CHAPTER III
COMPLIANCE AUDIT

INDUSTRIES DEPARTMENT

3.1 Management of Co-operative Sugar Mills in Tamil Nadu

3.1.1 Introduction

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

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

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

3.1.2. Planning

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

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

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

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

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

Table: 3.1 Details of targets fixed and achievements

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

(Source: Details furnished by the Department)

As may be seen from the above:

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

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

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

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

3.1.3 Financial Status

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

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

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

(₹ in crore)

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

(Source: Details furnished by the Department)

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

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

As may be seen from the above:

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

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

Factors contributing to additional financial burden to CSMs

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

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

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

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[36] Kallakurichi II and Subramanya Siva.

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

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

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

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

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

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

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

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

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

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

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

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

42 Amaravathi, NPKRR and Tiruttani.

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

Procurement and Production operations

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

3.1.4 Procurement

3.1.4.1 Inadequate supply of seed for plantation

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

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

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

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

3.1.4.2 Shortfall in sugarcane procurement

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

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

Table: 3.3 Details of registered area for sugarcane production

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

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

As may be seen from the above:

- The targeted area of registration was on the declining trend as compared to 2013-14. Despite the same, the achievement ranged between 73 and 67 *per cent*. Of the registered area, about 90 *per cent* of area was harvested with the sugarcane plantations.

- The achievement of the target for cane supply was on the declining trend from 104 *per cent* during 2013-14 to 86 *per cent* during 2015-16.

- The yield of sugarcane adopting State average for 2013-14 to 2015-16 was worked out to 154.08 LMT. However, the supply of sugarcane from the harvested area to the CSMs for crushing during 2013-14 to 2015-16 was 94.69 LMT. This resulted in shortfall in supply of sugarcane of 59.39 LMT (63 *per cent* of the total cane supplied) during 2013-14 to 2015-16.

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

3.1.4.3 Procurement of over-aged cane

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

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

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

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

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

3.1.5 Production activities

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

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

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

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

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

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

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

3.1.5.1 Non-adoption of proven technology for saving fuel

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

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

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

3.1.6 Allied production activities

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

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

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

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

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

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

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

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

3.1.6.2 Delay in commissioning of Distillery-cum-ethanol Plant

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

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

51 Chengalrayan.

52 Kallakurichi II and Subramanya Siva.

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

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

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

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

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

3.1.7 Marketing

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

3.1.7.1 Sale of molasses

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

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

53 Amaravathi.

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

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

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

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

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

3.1.7.2 Sale of alcohol products

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

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

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

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

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

3.1.7.3 Sale of bagasse

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

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

3.1.7.4 Tender violations not monitored

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

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

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

3.1.8 Internal control

3.1.8.1 Ineffective enforcement of the Sugar Order

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

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

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

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

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

3.1.8.2 Inadequate monitoring of the recommendation of Expert Committee

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

3.1.9 Conclusion

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

HIGHWAYS AND MINOR PORTS DEPARTMENT

3.2 Non-utilisation of Government of India grant

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

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

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

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

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

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

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

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

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

We observed as under from the scrutiny of records;

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

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

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

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

3.3 Non-invoking of defect liability clause

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

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

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

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

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

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

From the scrutiny of records, we observed as under:

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

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

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

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

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

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

3.4 Non-enforcement of defect liability clause

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

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

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

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

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

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

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

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

We observed as under from the scrutiny of records:

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

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

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

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

- The road stretch was damaged within 18 months from the completion of PR work during December 2015 floods, which was within the defect liability period as per the agreement signed with the contractor. Though, it was the duty of the contractor to rectify the damaged work, yet it was done by the department through another contractor, as FDR works.

- As per agreement signed with the contractor, it was incumbent on the part of the department to get the work done at the risk and cost of the contractor by invoking the defect liability clause as the work was damaged during defect liability period. But the department failed to act per the agreement and instead incurred an additional avoidable expenditure of ₹ 1.27 crore on rectification work during the currency of defect liability period without invoking the said clause.

- Though the department had simultaneously forwarded proposals for both FDR and PR works within one week citing damages due to floods, invitation of tenders for PR work, without GOI sanction, during the execution of FDR work indicated premature execution of PR work, within one month from the completion of FDR work and 18 months from the completion of first PR work, incurring an expenditure of ₹ 6.56 crore.

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

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

3.5 Delay in according Revised Administrative Sanction

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

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

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

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

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

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

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

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

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

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

We observed as under from the scrutiny of the records:

- Though RAS Committee had submitted its recommendations to the GoTN within one month after receipt from the department, (delay of 27 days against permitted 3 days) the GoTN had taken 14 months to accord its approval for RAS thereby defeating the very purpose of the issue of orders by the Government in 2008 for ensuring speedy and timely execution of work.

- CE, Highways had submitted proposal to GoTN for construction of submersible bridge without getting approval from the CE, Design and Investigation about the design of the bridge and without ensuring field investigation for the type of the bridge required which resulted in abandonment of the initial proposal to construct submersible bridge, resulting in the need for RAS for HLB.

- Due to delay of 14 months in according approval to the RAS by the GoTN despite extension of the validity of tender twice by the first bidder, fresh tenders had to be invited for the construction of HLB. The execution of HLB work due to above delays entailed avoidable expenditure of ₹ 1.79 crore (₹ 8.45 crore – ₹ 6.66 crore = ₹ 1.79 crore).

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

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

AGRICULTURE DEPARTMENT

3.6 Duplication in selection of blocks

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

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

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

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

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

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

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

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

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

We observed as under from the scrutiny of records:

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

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

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

- Delay in finalisation of dedicated leased line with the service provider had resulted in non-availability of the weather forecasting facility of the data collected from AWS, from April 2014 to June 2016 thereby depriving the farmers of using the data collected from the AWS for their benefit.

- The objective to provide weather based Agro Advisory services to the farmers through mobile phones remained unachieved even after 42 months from the sanction of ₹ 3.50 crore and incurring an expenditure of ₹ 1.03 crore towards procurement of hardware and other contractual services due to the delay in consolidation of the basic data required for the development of the software.

- Despite the conditions of AMC, test check of data analysis revealed that no data was received from 16 out of 224 AWS during the entire AMC period due to theft of some parts of AWS and damage of solar panels, resulting in additional expenditure of ₹ 12.36 lakh[69] besides undue benefit to the contractor.

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

- The data relating to 211 AWS was not available continuously for a period of three to 54 months. The data was not available for more than 12 months in respect of 81 out of 211 AWS (38 *per cent*). Further, no data on weather variable like temperature, humidity, soil moisture, etc. was available in eight to 41 *per cent* of records indicating incomplete weather forecasting to the farming community.

- Abnormal values of temperature more than 60^0 C and minus 40^0 C in 995 records, soil moisture of more than 100 *per cent* in 2,387 records, soil temperature of more than 80^0 C and minus 40^0 C in 22,421 records, solar radiation and atmospheric pressure was in deviation of the range prescribed in 99,667 and 16,213 records respectively, were captured. Uploading of data with abnormal values indicated communication of unreliable weather data to the farmers.

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

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

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

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

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

3.7 Construction of godowns without adequate height

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

We observed the following lapses from the scrutiny of records:

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

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

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

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

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

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

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

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

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

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

PUBLIC WORKS DEPARTMENT

3.8 Non-adherence to Standard Schedule of Rates

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

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

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

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

[75] Empty space between stones.

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

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

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

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

From the scrutiny of records, we observed as under:

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

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

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

(Source: Details furnished by Department)

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

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

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

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

Chennai
Dated 22 March 2017

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Tamil Nadu

Countersigned

New Delhi
Dated 29 March 2017

(SHASHI KANT SHARMA)
Comptroller and Auditor General of India