2007-08	56.11	1.69	57.8	9.81	0	9.81	47.98	
	Total			450.71	353.04				78
		Total		2,240.45 or 22.40 crore	1,604.27 or 16.04 crore	495.54 or 4.95 crore	2,099 or 20.99 crore	140.93 or 1.41 crore	

Note: Other expenditure comprises funds transferred to other District Agencies and part of unspent balances refunded to TN Watershed Agency

Appendix 1.34

(Reference : Paragraph 1.3.8.1 ; Page 61)

Assignment and development of wastelands as of 31 March 2009
(District-wise data)

Sl. No.	District	Area in hectares*			
		Assignment of un-encroached Government land	Assignment of Government lands under encroachment	Private wastelands taken up	Total
1	Coimbatore	40	61	1,255	1,356
2	Cuddalore	189	934	556	1,679
3	Dharmapuri	917	3,180	2,656	6,753
4	Dindigul	692	770	1,606	3,068
5	Erode	255	344	725	1,324
6	Kancheepuram	28	91	2,031	2,150
7	Kanyakumari	35	273	0	308
8	Karur	141	212	2,364	2,717
9	Krishnagiri	703	950	619	2,272
10	Madurai	505	713	5,519	6,737
11	Nagapattinam	137	156	342	635
12	Namakkal	211	717	226	1,154
13	Perambalur	632	1,190	927	2,749
14	Pudukottai	1,621	1,889	751	4,261
15	Ramanathapuram	461	403	3,869	4,733
16	Salem	651	1,305	647	2,603
17	Sivaganga	350	467	2,323	3,140
18	Thanjavur	116	1,034	78	1,228
19	Theni	329	669	3,968	4,966
20	Thoothukudi	631	163	4,018	4,812
21	Trichirapalli	609	431	2,037	3,077
22	Tirunelveli	776	176	4,212	5,164
23	Thiruvallur	349	558	2,448	3,355
24	Thiruvannamalai	493	1,612	1,239	3,344
25	Thiruvarur	40	255	338	633
26	Vellore	188	1,121	836	2,145
27	Villupuram	476	1,076	2,249	3,801
28	Virudhunagar	204	30	3,799	4,033
Total		11,779	20,780	51,638	84,197

(Source: Data furnished by the Commissioner of Land Administration)

* Figures are as per data furnished by Revenue Department. It differs from 83,220 hectares furnished by Tamil Nadu Watershed Agency. The two agencies have not reconciled their figures.

Appendix 1.35

(Reference : Paragraph 1.3.9.3 ; Page 64)

Uncultivable land distributed under CWDP

(In hectares)

District	Total extent of land distributed in the district	Uncultivable land distributed under CWDP	
		Government land with out encroachment	Government land under encroachment
Sample districts			
Coimbatore	1,356	-	-
Kancheepuram	2,150	-	-
Krishnagiri	2,272	6.20	-
Theni	4,966	1.66	38.55
Trichirappalli	3,078	54.86	23.50
Thiruvannamalai	3,344	142.19	163.32
Other districts			
Dindigul	3,068	35.08	30.02
Salem	2,603	12.60	43.12
Cuddalore	1,679	14.20	-
Dharmapuri	6,753	932.59	-
Vellore	2,145	87.44	-
Total	33,414	1,286.82	298.51

Note: Information were made available only for six test-checked districts and five other districts

Appendix 1.36

(Reference : Paragraph 1.4.7.1 ; Page 80)

Errors/Deficiencies pointed out in earlier Audit Reports

Sl. No.	Type of error/deficiency	Number of cases
1.	Land details available in 'A' register but ownership details not available in Chitta	7,396
2.	Private lands for which ownership details were available in Chitta but land details were not available in 'A' Register	3,14,207
3.	Land tax not agreeing with the product of the extent of land and rate of tax	98,457
4.	Private lands for which tax was not indicated	10,119
5.	Duplications in 'A' Register	590
6.	Duplications in Chitta	8,969
7.	Owner/Relative name remaining either blank or having meaningless information	27,762
8.	Land category not represented by the authorised codes '1', '2' or '3' representing 'Government owned', 'Private' or 'Inam' respectively	58,954
9.	Type of land not indicated by the authorised codes '1' to '7' representing wet land, dry land etc.	42,165
10.	Patta number the only link between 'A' Register and Chitta, in respect of private lands, not furnished	27,156
11.	Extent of sub-divisions of land given as zero in 'A' Register	3,181
12.	Private lands indicated as Government land	67,847
13.	Land Tax indicated against Government lands	57,685
14.	Duplication of patta numbers within a village	4,008
15.	Indication of irrelevant relationship between a land owner and his/her relative	7,52,803
16.	Type of relationship remained blank	2,43,584
17.	Name of the relatives not furnished	17,162

Appendix 2.1

(Reference: Paragraph 2.2.1; Page 90)

Expenditure on purchase of furniture for schools

Sl. No.	Description of item	Quantity (In Nos.)	Rate given by TANSI (Rs)	Rate given by TNKVIB (Rs)	Rate of TANSI excess by (Rs) per piece	Quantity Supplied by TANSI (In Nos.)	Total excess (Rs) (6) x (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Steel Desk 5'x1 ¼'x2 ½' made out of 1" Dia ERW pipe and 20 GCR sheet (to accommodate 4 students with bottom shelf)	1	2,080	1,800	280	1,90,140	5,32,39,200
2.	Teachers Table (Steel with one drawer and cupboard on one side only 42"x24"x30" ht.	1	2,542	2,350	192	15,845	30,42,240
	Total						5,62,81,440

Appendix 2.2

(Reference: Paragraph 2.4.1; Page 100)

Research and Development funds lapsed to HUDCO

Sl.No.	Loan A/C No.	Name of the Scheme	Loan amount (Rs)	Date of loan	R&D charges remitted (Rs)
1.	17457	Indira Awas Yojana (Kutch)2002-03	3,94,88,000	23.3.2002	98,720
2.	17458	Indira Awas Yojana (new) 2002-03	52,74,35,000	23.3.2002	13,18,587
3.	17463	Thanniraivu Thittam (2002-03)	24,00,00,000	23.3.2002	6,00,000
4.	17478	Anna Marumalarchi Thittam (2003-04)	69,25,32,000	23.3.2002	17,31,330
5.	18139	Indira Awas Yojana (New)	67,07,29,000	15.03.2004	16,76,823
Total					54,25,460 or 54.25 lakh

Appendix 2.3

(Reference: Paragraph 2.4.3; Page 102)

Year-wise position of the outstanding Inspection Reports and
audit paragraphs

Year	Inspection Reports	Audit Paragraphs
Up to 2004-05	119	186
2005-06	394	782
2006-07	691	1,490
2007-08	1,175	3,679
2008-09	1,104	5,258
Total	3,483	11,395

Appendix 2.4

(Reference: Paragraph 2.4.3; Page 102)

Statement showing number of Inspection Reports for which first replies not received

Sl.No.	Department	Inspection Reports	Audit Paragraphs
1	Health and Family Welfare	116	690
2	Law	16	44
3	Industries	2	4
4	Fisheries & Animal Husbandry	13	44
5	Home, Prohibition and Excise	10	100
6	Commercial Taxes	1	2
7	Town and Country Planning	1	9
8	Higher Education	28	225
9	Tourism & Culture	11	36
10	Archaeology	4	15
11	Transport	6	9
12	Youth and Sports Development	1	3
13	Planning & Development	4	24
14	Tamil Development and Religious Endowment	12	26
15	Handlooms, Handicrafts, Textiles and Khadi	3	11
16	School Education	21	108
17	Revenue	22	165
18	Labour & Employment	7	22
19	Agriculture	104	373
20	Co-operation & Consumer Protection	32	115
21	Social Welfare	28	135
22	Backward Classes, Most Backward Classes & Minority Welfare	3	20
23	Adi Dravidar & Tribal Welfare	9	102
24	Public Works Department	5	10
Total		459	2,292

Appendix 2.5

(Reference: Paragraph 2.4.3; Page 103)

Serious irregularities pending settlement as of March 2009

I Public Works Department

(Rupees in lakh)

Sl. No.	Name of irregularity	No. of Paragraphs	Amount
1	Excess payments	6	5.50
2	Excess over estimates	2	6.17
3	Want of sanctions	0	0
4	Irregular expenditure to be recovered	7	78.71
5	Expenditure to be ratified by Government/Chief Engineer	4	158.02
6	Overpayment of salary	10	4.74
7	Losses, shortages, theft, stock not handed over etc.	4	142.29
8	Recovery from contractors	1	2.52
9	Advance payments pending adjustment	1	3.95
10	Miscellaneous irregularities / objections with money value	25	1,512.50
	Total	60	1,914.40

II Agriculture Department

(Rupees in lakh)

Sl.No.	Nature of objection	No. of Paragraphs	Money value
1	Hire charges pending collection	13	252.56
2	Surrender of funds	14	1,116.79
3	Non-credit of lapsed deposits to Government Account	7	4.37
4	E.M.D. not returned	10	13.17
5	Non-utilisation of funds	21	1,840.42
6	Incorrect/excess payment of pay and allowances	7	3.01
7	Time barred chemical/seeds held in stock	9	56.06
8	Diversion of funds	2	43.68
	Total	83	3,330.06

III Adi Dravidar and Tribal Welfare Department

(Rupees in lakh)

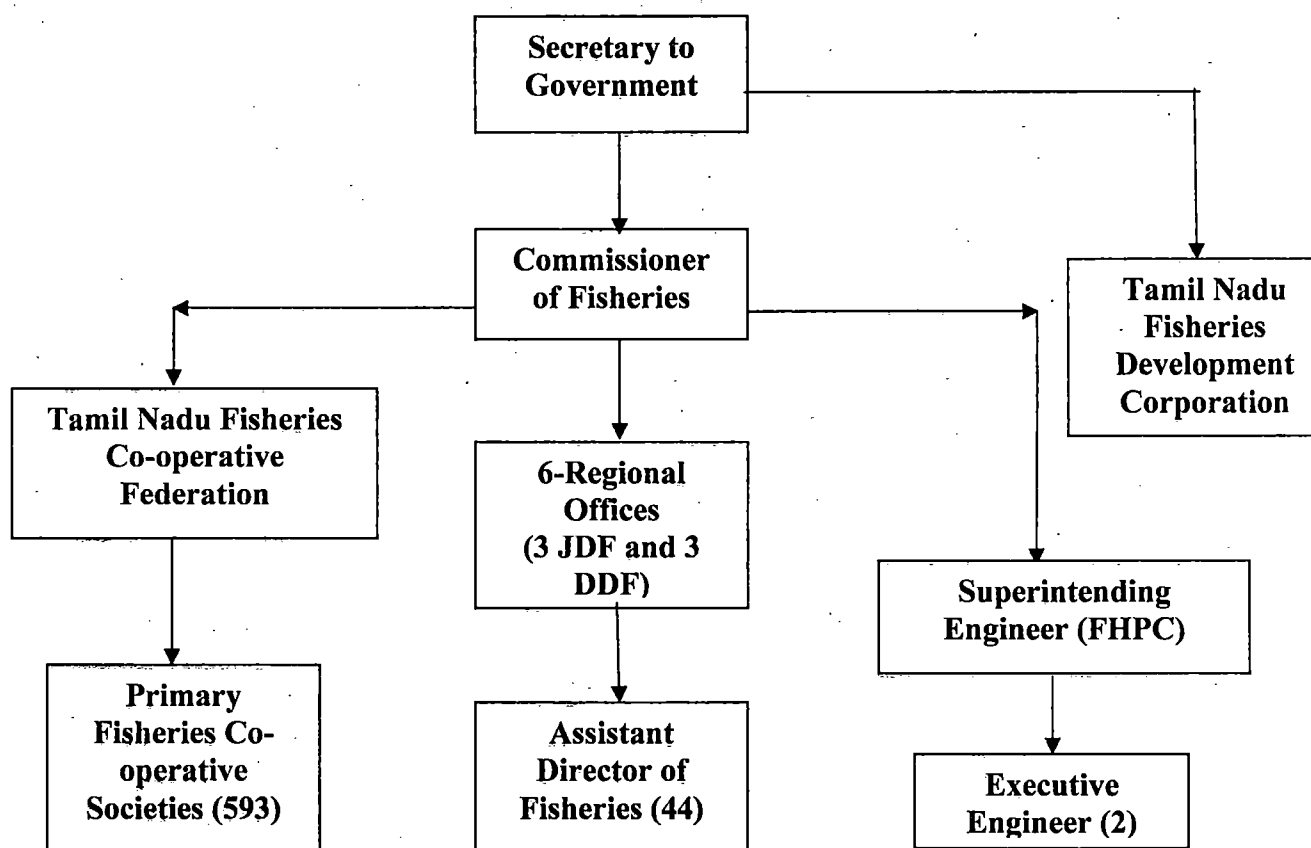
Sl.No.	Nature of irregularity	No. of Paragraphs	Money value
1	Incorrect sanction of pay, increment and allowances	64	15.38
2	Non-recovery of loan scholarship/education loan	15	4,529.33
3	Excess payment of scholarship/allowance	21	179.16
4	Non-utilisation of funds	19	392.82
5	Non-receipt of utilisation certificates	23	1,598.49
6	Non-remittance of undisbursed scholarship	2	16.81
	Total	144	6,731.99

Abstract

(Rupees in lakh)

Sl.No.	Name of the Department	No. of Paragraphs	Amount involved
1	Public Works Department	60	1,914.40
2	Agriculture Department	83	3,330.06
3	Adi Dravidar and Tribal Welfare Department	144	6,731.99
	Total	287	11,976.45

Appendix 3.1
(Reference: Paragraph 3.1.2; Page 107)
Organisational chart of Fisheries Department



Appendix 3.2
(Reference: Paragraph 3.1.6.7; Page 112)

Details of amounts drawn in advance

Sl. No.	Year	Amount (Rupees in crore)	Purpose for which amount was sanctioned	Date of drawal from Government account	Office to which disbursed and date of disbursal	Period of expenditure	Balance amount as of May 2009	Agency with whom funds are available
1.	2004-05	0.13	Alternate livelihood scheme (sea weed)	March 2005	TAFCOFED in a separate account	June 2005 to March 2008. (Rs 4.57 lakh also remitted to government account in December 2007).	Rs 2.53 lakh	Drawn by Commissioner of Fisheries and sent to TAFCOFED by cheque in April 2005.
2.	2004-05	0.13	Alternate livelihood scheme (Fattening of mud crab and lobsters)	March 2005	TAFCOFED in a separate account	August 2005 to February 2006	Nil	Drawn by Commissioner of Fisheries and transferred to TAFCOFED and kept in PD account of TAFCOFED
3.	2004-05	3.60	Subsidy for procurement of out board engine by fishermen	March 2005	March 2005 Regional office	2004-05 to 2007-08	NA	Of Rs 7.20 crore, the Regional offices refunded Rs 2.22 crore in March 2006. after getting fresh sanction the Commissioner of Fisheries drew the amount of Rs 2.10 crore in March 2007
4.	2004-05	1.28		March 2005	TAFCOFED			
5.	2005-06	3.60		January 2006	March 2006 Regional offices			
6.	2005-06	8.14	Free housing scheme	March 2006 (credited into PD account of Commissioner of Fisheries in July 2006)	Rs 5.33 crore disbursed to Director of Rural Development in February 2007 (Rs 0.09 crore) to June 2007 (Rs 5.24 crore)	April 2008 to February 2009	Rs 7.44 crore	The Director of Rural Development refunded the entire amount of Rs 5.34 crore in October 2007. After keeping the amount in PD account, the Commissioner of Fisheries disbursed (March 2008) Rs 7.31 crore to the two Fishing Harbour Project Divisions of the Fisheries department.
7.	2006-07	0.25	Centenary celebration of the department	March 2007 (PD account of Commissioner of Fisheries)	--	May 2007 (Rs 0.37 lakh)	Rs 24.63 lakh	As of July 2009, the balance amount was kept in PD account.
8.	2006-07	0.04	Sewerage seed fish culture	October 2006	Regional Joint Director of Fisheries, Chennai PD account	--	--	The Regional Joint Director of Fisheries, Chennai refunded the amount to Commissioner of Fisheries by way of cheque in March 2008.
9.	2007-08	0.20	Artificial reef	August 2007 (PD account of Commissioner of Fisheries)	TAFCOFED March 2008	March 2009	--	TAFCOFED refunded the amount to Commissioner of Fisheries in December 2008 and Commissioner of Fisheries after keeping the amount in his PD account transferred the amount to CMFRI on 30 th March 2009.
10.	2007-08	7.03	NADP	March 2008 (PD account of Commissioner of Fisheries)	--	April 2008 to March 2009	Rs 35.30 lakh	--
11.	2007-08	0.08	Improvement of Fisheries central library	July 2007 (PD account of Commissioner of Fisheries)	--	February 2008 to March 2009	Rs 1.98 lakh	--
Total		24.48						

Appendix 3.3

(Reference: Paragraph 3.1.8.2; Page 118)

Details of fish seed production

Name of the district	Fish seed production		
	Requirement	Production	percentage
	(in lakhs)		
Coimbatore	110.00	34.00	31
Dharmapuri	25.69	9.50	37
Erode	195.00	35.00	18
Krishnagiri	90.49	42.50	47
Namakkal	17.36	Nil	Nil
Salem	122.00	45.00	37

Appendix 3.4
(Reference: Paragraph 3.1.8.3; Page 118)
Targets and achievements of fish seed production

Name of the centre	2004-05			2005-06			2006-07			2007-08			2008-09		
	Target	Achievement	P	Target	Achievement	P	Target	Achievement	P	Target	Achievement	P	Target	Achievement	P
	(in lakh)			(in lakh)			(in lakh)			(in lakh)			(in lakh)		
Poondi	115.00	43.90	38.2	115.00	45.15	39.3	120.00	53.80	44.8	125.00	50.00	40.0	125.00	95.75	76.6
Lalpet	137.50	52.50	38.2	137.50	23.25	16.9	170.00	23.25	13.7	170.00	0.00	0.0	170.00	21.00	12.4
Karanthai	156.00	156.35	100.2	156.00	115.25	73.9	150.00	150.55	100.4	150.00	151.50	101.0	170.00	170.00	100.0
Agarapettai	80.00	26.65	33.3	80.00	81.00	101.3	80.00	80.50	100.6	85.00	85.50	100.6	90.00	85.00	94.4
Manimuthar	715.00	257.10	36.0	715.00	508.05	71.1	850.00	389.00	45.8	850.00	531.66	62.5	875.00	303.40	34.7
Manimuthar NFSF															
Bhavanisagar	860.00	824.00	95.8	860.00	529.50	61.6	950.00	520.00	54.7	950.00	525.00	55.3	950.00	560.60	59.0
Mettur	600.00	318.00	53.0	600.00	310.25	51.7	610.00	313.00	51.3	610.00	346.75	56.8	660.00	374.00	56.7
Gadana	86.00	17.25	20.1	86.00	23.00	26.7	95.00	30.25	31.8	95.00	5.50	5.8	95.00	7.25	7.6
Total	2,749.50	1,695.75	61.7	2,749.50	1,635.45	59.5	3,025.00	1,560.35	51.6	3,035.00	1,695.91	55.9	3,135.00	1,617.00	51.6

P : Percentage

(Source: Departmental records)

Appendix 3.5
(Reference: Paragraph 3.1.8.4; Page 119)

Details of production of fingerlings

Year	Target	Achievement	Percentage
	(Numbers in lakh)		
2004-05	333.80	161.28	48.3
2005-06	336.80	161.24	47.9
2006-07	361.00	151.76	42.0
2007-08	362.00	187.89	51.9
2008-09	423.30	193.65	45.7

Appendix 3.6
(Reference: Paragraph 3.1.8.4; Page 119)

(a) Status of breeder pond

Sl. No	Name of the reservoir	Total no.	Area in m ²	Usable condition		Unusable condition		Under repair but in use	
				No of ponds	Area in m ²	No of ponds	Area in m ²	No of ponds	Area in m ²
1	Vaigai dam	3	900	1	300	2	600	--	--
2	Manjalar dam	4	2,376	--	--	4	2,376	--	--
3	Mettur dam	8	8,200	4	4,000	--	--	4	4,200
4	Hoganekal	2	2,250	--	--	--	--	2	2,250
5	Chinnar	2	1,600	--	--	1	800	1	800
6	Pamban	2	1,600	2	1,600	--	--	--	--
7	Krishnagiri	9	7,147	3	2,850	--	--	6	4,297
8	Bhavanisagar – National fish farm	4	22,800	2	11,400	2	11,400	--	--
9	Bhavanisagar – Punga fish farm	4	12,432	4	12,432	--	--	--	--
10	Bhavanisagar – Old fish farm	5	5,000	2	3,000	--	--	3	2,000
11	Ooty – Wilson farm	4	648	--	--	4	648	--	--
12	Ooty – Avalachi	1	130	--	--	1	130	--	--
13	Chembarambakkam	3	1,350	--	--	3	1,350	--	--
14	Lalpet	9	4,473	6	1,605	3	2,868	--	--
	Total	60	70,906	24	37,187	20	20,172	16	13,547

Contd..

(b) Status of nursery ponds

Sl. No.	Name of the reservoir	Total no.	Area in m ²	Usable condition		Unusable condition		Under repair but in use	
				No. of ponds	Area in m ²	No. of ponds	Area in m ²	No. of ponds	Area in m ²
1	Vaigai dam	62	3,030	56	2,562	6	468	-	-
2	Majalar dam	40	1,747	39	1,712	1	35	-	-
3	Mettur dam	45	6,478	19	2,924	3	180	23	3,374
4	Hoganekal	5	545	-	-	-	-	5	545
5	Chinnar	14	4,782	-	-	10	3,982	4	800
6	Pamban	5	595	4	420	-	-	1	175
7	Krishnagiri	72	20,166	45	8,384	-	-	27	11,782
8	Sholiyar	10	351	-	-	10	351	-	-
9	Bhavanisagar – National fish farm	139	28,000	4	825	135	27,175	-	-
10	Bhavanisagar – punga fish farm	21	3,780	-	-	21	3,780	-	-
11	Ooty – Wilson farm	7	345	-	-	7	345	-	-
12	Ooty – Avalachi	4	120	-	-	4	120	-	-
13	Chembarambakkam	16	510	16	510	-	-	-	-
14	Poondi	36	1,201	11	500	25	701	-	-
15	Sathaiyar	20	360	14	252	6	108	-	-
16	Lalpet	15	9,795	13	9,561	2	234	-	-
17	Vidoor dam	6	1,008	2	336	4	672	-	-
18	Gomuki dam	4	297	-	-	4	297	-	-
	Total	521	83,110	223	27,986	238	38,448	60	16,676

Contd..

(c) Status of rearing ponds

Sl. No.	Name of the reservoir	Total no.	Area in m ²	Usable condition		Unusable condition		Under repair but in use	
				No of ponds	Area in m ²	No of ponds	Area in m ²	No of ponds	Area in m ²
1	Manjalar dam	20	3142	14	2142	6	1,000	0	0
2	Hoganekal	1	174	0	0	0	0	1	174
3	Krishnagiri	6	2,400	6	2,400	0	0	0	0
4	Bhavanisagar – National fish farm	35	21,000	27	16,200	8	4,800	0	0
5	Bhavanisagar – punga fish farm	18	3,888	12	2592	6	1,296	0	0
6	Ooty	7	452	0	0	7	452	0	0
7	Sathaiyar	2	900	0	0	2	900	0	0
8	Vidoor dam	2	743	-	-	2	743	-	-
	Total	91	32,699	59	23,334	31	9,191	1	174

Total Area of the ponds (a) + (b) + (c) = 70,906 + 83,110 + 32,699 = 1,86,715

Area of ponds in Unusable condition (a) + (b) + (c) = 20,172 + 38,448 + 9,191 = 67,811

Percentage = $(67,811/1,86,715) \times 100 = 36.31$ or 36 per cent

Appendix 3.7
(Reference: Paragraph 3.1.8.8; Page 121)

Targets and achievements under IAMWARM scheme

Sl. No.	Items	Physical target	Amount sanctioned (Rs in lakh)	Achievement as of March 2009	
				Physical	Financial (Rs in lakh)
1.	Aquaculture in farm ponds	418	92.62	265 taken over from AED (in 232 stocked)	32.84
2.	Establishing Fish seed banks	11	247.60	Seed rearing activity initiated only in 3 seed banks	148.89
3.	Fish seed rearing in cages	74	31.32	5	15.96
4.	Ornamental fish culture	9	40.77	Estimates approved for 9; work in progress in 1 place	17.30
5.	Improvement to Government fish seed farm	4	198.66	All 4 works were in progress	124.51
6.	Supply of fishing implements	55	22.90	55	21.81
7.	Kiosks	6	27.00	6	27.42
8.	Aquaculture in irrigation tanks	2942 Ha	29.42	1485.20 Ha	13.67
	Total		690.29		402.40

(Source : AED Agricultural Engineering Department)

Appendix 3.8
(Reference: Paragraph 3.1.10.3; Page 126)

Details of training imparted by Assistant Directors of Fisheries

Sl No.	Name of the office	No of fishermen trained										Total
		2004-05		2005-06		2006-07		2007-08		2008-09		
		MFC	JMC	MFC	JMC	MFC	JMC	MFC	JMC	MFC	JMC	
1	Nagapattinam	-	-	-	-	10	12	-	-	NA	NA	22
2	Mandabam	-	-	3	5	-	-	-	-	NA	NA	8
3	Thoothukudi	-	19	-	13	-	23	-	13	-	9	77
4	Colachal	-	-	-	-	-	15	-	-	-	-	15
	Total	-	19	3	18	10	50	-	13	-	9	122

MFC : Modern Fishing method Course JMC : Junior Mechanic Course NA: Not Available

(Source : Departmental records)

**Glossary of abbreviations adopted for NRHM
(Reference: Paragraph 1.2.5; Page 30)**

ASHA	Accredited Social Health Activist
AYUSH	Ayurvedic, Yoga, Unani, Siddha and Homoeopathy
AELD	Annual ELD
BeMONC	Basic Emergency Obstetrics & New Born Care
CBR	Crude Birth Rate
CC	Conventional Contraceptive
CDR	Crude Death Rate
CHC	Community Health Centre
CPR	Couple Protection Rate
DDHS	Deputy Director of Health Services
DFW	Director of Family Welfare
DFWB	District Family Welfare Bureau
DHM	District Health Mission
DHS	District Health Society
DIMH	Director of Indian Medicine & Homoeopathy
DME	Director of Medical Education
DMRHS	Director of Medical & Rural Health Services
DPHPM	Director of Public Health & Preventive Medicine
ELCOT	Electronics Corporation of Tamil Nadu
ELD	Expected Level of Demand
E-Pills	Emergency Contraceptive Pills
FRU	First Referral Unit
HOB	Higher Order Births
HSC	Health Sub Centre
HUD	Health Unit District
IDSP	Integrated Disease Surveillance Programme
IEC	Information, Education and Communication
IMR	Infant Mortality Rate
IPHS	Indian Public Health Standards
ISM	Indian System of Medicine
IUD	Intra Uterine Device
JDHS	Joint Director of Health Services
JSY	Janani Suraksha Yojana
MD	Mission Director

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MMR	Maternal Mortality Rate
MMU	Mobile Medical Unit
MOHFW	Ministry of Health & Family Welfare
MTP	Medical Termination of Pregnancy
NBCP	National Blindness Control Programme
NFPCD	National Programme for Prevention and Control of Deafness
NIDDCP	National Iodine Deficiency Disorder Control Programme
NLEP	National Leprosy Eradication Programme
NPCC	National Programme Coordination Committee
NTCP	National Tuberculosis Control Programme
NVBDCP	National Vector-borne Diseases Control Programme
PELD	Proportionate ELD
PHC	Primary Health Centre
PRI	Panchayati Raj Institutions
PIP	Project Implementation Plan
PPC	Post Partum Centre
PPI	Pulse Polio Immunisation
RCHP	Reproductive and Child Health Project
RFWC	Rural Family Welfare Centre
RKS	Rogi Kalyan Samiti
RNTCP	Revised National Tuberculosis Control Programme
SBR	Still Birth Rate
SDO	State Data Officer
SHM	State Health Mission
SHS	State Health Society
SPM	State Programme Manager
SPMSU	State Programme Management Support Unit
TAMPCOL	Tamil Nadu Medicinal Plant Farms and Herbal Medicine Corporation Limited.
TFR	Total Fertility Rate
TNMSC	Tamil Nadu Medical Services Corporation
UHP	Urban Health Post
VHSC	Village Health and Sanitation Committee
VHAP	Village Health Action Plan ; (DHAP- District HAP, BHAP-Block HAP)

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