Chapter-III

3. Performance reviews relating to Statutory corporations

Maharashtra State Road Transport Corporation

3.1 Fleet utilisation

Highlights

Fleet owned by the Corporation decreased from 16,468 (March 2003) to 15,111 (March 2007). The Corporation continuously incurred operational losses due to increased operational cost and marginal increase in revenue. The operational losses were mainly attributable to poor load factor coupled with uneconomic services, cancellation of scheduled trips *etc*.

(Paragraphs 3.1.7, 3.1.8, 3.1.11, 3.1.13 and 3.1.15)

The Corporation's overaged fleet (more than ten years old) was five *per cent* of its vehicles strength. As against ASRTU norms of 60 *per cent* vehicles of transport undertaking with less than four years of life, the Corporation had 40 *per cent* vehicles which were less than four years old.

(Paragraph 3.1.8)

The Corporation incurred loss of Rs.1,331.26 crore due to operation of uneconomical routes (at the behest of State Government), Mini buses, Janata services, Irizer buses, city services, forced cancellation of kilometres, increase in dead kilometres and excess consumption of diesel.

(Paragraphs 3.1.10, 3.1.12 to 3.1.18)

The Corporation incurred loss of Rs.27.01 crore due to avoidable delays in repairs and maintenance of vehicles. Further, it also incurred unfruitful expenditure of Rs.0.19 crore due to premature failure of reconditioned engines resulting in huge backlogs and vehicle off road days.

(Paragraphs 3.1.20 and 3.1.21)

Introduction

3.1.1 Maharashtra State Road Transport Corporation (Corporation) was established in 1961 under the State Road Transport Corporation (SRTC) Act, 1950 with the main objective of providing an efficient, adequate, economical and properly coordinated system of road transport services in the State. Stage carriage services (transportation of passengers from one place to another) constitute the main activity of SRTCs. The Corporation had a fleet of 15,111 vehicles at the end of March 2007 and operated on an average daily fleet of 15,012 vehicles (94 *per cent*) through 248 depots during the years 2002-07.

The Management of the Corporation is vested in the Board of Directors consisting of six Directors. All day to day affairs of the Corporation are looked after by the Vice Chairman and Managing Director who is assisted by six Regional Managers, 30 Divisional Controllers and Depot Managers of respective regions/divisions/depots.

Scope of Audit

3.1.2 The present review covers the performance audit of 'Fleet Utilisation' for the period 2002-07. Audit examined the records maintained at headquarters and also conducted detailed scrutiny of records of six[$] divisions out of 30 divisions and 12[#] depots out of 248 depots.

Audit objectives

3.1.3 The Audit objectives were to ascertain whether:

- the fleet was optimally utilised and the operation of the fleet was as per schedule/norms/plans of the Corporation;
- maintenance of fleet was carried out efficiently, economically and as per the prescribed schedule;
- consumption of fuel was as per norms fixed;
- policy of Corporation regarding scrapping of vehicles was proper/ transparent; and
- monitoring of fleet utilisation was adequate/sufficient.

[$] Akola, Amravati, Mumbai, Nagpur, Sindhudurg and Wardha.

[#] Akola, Karanja, Amravati, Paratwada, Parel, Kurla Nehru Nagar, Nagpur-I and II, Sawantwadi, Malwan, Wardha and Pulgaon.

Audit criteria

3.1.4 The audit criteria adopted for assessing the achievement of audit objectives were:

- physical targets/norms fixed by the management and also the norms and performance standards prescribed by the Association of State Road Transport Undertakings (ASRTU) ;
- preventive maintenance schedule and fuel efficiency norms *etc.*;
- norms fixed for deployment of drivers, conductors and other staff; and
- instructions/orders of the Government of India (GOI)/State Government and other relevant orders and regulations.

Audit methodologies

3.1.5 The following mix of audit methodologies were adopted for achieving the audit objectives:

- Examination of agenda and minutes of the meetings of BODs, administrative and annual reports, physical and financial progress reports of the Corporation;
- Scrutiny of records of the Corporation at head office and in divisions/ depots;
- Scrutiny of records relating to fleet utilisation/route scheduling, *etc.*;
- Scrutiny of details of vehicles held in depots/workshops and curtailment of schedules and monthly reports; and
- Issue of audit enquiries and interaction with the management.

Audit findings

3.1.6 The audit findings were reported (July 2007) to the State Government/ Management and discussed (24 August 2007) in the meeting of the Audit Review Committee for State Public Enterprises (ARCPSE). The meeting was attended by the Deputy Secretary (Transport), State Government (GOM), Vice Chairman and Managing Director, Financial Advisor and Chief Accounts Officer, General Manager (Traffic) and General Manager (Mechanical Engineering) of the Corporation. The views expressed by the representatives of the Government and the management have been taken into account while finalising the review.

The Audit findings emanating from the performance review are discussed below.

Working results

3.1.7 The details of working results like operating revenue and operating expenditure, total revenue and expenditure, net surplus/loss and earnings and cost per kilometre of operation for the last five years ending 2006-07 are indicated in the following table**:**

Sl. No.	Particulars	2002-03	2003-04	2004-05	2005-06	2006-07 (Unaudited)
1.	Operating revenue (Rupees in crore)	2,673.78	2,685.24	2,909.72	3,200.45	3,470.80
2.	Operating expenditure (Rupees in crore)	2,761.28	2,876.10	3,341.90	3,277.13	3,511.66
3.	Operating loss (-) for the year 2-1 (Rupees in crore)	(-) 87.50	(-) 190.86	(-) 432.18	(-) 76.68	(-) 40.86
4.	Total revenue (Rupees in crore)	2,727.51	2,747.07	3,263.45	3,295.97	3,593.31
5.	Expenditure for the year (Rupees in crore)	2,799.43	2,952.14	3,392.82	3,336.82	3,580.67
6.	Loss(-)/surplus (+) for the year (Rupees in crore)	(-) 71.92	(-) 205.07	(-) 129.37	(-) 40.85	12.64
7.	Accumulated loss (Rupees in crore)	748.64	953.71	1,083.08	1,122.98	746.19
8.	Cost of fuel, tyres, spares *etc*. (Rupees in crore)	985.99	1,056.98	1,215.11	1,350.35	1,443.32
9.	Staff salaries and wages (Rupees in crore)	1,004.36	1,041.42	1,374.21	1,147.78	1,185.86
10.	Other expenditure, interest and depreciation (Rupees in crore)	809.08	853.74	803.50	838.69	951.49
11.	Effective kilometres Operated (in lakh kilometre)	17,656.3 9	17,652.20	17,976.31	17,212.95	17,351.77
12.	Operating Earning per kilometre (Rupees) (1/11)	15.14	15.21	16.19	18.59	20.00
13	Operating Cost per kilometre (Rupees) (2/11)	15.63	16.29	18.59	19.04	20.23
14.	Sanctioned schedule kilometres (in lakh)	17,283	17,260	17,489	16,772	16,995
15.	Operated schedule kilometres (in lakh)	16,831	16,840	17,123	16,422	16,568
16.	Fixed cost per kilometre (Rupees) (9+10/11)	10.27	10.73	12.12	11.54	12.32
17.	Variable cost per kilometre (Rupees) (8/11)	5.58	5.99	6.76	7.84	8.32

(Source: Data collected from the annual accounts and administrative reports).

A review of the working results of the Corporation reveals the following:

- Though the revenue increased during 2002-03 to 2005-06, the Corporation had continuously incurred operating losses which were attributed to decrease in load factor from 59 in 2002-03 to 58 in 2006-07 as discussed in paragraph-3.1.11 *infra*. The other factors for the losses during 2002-07 were high expenditure incurred per effective kilometre on fuel, excess consumption of fuel, uneconomic services, and cancellation of scheduled trips dead kilometers, *etc*. which the Management was unable to control or improve as discussed in paragraphs-3.1.9, 3.1.10, 3.1.15 and 3.1.17 *infra*.

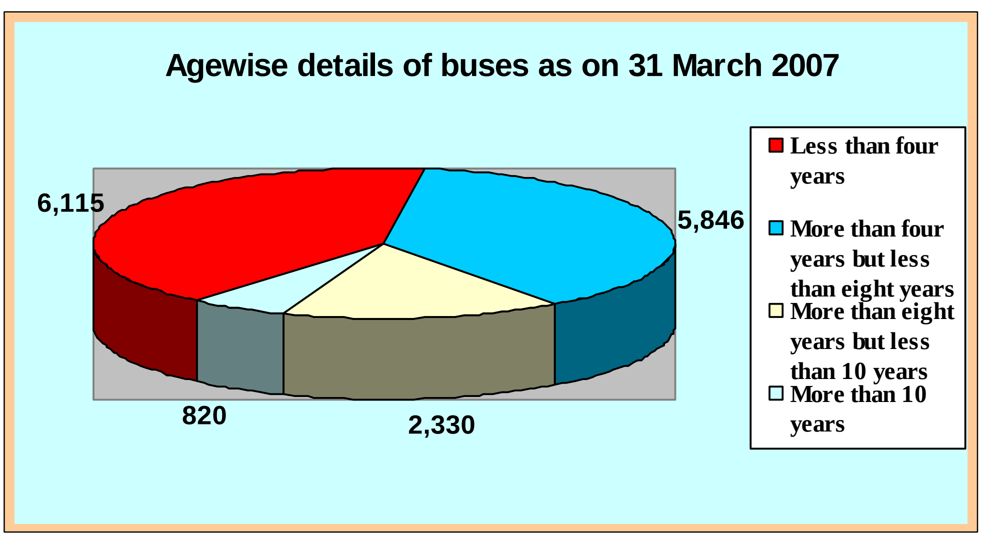
- The operating cost per kilometre (CPKM) was always more than the operating earnings per kilometre (EPKM) during 2002-07 resulting in operational losses.

- The operation of less schedule kilometres than sanctioned kilometres resulted in loss of contribution of Rs.80.92 crore.

The Management/Government stated (August/September 2007) that the increase in operation cost was due to increase in cost of fuel, spare parts, floods in July 2005, operation of less scheduled kilometres on holidays, bandh days, various concessional/obligatory trips and increase in Dearness allowance. The reply is not tenable as the planned operations are set considering holidays, bandhs, and obligatory trips. The rise in input costs due to inflation is a common phenomenon which was not offset by improvement in occupancy ratio and taking cost effective measures.

Fleet strength and age profile

3.1.8 In order to ensure efficient, sufficient and satisfactory public transport, proper maintenance of adequate fleet of buses for operation of scheduled routes is imperative. Acquisition of new buses from time to time is necessary for augmenting the existing fleet as well as for replacing the old and unserviceable buses. The holding of overaged buses in the fleet becomes a liability from the point of view of repairs, maintenance and fuel consumption. ASRTU had recommended (1971) that the normal life of a bus should be considered as eight years or five lakh kilometres of operation whichever is earlier and that a minimum of 60 *per cent* of the fleet strength of an undertaking should consist of buses with less than four years of operation. The Corporation, however, has fixed the life of bus as 10 years and as per its policy the vehicle should be replaced after 10 years. The chart and table given below indicate the Corporation's fleet holding, number of overaged buses and their percentage to the fleet holding at the end of each of the five years up to 31 March 2007.



Sl. No.	Particulars	2002-03	2003-04	2004-05	2005-06	2006-07
1	Vehicles at the beginning of the year	17,071	16,468	16,128	16,115	15,456
2	New vehicles added	1,409	1,825	1,610	1,127	1,555
3	Vehicles discarded	2,012	2,165	1,623	1,786	1,900
4	Vehicles at the end of the year	16,468	16,128	16,115	15,456	15,111
5	No. of the buses less than four years old	5,849 (36)	6,392 (40)	6,491 (40)	5,966 (39)	6,115 (40)
6	No. of the buses more than four years but less than eight years	5,230 (31)	4,823 (30)	4,625 (29)	5,217 (33)	5,846 (39)
7	No. of the buses more than eight years but less than 10 years	3,116 (19)	3,457 (21)	3,388 (21)	2,755 (18)	2,330 (16)
8	No. of the buses more than 10 years	2,273 (14)	1,456 (9)	1,611 (10)	1,518 (10)	820 (5)

(Source: Data compiled from operational wing of the Corporation).

(Figures in brackets indicate percentage)

It could be seen from the above table that against the ASRTU norms of 60 *per cent*, 6,115 buses *i.e.* 40 *per cent* buses held by the Corporation as on 31 March 2007 were less than four years old, whereas 3,150 buses *i.e.* 21 *per cent* were more than eight years old, as against the norm that buses more than eight years should not be operated.

The Corporation did not fully replace the over-aged buses as per its policy, and as on 31 March 2007, it had 820 buses which were more than 10 years old. It was observed that the extra expenditure on consumption of High Speed Diesel (HSD) oil increased over the years due to operation of overaged vehicles as discussed in paragraph-3.1.18 *infra*.

The Management/Government stated (August/September 2007) that norms of ASRTU are taken as guidelines and the Corporation decided the life of buses as ten years due to financial constraints. The Management's contention is not acceptable as the financial constraints could have been overcome through loan and efficient and effective management. Further, as the holding of overaged buses in the fleet is not financially viable on account of repairs and maintenance and excess fuel consumption, such buses should be replaced with new buses timely.

Route operation

3.1.9 Operational performance can be improved by periodic review of uneconomic routes with a view to assess their continuance, rationalisation of routes and optimum operation of buses on the higher revenue earning routes. Audit scrutiny revealed that none of the B[∞] and C[♦] trips operated by the

[∞] B trips - Earning per kilometre is more than variable cost.

[♦] C trips - Earning per kilometre is less than variable cost.

Corporation were recovering the total cost of operation. The C trips were not even recovering their variable cost resulting in cash losses of Rs.242.75 crore on their operations during the period 2002-07.

Loss on operation of uneconomic routes

3.1.10 The Corporation operates a number of obligatory• routes/trips as per orders of the State Government (29 November 1973). In pursuant to operation of obligatory trips as per above orders, the Corporation sustained loss of Rs.968.47 crore on these services during the period 2002-07 as detailed below:

Operational losses on obligatory routes/trips were not being reimbursed by the Government.

Year	Average effective lakh kilometres for obligatory routes	EPKM (Rupees)	CPKM (Rupees)	Difference between CPKM and EPKM	Loss on obligatory services (Rupees in crore)
2002-03	1,705	5.13	13.56	8.43	143.73
2003-04	1,942	5.34	13.94	8.60	167.01
2004-05	2,451	6.15	15.36	9.21	225.94
2005-06	2,276	6.97	18.83	11.86	269.93
2006-07	1,590	7.15	17.33	10.18	161.86
Total					**968.47**

(EPKM- Earning per kilometre; CPKM – Cost per kilometre)

(Source: Data collected from operational wing of the Corporation).

It was observed that the State Government's orders, *ibid*, were silent on the reimbursement of losses on operation of these trips and exemption of passenger tax thereon. The losses incurred on these services are also not compensated by the State Government by way of subsidy. The Upasani Committee appointed (April 2002) by the State Government had recommended (January 2003) for reimbursement of losses on account of such trips. The Corporation on the basis of Upasani Committee has approached (October 2003) the State Government for reimbursement of losses, the Government's response thereto was, however, still awaited (July 2007).

Load factor

3.1.11 The load factor represents the percentage of seating capacity offered to seating capacity actually occupied. The Corporation had estimated a load factor of 62,61,62,61 and 59 *per cent* respectively during the five years ending 31 March 2007 as against which the load factor achieved was 59,56,56,57, and 58 respectively during the period 2002-07. Though the estimated load factor of the Corporation was set at a lower side when compared to load factor achieved by other State Transport Undertakings *viz*. Andhra Pradesh State Road Transport Corporation (APSRTC) (63, 60, 62 and 65) and Karnataka State

•Obligatory trips are services operated as a social obligation though operations are uneconomical.

Road Transport Corporation (KSRTC) (73.9,70.7 and 68.6) during 2002-06 respectively, and even the lower targets were not achieved. Audit analysis revealed that the shortfall in load factor was mainly due to vehicles coming late from depot, shortage of vehicles/crew *etc*. which the management was unable to improve resulting in shortfall in earnings of Rs.1,057.40 crore as shown below:

Year	Estimated earnings	Actual earnings	Estimated load factor	Actual load factor	Short fall in earnings (Rupees in crore) (2-3)
	(Rupees in crore)		(Percentage)		
(1)	(2)	(3)	(4)	(5)	(6)
2002-03	2,623.12	2,431.52	62	59	191.60
2003-04	2,682.06	2,436.27	61	56	245.79
2004-05	2,821.96	2,638.26	62	56	183.70
2005-06	3,155.73	2,812.61	61	57	343.12
2006-07	3,118.40	3,025.21	59	58	93.19
	Total				**1,057.40**

(Source: Data collected from relevant records of the Corporation).

Loss of Rs.13.79 crore incurred due to operation of mini buses.

3.1.12 The Corporation inducted (January to May 2001) 200 mini buses in its fleet at 20[$] divisions at a cost of Rs.12.03 crore. It was observed that the operation of this service was not viable due to non availability of engines/spare parts/assemblies, problems in chassis, en-route breakdowns, breakdowns in gear boxes *etc*. that led to frequent off-road of vehicles. As against the average CPKM of Rs.11.81, the average EPKM was Rs.8.97 with load factor of 91.14 *per cent* during the period 2002-07. Audit scrutiny further revealed that the operation of these buses was more uneconomical in Pune, Nashik, Amravati and Aurangabad regions where the operational loss ranged between Rs.3.50 to Rs.4.00 per kilometre which resulted in operational loss of Rs.13.79 crore during 2002-07. It was further noticed that 41 buses were completely off the road since April 2006 due to heavy repairs and scarcity of major spares and assemblies.

The Management/Government stated (August/September 2007) that the buses were being phased out. It was, however, noticed that the proposal for scrapping of 158 buses approved in September 2006 had not yet been implemented (September 2007).

Operation of Janata services

3.1.13 The Janata services are operated to fulfill the demand of short distance traveling passengers including bazaar operations to minimise the waiting time. The Corporation, in order to curb the clandestine operations by private

[$] Akola, Amravati, Aurangabad, Ahemadnagar, Buldhana, Chandrapur, Dhule, Jalgaon, Kolhapur, Mumbai, Nagpur, Nashik, Pune, Raigad, Ratnagiri, Satara, Solapur, Thane, Wardha and Yeotmal.

operators in the state, instructed (December 2003) that if ordinary services were converted into Janata services with a lesser fare, then the cognizance should be taken that the EPKM of Janata services should not be below the EPKM of ordinary services. The table below indicates the operational data of Janata services for the last five years ending March 2007:

Sl. No.	Particular	2002-03	2003-04	2004-05	2005-06	2006-07
1	Average schedule operated (Janata)	1,111	736[℘]	1,300	1,530	1,393
2	Percentage of load factor	61.24	56.54	55.52	55.18	56.76
3	Effective kilometres (in lakh) (Janata)	931.37	698.39	1,319.27	1,586.84	1,425.59
4	Increased kilometres (in lakh) based on 2003-04	-	-	620.88	888.45	727.20
5	EPKM (in Rupees) Janata	11.68	11.84	12.04	13.59	14.74
6	EPKM (in Rupees) Ordinary	13.57	13.43	15.27	17.29	18.26
7	Difference in EPKM	1.89	1.59	3.23	3.70	3.52
	Loss of revenue (in crore) (Sl. No.4 x 7)	**-**	**-**	**20.05**	**32.87**	**25.60**

(Source: Information collected from operational wing of the Corporation).

Audit analysis revealed the following:

- The Corporation reduced the average schedule operation of ordinary services from 9,902 in 2003-04 to 6,895.32 in 2006-07 and increased the operation of Janata services from 736 in 2003-04 to 1,393 in 2006-07 despite the fact the EPKM of Janata services was less than the EPKM of ordinary services.

- The periodical review of operations were also not carried out by the Management.

Increase in operation of Janata services resulted in loss of Rs.78.52 crore.

- The Corporation incurred loss of revenue of Rs.78.52 crore in operation of Janata services during 2004-07, which included the loss of Rs.5.01 crore in respect of four divisions *viz.* Nagpur, Wardha, Amravati and Akola divisions test checked.

The Management/Government stated (August/September 2007) that the operation of Janata services was under review.

Operation of Irizer buses

Non charging of differential fare resulted in operational loss of Rs.0.65 crore during 2004-06.

3.1.14 The Corporation inducted (April-May 2002) six AC Irizer model buses purchased from Ashok Leyland having joint venture with TVS Irizer, for plying on the busy/commercially important Mumbai-Pune route. It was observed that even though these buses were operating profitably, the Corporation introduced (December 2002) Volvo bus on these routes and

[℘] The Janata services were reduced in 2003-04 due to less response from passengers.

resultantly, the load factor of Irizer buses decreased gradually *i.e.* 78 *per cent* in 2002-03 to 51 *per cent* in 2005-06 resulting in operational losses of Rs.0.65 crore during 2004-05 and 2005-06.

The Management/Government stated (August/September 2007) that the load factor of Irizer buses decreased due to attraction of Volvo service. The reply is not tenable, as the Corporation, could have avoided the operational losses by charging a competitive fare for AC Irizer buses to optimise its revenue earnings.

Cancellation of profitable trips

Profitable trips were cancelled due to controllable reasons leading to loss of potential revenue.

3.1.15 The Regional Managers had periodically instructed the divisions that 'A' trips (profitable) should not be cancelled at any cost. A review of operations revealed that total 6.07 crore kilometres were cancelled during the period 2002-07 .The cancellations were due to late despatch of vehicles from depot, late receipt of vehicles from line, shortage of vehicles and absenteeism of crew resulting in avoidable loss of revenue to the tune of Rs.104.28 crore. Audit observed that though the reasons for cancellations were controllable, the management failed to take any effective steps in this regard.

The Management/Government stated (August/September 2007) that though the scheduled kilometres were cancelled due to avoidable and unavoidable reasons, more profit making extra kilometres were operated than the cancelled kilometres. The reply is not tenable, as the operations of extra kilometres were after cancellations of scheduled/planned trips and the cancellations as pointed out by audit are due to controllable factors. Moreover, extra kilometres operated are planned kilometres and it cannot be off set against cancelled kilometres.

Loss in operation of city services

3.1.16 As per Road Transport Act, 1950, it shall be the duty of the Corporation to provide or secure or promote the provision of an efficient, adequate, economical and properly coordinated system of road transport services in the State or part thereof. Further, as per notification (November 1973) under Chapter-4A of the Motor Vehicles Act, 1939 the Corporation had been granted the monopoly to operate stage and contract carriage services by the Government. In accordance with the above provisions, the Corporation was operating city services in 14 cities[#] and sustained a loss of Rs.78.65 crore during 2002-07, which included Rs.1.70 crore paid on account of octroi and property tax to Municipal Corporations (MCs) for operation of these services. According to the Bombay Provincial Municipal Corporation (BPMC) Act, 1949 the State Government may at any time require the MCs to make rules under Section 454 *ibid* in respect of any purpose or matter

[#] Amravati, Arnala, Aurangabad, Chandrapur, Jalgaon, Karad, Miraj, Nalasopara, Nanded, Nashik, Nagpur, Ratnagiri, Satara and Vasai.

specified in Section 457 *ibid* regarding assessment and recovery of municipal taxes. The State Government appointed (July 1998) a committee under the Chairmanship of Principal Secretary (Transport) to recommend alternate arrangement to city bus services being operated by the Corporation. The Committee had recommended (September 1998) that the MCs should not collect property and such other taxes, provide water supply on concessional rates, not to levy octroi on the spare parts/buses and other consumables and no tax should be levied on the advertisements displayed on the bus stations/buses/shelters and other establishments of city services of the Corporation. The Corporation approached (February 2004) the respective MCs to takeover the city service, reimbursement of the losses and for exemption from payment of octroi on consumables and property taxes. The Upasani Committee had also recommended (January 2003) that if the State Government wanted the Corporation to run these services, the State Government and Local authorities should change their taxation policy in this regard. The Corporation has not approached the Government for waiver of octroi, property tax *etc*. though having enabling provisions in the BPMC Act, 1949. The Government has also not taken any action on the recommendations of the Committees (August 2007).

The Management/Government stated (August/September 2007) that the operation in five cities have been transferred to the respective MCs and efforts are being made to cut down the losses.

Dead kilometres

3.1.17 Dead kilometres represent the gross kilometres minus the effective kilometres and refer to the distance travelled by the buses from various depots/workshops to the bus stations for which no revenue is earned. The table below indicates the detailed analysis of dead kilometres for five years period 2002-07.

Increase in percentage of dead kilometres resulted in loss of revenue.

Particular	2002-03	2003-04	2004-05	2005-06	2006-07
Gross kilometres operated (in lakh)	17,813	17,812	18,139	17,369	17,512
Dead kilometres (in lakh)	156	160	163	156	160
Percentage of dead kilometres	0.88	0.90	0.90	0.90	0.92
Percentage of increased dead kilometres	--	0.02	0.02	0.02	0.04
Increased dead kilometres	--	3,56,240	3,62,780	3,47,380	7,00,480
Cost per kilometre	15.91	16.58	18.90	19.39	20.64
Loss (Rupees in crore)	--	0.86	0.69	0.67	1.45

(2002-03 is taken as base year)

(Source: Information collected from operational wing of the Corporation).

The above data revealed that the percentage of dead kilometres increased from 0.88 *per cent* in 2002-03 to 0.92 *per cent* during 2006-07 resulting in loss of potential revenue of Rs.3.67 crore during four years from 2003-04 to 2006-07.

The Corporation could not achieve the targets for consumption of HSD.

3.1.18 Cost of High Speed Diesel (HSD) accounts for the highest component of total cost of operation and therefore use of fuel in most economic and efficient manner is of utmost importance. The table below indicates the targets fixed by the Corporation for consumption of HSD, the actual consumption, kilometre obtained per litre (KMPL) and the estimated extra expenditure.

Particulars	2002-03	2003-04	2004-05	2005-06	2006-07
Gross kilometres (in lakh)	17,813	17,812	18,139	17,369	17,512
Target of KMPL (fixed by the Corporation)	4.71	4.83	4.90	4.90	5.20
Kilometre obtained per litre	4.76	4.81	4.85	4.89	4.93
Difference in KMPL (target – actual)	--	0.02	0.05	0.01	0.27
Consumption of HSD as per target (in lakh litre)	--	3,687.78	3,701.89	3,544.69	3,367.69
Actual consumption of HSD (in lakh litre)	3,739.34	3,705.63	3,737.33	3,549.76	3,553.28
Excess consumption of HSD (in lakh litre)	--	17.85	35.44	5.07	185.59
Average cost per litre (Rupees)	--	24.90	28.68	32.24	36.09
Extra expenditure (Rupees in crore)	--	4.44	10.16	1.63	66.98

(Source: Data collected from different wings of the Corporation).

Audit scrutiny revealed that the Corporation failed to achieve its own targets fixed during 2003-07 even though the same were on the lower side (except for 2006-07) as compared to the achievement of neighbouring State Transport Undertakings (STU's) *i.e.* APSRTC, KSRTC and Gujarat State Road Transport Corporation. The excess consumption of HSD when compared with Corporation own target during 2003-07 resulted in extra expenditure of Rs.83.21 crore which included major portion of Rs.66.98 crore incurred during 2006-07. The excess consumption was mainly due to non-attending to scheduled maintenance of engines and vehicles, operation of city services with old vehicles, excessive use of clutch and gears, overage vehicles and shortage of trained mechanical staff.

The Management/Government stated (August/September 2007) that targets are fixed at higher side and KMPL improved during 2002-07 and efforts are made to get optimum performance. It further stated that it would be unrealistic to compare the achievement with targets. The reply is not tenable, as the measures taken were not effective in achieving the KMPL in view of the fact that the expenditure increased drastically during the year 2006-07.

Expenditure on repairs and maintenance

3.1.19 The table below summarises the position of the fleet holding, overaged buses (based on the life of bus fixed by the Corporation), breakdown *ratio*, repairs and maintenance (R&M) expenditure of the Corporation for the last five years up to 2006-07.

Particulars	2002-03	2003-04	2004-05	2005-06	2006-07
Total buses at the end of the year[#]	16,468	16,128	16,115	15,456	15,111
Overaged buses	2,273	1,456	1,611	1,518	820
Percentage to total buses	14	9	10	10	5
R&M expenses (Rupees in crore)	167.29	169.58	174.92	180.72	187.46
R&M expenses (per bus) (Rupees in lakh) (R&M expenditure/total buses)	1.02	1.05	1.09	1.17	1.24

(Source: Data collected from operation and engineering wings of the Corporation).

It was observed that though there was a reduction in the number of buses from 16,468 in 2002-03 to 15,111 in 2006-07 and reduction in the number of overaged buses from 2,273 in 2002-03 to 820 in 2006-07, the expenditure on R&M during the period 2002-07 increased substantially. The Corporation did not analyse the reasons for increase in expenditure on R&M despite reduction in the fleet strength.

Delay in maintenance, repairs and reconditioning of buses

Delay in maintenance and repairs and reconditioning of buses resulted in loss of potential contribution.

3.1.20 The Corporation has not fixed any standard norms/days for major/minor repairs/preventive maintenance and reconditioning of engine. The scrutiny of monthly operational reports revealed that 2,08,312 bus days were lost due to delay in execution of various works (excluding heavy repairs) at the divisional workshops during 2002-07 (up to February 2007) resulting in loss of potential contribution to the tune of Rs.27.01 crore. This includes the delay of 49,329 days in five[♦] divisions with a maximum delay of 184 days in the case of attending vehicles for Regional Transport Offices (RTO) passing and 117 days for engine repairs observed in Akola division, 137 days in case of attending to reconditioning of vehicles and 283 days in case of attending to accidental repairs respectively observed in Mumbai division.

The Management/Government stated (August/September 2007) that norms for preventive maintenance are fixed and carried out at Divisional Workshops. Further, the excess time for RTO passing, engine repair and accident observed in Akola, Mumbai divisions were due to unscheduled works clubbed with

[#] Including lease buses.

[♦] Akola, Amravati, Mumbai, Sindhudurg and Wardha.

regular work, and no schedules were cancelled due to shortage of buses. The reply is not tenable, as no norms for time (days) taken for execution of maintenance works has been fixed and 4.87 and 1.18 lakh kilometres were cancelled in Akola and Mumbai divisions respectively due to shortage of buses.

Premature failure of reconditioned engines

3.1.21 The Corporation has fixed the life of reconditioned engines at 50,000 kilometre. The detailed scrutiny of records for 2002-06 of six divisions* revealed that 331 engines reconditioned at a cost of Rs.82.75 lakh had failed before completion of its stipulated life. Out of this, 61 engines failed even before covering 10 *per cent* kilometres of their stipulated life, whereas 14 engines failed without running a single kilometre. This resulted in unfruitful expenditure of Rs.18.75 lakh incurred on reconditioning of these engines due to non-achievement of the stipulated kilometres. The Corporation had not analysed the reasons for premature failure of engines for taking any remedial action.

The Management/Government stated (August/September 2007) that engines failed at low kilometres due to improper maintenance and engines failed at "0" level are due to production defects. It further stated that as these are attended to at the Central workshops with minimum cost, the loss is not to the tune pointed out by audit. The reply is not tenable, as the loss has been worked out on the basis of average expenditure of Rs.0.25 lakh as intimated by the Central workshops.

Recommendations of Upasani Committee

3.1.22 The Upasani Committee appointed under the aegis of the Maharashtra Board for Restructuring of State Public Enterprises (MBRSPE) Act, 2002 had given (January 2003) the following recommendations:

- The Corporation should conduct in the areas where clandestine traffic is present in sizeable strength and re-plan its operations on the basis of actual demand; devise ways and means to stop clandestine operation to increase the revenue of Corporation as well as its' State Government's revenue on account of passenger tax and to work out a flexible fare policy taking into consideration passenger preference.

- They had also advised the Government to review its' regulatory framework, enhance penalties to the level of effective deterrence and strictly implement contract carriage regulations and put in place independent machinery to implement the policy.

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*Akola, Amravati, Mumbai, Nagpur, Sindhudurg and Wardha.

- The Corporation should study the reasons for reduction in passenger traffic exhaustively and undertake to revamp its traffic operations; define obligatory trips which are to be continued as social obligation even though they are loss making. In the absence of any profit on these routes, the Corporation should be entitled to automatic reimbursement of losses on such trips from the State Government and a mechanism could be worked out for its reimbursement out of passenger tax payable by the Corporation.

- The local authorities should exempt the Corporation from payment of octroi and municipal taxes for the material brought for maintaining the city service operations.

- The State Government should consider special funding arrangement for immediate replacement of overage buses in shortest possible time to reduce repairs and maintenance and workshop overhead cost.

It was observed in audit that the State Government did not accept the recommendations made by the Committee and instead repealed the MBRSPE Act, 2002. The Corporation however, on its part has initiated certain actions on the basis of the recommendations of the Committee.

Acknowledgement

3.1.23 Audit acknowledges the co-operation and assistance extended by the staff and the Management of the Corporation at various stages of conducting the performance review.

Conclusion

The Corporation incurred operation losses during the period of review mainly due to poor load factor coupled with uneconomic services, cancellation of scheduled trips *etc*. As against ASRTU norms of eight years as life of the bus, the Corporation has fixed life of a bus as ten years. The overaged vehicles in the fleet were not scrapped and replaced as per the replacement policy. The Corporation suffered huge losses in the obligatory services/trips operated at behest of the State Government, operation of mini buses, cancellation of scheduled 'A' trips (profit making) *etc*. Consumption of high speed diesel was not only higher than the target fixed but also much more than when compared with the achievement of neighbouring State Transport Undertakings. There were cases of delay in maintenance, repair and reconditioning of buses leading to loss of bus days and consequent deprivation of potential revenue.

Recommendations

- **the age profile of the fleet may be observed and over aged buses may be phased out, for which the Government should provide necessary funds;**
- **operations of 'C' trips may be reviewed periodically to ascertain their viability and continuance;**
- **the State Government should compensate the losses incurred on uneconomic routes being operated at their behest;**
- **the load factor needs to be improved by adhering to the time table of trips and by avoiding cancellations;**
- **the operation of Janata services needs to be reviewed to make it economically viable;**
- **endeavours ought to be made to minimise the cancellation of scheduled kilometers; and**
- **the Corporation may draw a detailed and effective plan for repairs and maintenance of buses at the divisional workshops to avoid delays.**

Maharashtra Industrial Development Corporation

3.2 Implementation of projects under Assistance to States for developing export infrastructure and allied activities (ASIDE) Scheme

Highlights

The Corporation implemented the Scheme for Assistance to States for Developing Export Infrastructure and Allied Activities (ASIDE) as nodal agency. Out of 36 projects implemented by the Corporation as approved by the State Level Export Promotion Committee for implementation under ASIDE Scheme, 22 projects were completed, work was in progress in seven projects and remaining seven projects were abandoned/deferred /transferred.

(Paragraphs 3.2.1 and 3.2.12)

The project reports prepared by the MITCON Consultants Limited were deficient and the export data/information included therein were not based on proper and authentic study. The Corporation incurred huge expenditure of Rs.28.68 crore for upgradation of the five airstrips at Nanded, Latur, Solapur, Kolhapur and Karad. As there were no cargo exports from any of the air strips, expenditure incurred on upgradation of these air strips proved infructuous and thus defeating the objectives of the ASIDE Scheme.

(Paragraphs 3.2.11, 3.2.13, 3.2.14, 3.2.15 and 3.2.16)

The infrastructure created from Scheme funds for the two wine parks at Nashik and Sangli at a cost of Rs.4.47 crore was underutilised and there was negligible export from one unit only. The Corporation did not have data on exports from the Floriculture park at Talegaon district Pune, despite huge investment of Rs.50.45 crore on infrastructure created under ASIDE.

(Paragraphs 3.2.17 to 3.2.22)

In construction of a Rail Over Bridge at Taloja in Raigad district the contract was awarded by the Corporation before finalising the drawings and designs resulting in wasteful expenditure of Rs.16.48 lakh and extra expenditure of Rs.55.28 lakh due to extra items.

(Paragraph 3.2.23)

The project of Bio-Technology Park developed at a total cost of Rs.13.15 crore in Additional Jalna Industrial Area during February 2003 to March 2006, remained unutilised as no production activity started in the area. There was also extra expenditure of Rs.1.11 crore due to delay in finalisation of offers.

(Paragraph 3.2.24)

Introduction

3.2.1 The Maharashtra Industrial Development Corporation (Corporation) was established in 1962 under the Maharashtra Industrial Development Act, 1961. The main objective of the Corporation is to achieve balanced growth of industries in the State by establishing industrial areas and providing necessary infrastructure in such industrial areas with a view to help entrepreneurs to set up industries in the State. Land lease premium and subletting are the major source of revenue of the Corporation for meeting its capital and revenue expenditure.

In order to encourage participation of States for creating appropriate infrastructure for the development and growth of exports, the Government of India (GOI) introduced (March 2002) a Scheme named Assistance to States for Developing Export Infrastructure and Allied Activities (ASIDE)**.** Under this Scheme, projects for assisting/boosting exports and having direct linkage with exports were to be basically included. Some of the important features and guidelines of the Scheme were as follows:

- Development of infrastructure for exports were to be funded from the Scheme provided such activities have an overwhelming export content and their linkage with exports is fully established,
- The role of the State Governments was to provide infrastructural facilities such as land, power, water, roads, connectivity, pollution control measures and conducive regulatory environment for production of goods and services with a view to boosting production of exportable surplus.
- The allocation of funds from the GOI to the respective States was on the basis of overall export performance of the State and there shall be a Nodal Agency for each State.
- Funds allocated under the Scheme were to be sanctioned and utilised for the purpose specified in the guidelines.
- The Scheme was to be monitored by a State Level Export Promotion Committee (SLEPC) headed by the Chief Secretary of the State and consisting of the Secretaries of the concerned Departments at the State level, a representative of the State cell of the Department of Commerce (DOC), the Joint Director General of Foreign Trade posted in the State and

the Development Commissioner (DC) of the Special Economic Zone/Export Processing Zone in the State.

For the State of Maharashtra, the Corporation was appointed as the 'Nodal Agency' and also as Implementing Agency for major projects under ASIDE Scheme. The Development Commissioner, Ministry of Industries, Maharashtra was appointed as Export Commissioner of the State. A Technical Advisor of the Corporation was the coordinator for the ASIDE Scheme.

On the basis of State-wise allocation, the funds are received by the Corporation from the Ministry of Commerce, (GOI). Project Reports prepared by the Corporation (Nodal Agency) are placed before State Level Export Promotion Committee (SLEPC). During the period covered under review, out of 36 projects approved for the Corporation under ASIDE Scheme, 30[#] projects were being implemented by the Corporation. Four other agencies of the State Government[$] (GOM) and Indo-Israel Agro Industries Chamber also received Scheme funds for specific projects to be implemented by them.

The affairs of the Corporation are looked after by a Board of Directors (BODs) consisting of a Chief Executive Officer (CEO) and seven Directors as on 31st March 2007. The CEO nominated by the State Government is the Member Secretary of the BODs, who looks after the day-to-day affairs of the Corporation. He is assisted by two Joint Chief Executive Officers and three Deputy Chief Executive Officers. The Corporation has 12 Regional Offices (ROs) and 28 Divisions which look after the allotment of plots and development of industrial areas respectively.

Scope of Audit

3.2.2 A Performance Audit was conducted from November 2006 to May 2007 to assess the implementation of the ASIDE Scheme with reference to the objectives of the Scheme, covering the period March 2002-07. The audit examined the records maintained at the Corporation's Head office and units at Nashik and Pune District. Out of the 30 ASIDE projects implemented by the Corporation, 27 projects were scrutinised by audit.

Audit objectives

3.2.3 The performance review was conducted with a view to ascertain whether the:

- corporation followed the Scheme guidelines in selection of the projects, the appropriateness and relevance of projects undertaken to boost exports;

[#] Six projects were either abandoned or deferred.

[$] Mumbai Metropolitan Regional Development Authority (MMRDA), Navi Mumbai Municipal Corporation (NMMC), Maharashtra Maritime Board (MMB) and City and Industrial Development Corporation of Maharashtra Limited (CIDCO).

- projects proposals were placed timely before the SLEPC for approval;
- project proposals were scrutinised and approved in an efficient manner;
- contracts for works were awarded after following normal tender procedures;
- execution of projects was managed efficiently and effectively;
- proper accounting of the grants received from GOI was done;
- cost/benefits as anticipated in the project report were achieved;
- completed projects actually resulted in boosting exports; and
- monitoring of the Scheme was adequate.

Audit criteria

3.2.4 The following audit criteria were adopted for achieving the audit objectives:

- Guidelines of GOI for ASIDE Scheme;
- Instructions issued by the Ministry of Commerce (GOI) in 2003 regarding evaluation of projects sanctioned under Critical Infrastructure Balancing Scheme/ASIDE;
- Project reports for individual ASIDE projects; and
- Benefits projected in Detailed Project Reports (DPRs).

Audit methodology

3.2.5 The audit methodology adopted for attaining the audit objective with reference to audit criteria was as follows:

- Examination of minutes of SLEPC meetings;
- Scrutiny of tenders floated/contracts entered into and running account bills of works selected and related correspondence;
- Examination of DPRs of the scheme;
- Analysis of data; and
- Issue of audit queries and interaction with the management.

Audit findings

3.2.6 The audit findings, emerging as a result of test check were reported (July 2007) to the Government/Corporation and were also discussed (9 October 2007) in the meeting of the Audit Review Committee for State Public Sector Enterprises (ARCPSE). The Chief Executive Officer and Chief Accounts Officer of the Corporation and Deputy Secretary (Industries), State Government attended the meeting. The views expressed by the Management and the Government have been taken into consideration while finalising the report.

Audit findings are discussed in the succeeding paragraphs.

Funding and fund management

3.2.7 Under ASIDE Scheme, funds were to be allocated by the GOI to the States on the basis of the export turnover data of the States. Funds were to be released by the GOI directly to the Nodal Agency (Corporation) and the same were required to be kept in a separate account by the Nodal Agency. The Corporation did not maintain any separate bank account. The funds were scattered in different bank accounts along with the Corporation's own funds. Quarterly progress report of each project being implemented by the agencies was required to be submitted to the DC of Industries, State Government by the Nodal Agency (Corporation). Based on the quarterly progress report, DC (Industries) authorises the Corporation to release the ASIDE share for each project. The unutilised funds, if any, would be counted against allocation for the next year. From 2003-04 it was mandatory for the States/implementing agencies to spend at least 50 *per cent* of their allocation on the implementing projects and ASIDE share was to be restricted to 50 *per cent* of the approved cost.

The position of ASIDE funds received by the Corporation, amount spent and disbursed to other implementing agencies as on 31 March 2007 was as under:

(Rupees in crore)

Receipts from GOI		**Expenditure on the projects undertaken by the Corporation**		**Release of ASIDE funds to other agencies**	**Total expenditure out of ASIDE fund**	**Balance funds**
Year	**Amount**	**Corporation**	**GOI**	**GOI**		
2002-03	16.00	2.99	15.72	0.28	16.00	--
2003-04	40.38	28.60	11.50	0.67	12.17	28.21
2004-05	57.59	25.04	27.92	10.52	38.44	19.15
2005-06	65.52	33.39	30.59	19.79	50.38	15.14
2006-07	72.10	47.95	22.23	32.53	54.76	17.34
Total	**251.59**	**137.97**	**107.96**	**63.79**	**171.75**	**79.84**

(Source: Information furnished by the Corporation)

Details of expenditure incurred by other implementing agencies as on 31 March 2007 were as under:

(Rupees in crore)

Agency	MMRDA	NMMC	MMB	CIDCO	INDO Israel	Total
Total expenditure	85.84	31.57	4.45	2.67	0.36	**124.89**
ASIDE funds	42.92	15.78	3.58	1.33	0.18	**63.79**

(Source: Information furnished by the Corporation)

Thus, as against Rs.251.59 crore of funds received under the scheme from the GOI during the period 2002-07, the expenditure incurred from ASIDE funds was Rs.171.75 crore, 68.26 *per cent* (Corporation: Rs.107.96 crore and Other Agencies: Rs.63.79 crore). In addition, expenditure of Rs.199.07 crore was also incurred (Corporation: Rs.137.97 crore and Other State Agencies: Rs.61.10[#] crore) from their own funds. It was seen from above that the unutilised balance of ASIDE fund as on 31 March 2007 was Rs.79.84 crore. Thus, due to lack of proper planning, there was delay in utilisation of funds within the year as per the guidelines of the Scheme. In short there were no fund constraints for developing infrastructure for export promotions.

Irregular usage of ASIDE funds towards administrative expenses

3.2.8 ASIDE guidelines provided that all administrative expenses concerned with the implementation of the scheme should be met by the concerned State Government out of their budget and no part of the scheme funds should be used to meet such expenditure. It was, however, noticed that in respect of all the projects undertaken by the Corporation, actual expenditure incurred on the project under the Scheme was loaded with 15 *per cent* on account of Establishment, Tools and Plants (ETP) charges. Hence, 50 *per cent* of the total cost claimed from ASIDE funds, included 15 *per cent* ETP charges. The expenditure met from ASIDE funds as on 31 March 2007 was Rs.107.96 crore and the ETP charges included in it at the rate of 15 *per cent* worked out to Rs.14.08 crore.

The Management/Government agreed (August/September 2007) to exclude 15 *per cent* ETP charges from the project cost under ASIDE and to revise the actual expenditure of the projects. Management, however, did not state how they would make good the Rs.107.96 crore diverted from the scheme.

Non-submission of utilisation certificates

3.2.9 As per the guidelines of the ASIDE Scheme, annual utilisation certificate (UC) was required to be submitted to the GOI by the DC. The Corporation did not submit UC regularly to the DC for onward submission to the GOI. UC for funds of Rs.16 crore and Rs.57.59 crore received in 2002-03 and 2004-05 respectively were belatedly sent in June 2004 and August 2006

[#] Difference between the total expenditure (Rs.124.89 crore) and ASIDE funds (Rs.63.79 crore).

respectively. UC for Rs.65.52 crore received in 2005-06 have not been furnished to the GOI, so far (August 2007).

While admitting the delay in issue of UCs, the Management/Government stated (August/September 2007) that the timely submission of UCs would be ensured in future.

Planning of scheme

Lack of proper planning

3.2.10 As per ASIDE guidelines, infrastructure bottlenecks study was to be conducted by the dedicated agencies. The Export Commissioner of the State (convener of SLEPC) was to draw up a five year plan/annual export plan in consultation with Trade and Industry, Export Promotion Council and DOC. The Corporation utilised the study report on Export Potential of the Maharashtra conducted by MITCON Consultants Limited (Government of Maharashtra Institute) for World Trade Centre, the salient features of which were as follows:

- Towns of Nashik, Pune and Konkan regions had export potential for food items, agro products like grapes, floriculture, *etc*.

- The report recommended International Airport or feeder Airports other than Mumbai for immediate export of perishable goods.

It was, however, noticed that these findings were not considered by SLEPC while approving the projects for development of Airports and instead air strips at Latur and Nanded were taken up under the ASIDE as discussed in paragraph-3.2.14 *supra*. Besides, the five year/annual Export Plans had not been prepared by the DC/Corporation. Thus, the ASIDE projects were approved/implemented without adequate planning.

Defective project reports

3.2.11 The Corporation entered into agreement with MITCON, for preparation of project report separately. The MITCON was paid Rs.36.80 lakh till March 2007 (against total consultancy charge of Rs.43.63 lakh). The deficiencies noticed on the data/information collected by the Consultant for the individual project reports and executions of projects are commented in subsequent paragraphs.

Execution of projects

3.2.12 During the period 2002-06, the SLEPC approved 36 projects (**Annexure-11**) under ASIDE. Out of these, 22 projects were completed by the

Corporation, six[#] projects were in progress, in one project[♦] works had not commenced due to non finalisation of tenders and remaining seven projects[$] were subsequently abandoned/deferred/transferred.

Unfruitful expenditure on upgradation of Airstrips from ASIDE funds

3.2.13 The SLEPC approved (June 2005) projects for strengthening of five airstrips[*] in Maharashtra, in order to attract foreign investors in the areas away from Mumbai. The decision was based on the directives of the elected representative from Nanded who was the Minister of Industries (Government of Maharashtra), though, all the other members unanimously wanted the infrastructure towards the Jawaharlal Nehru Port Trust around Mumbai to be strengthened. Audit findings on the five airstrip project reports are given below:

- The data as directed (March 2005) by the Chairman, SLEPC on the nature of exports that had taken place from various locations in the State, taking assistance from Export Promotion Councils, Maharashtra Agro Industries Development Corporation Limited, Santacruz Electronic Export Processing Zone (SEEPZ) and Joint Director General of Foreign Trade (Joint DGFT), was neither available with the DC and the Corporation nor in any of the project reports of airstrips. The export data included in the project reports was not based on any proper and authentic study.

- The project reports of airstrips were not supported by any request or recommendations for air cargo facility from any industrial unit.

- There was no evidence of usage of existing cargo facilities by any of the industries in these airstrips.

- Data of export in respect of perishable items such as milk products, meat, fruit, vegetable processing products, cotton stalk, mushroom, jowar flakes and starch shown as effected from the five places as selected was not available in any of the reports of the airstrips.

- Export details shown such as steel sheets, dairy equipments, cotton stalk *etc.* in the project report were not related to cargo export.

Detailed deficiencies noticed during review of the project reports relating to the airstrips are given in **Annexure-12.** Some of the interesting cases noticed are discussed as under:

[#] Sl. No. 15, 30, 32, 33, 35 and 36 of **Annexure-11**.

[♦] Sl. No. 18 of **Annexure-11**.

[$] Sl. No. 3, 9, 10, 12, 22, 23 and 31 of **Annexure-11**.

[*] Solapur, Nanded, Karad, Kolhapur and Latur.

Upgradation of airstrip at Latur

3.2.14 The project for upgradation of Airport infrastructure at Latur consisting of upgradation and expansion of existing Airstrip, Night landing facilities, approach road and water supply arrangements *etc.* approved (June 2005) by SLEPC at a cost of Rs.4.01 crore, was further revised (July 2006) by SLEPC to Rs.17.58 crore. The revision in cost was mainly for construction of additional terminal building. Six works costing Rs.18.04 crore were awarded (July 2005 to January 2007) and expenditure of Rs.6.46 crore had been incurred as of March 2007.

It was seen that the work consisting of upgradation of airstrip, widening, extension and asphalting of airstrip, construction of turning parts, apron and land development was awarded (January 2007) to the contractor with scheduled date of completion by July 2007. The work was still incomplete (September 2007). The delay in completion was mainly due to land acquisition problems. Out of three areas, contractor could complete the work only in one portion of the land and the matter of land dispute for the other two areas had not been resolved so far (July 2007). It was noticed that while approving the project proposals the SLEPC did not ensure whether land free from all encumbrance was available for the project. Thus, award of work before settlement of the land acquisition problems was irregular as it was against codal provisions and fraught with the strong possibility of huge escalation claims on part of the Contractor for the extended period.

3.2.15 The Corporation awarded (February 2006) the work for renovation of the terminal building to Bhagyashri Construction at a cost of Rs.61.22 lakh. During execution of the said work, an architect was engaged (February-March 2006) by the Corporation to suggest modification as per 'Vastu-Shastra'. The additional work for improvement and modifications as suggested by him was also awarded to the same Contractor at a cost of Rs.43.83 lakh. Thus, awarding of the work without finalising the design as per requirements resulted in additional expenditure of Rs.43.83 lakh. Similarly, additional work at a cost of Rs.36.90 lakh for laying and joining of pipe line for water supply at airstrip was awarded (December 2005) to another contractor (A.G. Mapari) for completion by January 2006 without inviting tenders on the ground of urgency. The work was completed only in June 2006, *i.e.* six months after the scheduled date, due to objection of land owners.

The Management/Government stated (August/September 2007) that during the course of execution of the work, architect had suggested several changes because of which additional expenditure was required to be incurred for better architectural appearance of the terminal building. Thus, awarding the work without following tender procedure on the ground of urgency and without completion of land clearance was irregular as it was against the codal provisions.

Airstrips at other places

3.2.16 The works of airstrips at Kolhapur, Karad and Solapur were completed in December 2005, June 2006 and May 2006 respectively and the works of airstrips at Nanded and Latur were in progress (July 2007). It was observed that in none of the five airstrips, there were any proposals for expansion/ development of cargo facilities or construction of custom bonded warehouses which are the basic amenities for export of cargo. Further, there were no regular passenger flights at any of the airstrips except at Kolhapur. These airstrips were mainly used by VIPs and industrialists on few occasions. It was also seen that the airstrip at Karad and Solapur, (which were owned by Public Works Department, State Government) were upgraded by the Corporation with ASIDE funds and handed over (January 2007) to Maharashtra Airport Development Company Limited (another State PSU). Thus, upgradation of these airstrips by the Corporation under ASIDE Scheme and its subsequent transfer without the permission of the GOI was irregular. Despite the recommendations of the Export Studies Report to start feeder flight services for exports of cargo, the upgradation of airstrips proposed/undertaken at these places under ASIDE Scheme had not resulted in promotion of exports by air cargo.

Thus, huge expenditure of Rs.28.68 crore incurred so far (March 2007) against the proposed total investment of Rs.70.64 crore for upgradation of these five airstrips was unfruitful as the purpose for which they were upgraded was defeated.

The Management/Government stated (August/September 2007) that the upgradation of the airstrips was intended towards basically to facilitate the movement of the Business Executives/Decision makers domestically from Metros as well as International. Air connectivity is necessary in view of Special Economic Zones (SEZ) being developed in and around the areas of Solapur, Nanded, Karad, Kolhapur and Latur. In the ARCPSE meeting (9 October 2007) it was stated that exports would materialise after completion of all the projects.

The reply is not tenable, as no export data was included while justifying the airstrips and the justification on the ground of SEZ being developed now put forth, is an afterthought. The fact remains that the scheme objectives of taking up such projects with overwhelming linkage with exports was not achieved.

Wine Parks at Vinchur and Palus-Huge infrastructure largely underutilised

The infrastructure created by Corporation out of ASIDE funds remain largely under utilised at both the Wine Parks at Vinchur/Palus. There were no Wine exports till 2005-06 and some meagre exports in 2006-07.

3.2.17 Two projects for widening and asphalting of existing approach roads and providing street lights *etc*. for the wine parks at Vinchur (Nasik) and Palus (Sangli) were approved (September 2003) under ASIDE Scheme at a cost of Rs.7.23 crore (Vinchur: Rs.6.83 crore, Palus: Rs.40 lakh). The works were completed (September 2005 and December 2004) at a reduced cost of Rs.4.47 crore (Vinchur: Rs.4.22 crore, Palus: Rs.25 lakh) due to non execution of the works relating to gutters and certain other tendered items. The Corporation had received ASIDE funds of Rs.2.36 crore (Vinchur: Rs.2.18 crore and Palus: Rs.18 lakh) till March 2007.

As against 74 plots allotted (2001 to 2007), at Vinchur only three units had commenced wine production (July 2007). Thus, the work undertaken in the Wine Parks under ASIDE Scheme by incurring expenditure of Rs.4.47 crore had remained largely underutilised. It was observed that only one unit at Vinchur Wine Park had nominal exports of Rs.8.75 lakh.

Audit scrutiny further revealed that the projection of the export ranging between Rs.8 crore and Rs.40 crore from 2003-06 at Vinchur and Palus respectively given by the consultant (MITCON) in the project report was not based on any realistic data. Despite completion of gestation period of two years, exports of only worth two *per cent* of the investment had taken place which was not commensurate to the expenditure incurred by the Corporation for development of infrastructure in the Park.

The Management/Government did not offer (August/September 2007) any comment on the underutilisation of the infrastructure and non utilisation by the allottees of the plots allotted in the Wine Park. They further replied that more winery projects would be attracted in the near future. Thus, the fact remains that the objective for which these parks were developed, was not achieved.

Floriculture Park at Talegaon, Pune-Exports not achieved

3.2.18 A floriculture Park admeasuring 210 hectare land at Talegaon, district Pune was to be developed by the Corporation to create infrastructural development for boosting the export of floriculture products. Following three projects under ASIDE were approved by SLEPC (March 2005) for infrastructure development for Floriculture Park at Talegaon:

- Construction of Rail Over Bridge (ROB), river over bridge across Indrayani river and approach roads approved (September 2002) for Rs.18.64 crore were revised by SLEPC (July 2006) for Rs.28.27 crore.
- Water supply and power LT network, construction of roads in floricultural park at Talegaon approved by SLEPC (March 2004) for Rs.13 crore were revised by SLEPC (July 2006) for Rs.15.31 crore.
- Power supply scheme HT/LT network (project cost Rs.6.29 crore) approved by SLEPC (March 2005) were taken up as Infrastructure Development work for Floriculture Park at Talegaon.

As against the total project cost of Rs.49.87 crore expenditure of Rs.50.45 crore was incurred till March 2007. Audit scrutiny of the above projects revealed the following:

3.2.19 The work for ROB and river over bridge was awarded (November 2002) for Rs.6.81 crore without approval of designs by the Railways with stipulated date of completion as November 2003. It was seen that the designs were approved by the Railways only in February 2003 and the launching Scheme for PSC girder only in September 2004.

Thus, award of the contract before approval of the RCC designs and launching scheme by the Railways resulted in delay in completion of the project. The Corporation also had to pay escalation of Rs.54.46 lakh to the contractor without freezing the indices as the delay was attributed to the Corporation.

Award of contract without possession of land

3.2.20 The contract for construction of approach roads from National Highway to Talegaon Industrial Area and Box Culverts, retaining wall and subways was awarded (December 2002) for Rs.12.32 crore. The work was completed (October 2005) after delay of 22 months after incurring cost of Rs.17.18 crore. It was noticed that the project was delayed as the land was not in possession of the Corporation. The project cost increased due to increase in height of the road which was done ostensibly to maintain the gradient with respect to subways and construction of additional culverts.

Thus, awarding the work without clear title to land and lack of proper technical planning resulted in delay in completion of the project and increase in cost. Further, huge escalation (Rs.1.70 crore) had to be paid without freezing of indices as the delay was attributed to the Corporation.

The Management/Government accepted (August/September 2007) that the contract was awarded assuming that the Corporation would get the possession of the land for construction immediately, but due to strong resistance of the farmers the land acquisition process got delayed. The reply is not tenable, as award of contract before ensuring clear title of land is in contravention of codal provisions.

Award of road work without inviting tenders

Award of work without inviting competitive tenders.

3.2.21 On the ground of urgency and without inviting tenders, the Corporation awarded (October 2002) the work of construction of internal roads in the Floriculture Park to Krishnai Constructions for Rs.5.80 crore with the scheduled date of completion of April 2003. The work was completed in December 2003 at a cost of Rs.5.36 crore including escalation payment of Rs.44.59 lakh.

The Management/Government accepted (August/September 2007) that the infrastructure development being very urgent, the work was awarded to the contractor without inviting tenders with the approval of the Chairman of the Corporation and stated that the work was completed by the end of April 2003. Contention of the Corporation of awarding work without inviting tender on the ground of urgency is not acceptable as it was against financial rules and tendering procedures and thus lacked transparency. Besides these works related to development of long term infrastructure and ought to have been done with adequate planning and ensuring quality of the works and hence urgency and haste was not warranted. Moreover, the works were completed in December 2003 and not in April 2003.

3.2.22 It was observed that the projection of exports of Rs.22 crore in 2003-04 and data given in the project report of Floriculture was not reliable and authentic. Consequently no direct exports of Floriculture products had taken place so far (September 2007).

The Management/Government stated (August/September 2007) that the unit in Floriculture Park started producing flowers and some of the flowers having good potential for export are being sold to local exporters who in turn export those flowers.

Infrastructure at Floriculture park created at a cost of Rs.50.45 crore under ASIDE did not yield any exports.

The fact however remains that direct boost in export of Floriculture products projected for taking up this project under ASIDE with huge cost of Rs.50.45 crore by the Corporation was not achieved, even remotely in comparison with the projected exports.

Construction of Rail Over Bridge at Nevade, Raigad district

3.2.23 The project for Construction of Rail Over bridge (ROB) at Navade near Taloja district Raigad at a cost of Rs.15 crore (to be shared with Railways) was initially approved under Critical Infrastructure Balancing Scheme, and subsequently brought and approved (September 2002) under ASIDE Scheme. Rs.14.09 crore had been incurred on the project till March 2007. Audit scrutiny of the above project revealed the following:

- The Corporation appointed (August 1997) RITES as Project Management Consultants for the above work. The Corporation decided (March 2000) to change the ROB from six lanes to three lanes and the RITES was asked to modify the drawings and designs. Due to slow progress on the part of the RITES, the Corporation withdrew (March 2002) the work after payment of Rs.16.48 lakh. The work of modification of the drawings and designs was awarded to another consultant (Structcon) at a fee of Rs.11.10 lakh and the changes suggested by him were approved (June 2002) by the BOD. Thus, due to belated decision of the Corporation to change the ROB from six lanes to three lanes, the payment of Rs.16.48 lakh made to RITES proved infructuous.

- Before approval of the drawings and designs, tender for construction of ROB was awarded (April 2002) to a contractor at 21.51 *per cent* below estimated cost of Rs.7.96 crore. The schedule date of completion was July 2003. The contractor was subsequently (June 2002) asked to carry out the work as per revised drawings and designs. The work was completed (November 2004) at a cost of Rs.9.08 crore. The contractor, however, segregated the work as per revised drawings as extra work and claimed Rs.2.57 crore for extra items which was paid in full without deducting 21.51 *per cent* (Rs.55.28 lakh) agreed in the tender. Thus, awarding the contract before finalising the designs and drawings and subsequent revisions in drawings *etc*. encouraged the contractor to segregate the extra items which resulted in extra expenditure of Rs.55.28 lakh.

The Management/Government stated (August/September 2007) that since the Industries Association was pressing hard to start the work, tenders were invited on the basis of data and estimates prepared by RITES. Due to change in alignment and deviation in ROB, the revision of drawings and designs were involved. The Corporation justified the extra item as economical, which added aesthetics to the bridge structure with modern engineering techniques and had the approval of their CEO.

The reply is not tenable, as award of contract before finalising the designs and drawings was irregular, being against codal provisions and the extra items could have been covered in the original tender and rebate of 21.51 *per cent* could have been availed, resulting in savings on cost.

Development of Bio-Technology Park at Additional Jalna Industrial Area

3.2.24 The project for development of BioTech Park Phase-II at Jalna was approved (March 2005) by SLEPC for Rs.15.46 crore. The Corporation invited tenders (February 2003) for the work of Permanent Water Supply Scheme to the park, for which the lowest offer received was at 6.30 *per cent* below the estimated cost of Rs.5.06 crore. The Corporation however, failed to obtain requisite permission for laying the pipeline from the State Highway Authority within the validity period (December 2003) of the first lowest offer. The Corporation thereafter reinvited tenders (January 2004) and awarded the work (July 2004) at a cost of Rs.5.85 crore (15.65 *per cent* above the estimated cost) and the work was completed in March 2006 as against the scheduled date of May 2005.

Extra expenditure Rs.1.11 crore was incurred due to delay in finalisation of offers.

Audit scrutiny revealed that Management failed to finalise the matter regarding land acquisition and accept the first offer within the validity period (December 2003). Meanwhile, the validity of the first offer expired and it was decided (27 January 2004) to reinvite the tenders. Thus, delay in decision making at various stages, necessitated the second tender with resultant extra expenditure of Rs.1.11[#] crore.

The Management/Government stated (August/September 2007) that the matter regarding permission for laying the pipeline from Highway Authority was initiated before inviting tender and after complying various requirement of Highway Authority, permission was obtained in June 2004.

The reply is not tenable, as the first contractor had extended its validity period up to December 2003, but the Corporation failed to finalise the related issues within the validity period. The procedural delays had thus resulted in extra expenditure of Rs.1.11 crore.

Actual exports was nil despite expenditure of Rs.13.15 crore on the project.

3.2.25 The project report had envisaged an estimated contribution to exports through Hi tech BT Park in Jalna at Rs.10.03 crore to Rs.13.25 crore during the period 2004-05 to 2006-07. Though the Corporation had entered into an agreement with Maharashtra Hybrid Seed Company (MAHYCO) for marketing of the Bio-Tech Park and for attracting the Bio-Tech Companies of International repute, actual allotments were made (2003-06) to eight industries only. Further, no activities/production of Bio-Technology had commenced (March 2007). Thus, anticipated export benefits from Bio-Technology could not be achieved and the expenditure of Rs.13.15 crore incurred up to March 2007 had proved unfruitful.

[#]Estimated cost Rs.5.06 crore, 6.30 *per cent* below Rs.5.06 crore = Rs.4.74 crore, 15.65 *per cent* above Rs.5.06 crore = Rs.5.85 crore Difference *i.e*. Rs.5.85 - Rs.4.74 is Rs.1.11 crore.

Incomplete work of Bio-Technology Park at Hinjewadi

3.2.26 A project (Cost: Rs.50.56 crore) for development of Bio-Technology (BT) Park at Hinjewadi district Pune was approved (March 2005) under ASIDE Scheme. Audit scrutiny revealed the following:

- The work of construction of roads at the BT park Phase-II awarded (November 2005) to DD Constructions for Rs.1.44 crore was to be completed by May 2006. Despite the extension of time up to August 2006, the work was not completed and the contract was rescinded (December 2006) at the risk and cost of the Contractor after payment of Rs.75.13 lakh to the Contractor. The tender for the left out work was, however, yet to be awarded (June 2007).

- As the road work were not completed, the direct access to Rajiv Gandhi Infotech Park and Biotech Phase-III from Phase-I and II was not available.

- The work of construction of 220/22KV, 100 MVA sub station and Towers at Rajiv Gandhi Infotech Park Phase-II awarded (July 2006) to EMCO Limited for contract value of Rs.19.36 crore with stipulated date of completion by April 2007 was still incomplete (July 2007), due to opposition from the villagers of Mangaon for plot leveling and delay in getting approval from the Maharashtra State Electricity Transmission Company Limited for electricity connection.

Thus, approval of the project by SLEPC as well as award of contract without the possession of land resulted in non availability of uninterrupted power supply to the plot holders, defeating the objectives of the project.

Monitoring

3.2.27 The SLEPC was to monitor the implementation of the projects through quarterly meetings as well as regular review meetings. The meetings were, however, not held at regular intervals and only one review meeting was held during the period from 2000-01 to 2005-06. It was noticed that execution of works were not monitored adequately as against 30 projects undertaken by the Corporation, 22 projects were completed. Out of the completed projects only six projects were completed in time and the delay in completion of 16 projects ranged from two to 21 months. The belated completion of the projects resulted in delay in achievement of the envisaged objective of export promotion. In case of completed works, the SLEPC had not ensured that necessary coordination/arrangements were made for boosting exports resulting in under/non utilisation of the infrastructure created out of ASIDE funds.

Acknowledgement

3.2.28 Audit acknowledges the co-operation and assistance extended by different levels of management at various stages of conducting this performance audit.

Conclusion

The Corporation failed to achieve the objective of Assistance to State for Developing Export Infrastructure and Allied Activities (ASIDE) Scheme for developing infrastructure for export promotion. Out of 36 projects approved under the Scheme, 22 projects were completed, of which only six were completed in time, seven projects were deferred/abandoned/ transferred and seven projects were in progress including one for which tender was yet to be finalised. The Corporation due to lack of planning could not utilise the funds within the same year as per the guidelines. The project reports prepared by the consultant were deficient and the export data/information included therein were not based on proper and authentic study.

Projects of strengthening of airstrips at Solapur, Karad, Nanded, Kolhapur and Latur, Bio-Technology Park at Jalna undertaken under ASIDE did not contribute to any exports. The infrastructure in two wine parks at Sangli (Palus) and Nashik (Vinchur), remained largely unutilised and exports were nominal. State Level Export Promotion Committee failed to monitor the implementation of the projects through regular meetings or other mechanism.

Recommendations

The Corporation, being Nodal Agency and implementing agency for the State of Maharashtra for ASIDE Scheme, may:

- **select such projects only which have overwhelming linkage with exports;**
- **prepare feasibility studies based on authentic export data/export potential;**
- **identify and remove bottlenecks to boost exports in already undertaken/completed projects with huge investments on airstrips, wine parks, floriculture parks and bio-technology parks not giving desired results;**
- **ensure completion of projects as per schedule and scope of the contracts; and**
- **initiate remedial/penal action on defaulting contractors for works.**

Maharashtra Industrial Development Corporation

3.3 Information Technology review on 'Geographical information system enabled land management system'

Highlights

Frequent changes in user requirements and system specification resulted in non completion of LMS even after eight years.

(Paragraph 3.3.7)

Geographical Information System though developed was kept idle by the Corporation.

(Paragraph 3.3.8)

Lack of physical and logical access controls made the system vulnerable to data manipulation.

(Paragraph 3.3.9)

The Corporation had yet to formulate a well documented Disaster Recovery and Business Continuity Plan.

(Paragraph 3.3.12)

Introduction

3.3.1 The Maharashtra Industrial Development Corporation (Corporation) with a view to streamline the activities relating to land envisaged Geographical Information System enabled Land Management System (GISeLMS) into two parts *i.e.*, Land Management System (LMS) and Geographical Information System (GIS) to be developed by the Centre for Development and Computing, Pune (C-DAC). LMS comprises of modules like offer, allotment, possession, agreement to lease (AtoL), lease of plots, corrigendum, extension, transfer, mortgage, subletting, subdivision, amalgamation, surrender, receipt and payments of regional offices (ROs), inwards and outward, reports, master data entry *etc*. GIS was to be used for providing all information on personal computers with interface facility to customers on information regarding plots, roads, pipelines, drainage lines, streetlights and other amenities. This system was to have web interface for clients and customers. The Joint Chief Executive Officer (Information Technology) is incharge of the LMS.

Scope of Audit

3.3.2 An Information Technology (IT) review was conducted during March to May 2007 to assess the implementation of the GIS enabled LMS. The audit examined the IT records at Head office and in five ROs *viz*. Pune, Thane, Nashik, Mahape and Kolhapur.

Audit objectives

3.3.3 The evaluation of the LMS was done with the objective of assessing:

- the reliability and effectiveness of the LMS;
- the accuracy and completeness of the data migrated from the legacy system (FoxPro) to the present Oracle platform;
- the economy in procurement of computer hardware, software and other outsourcing activities related to the LMS system;
- the accuracy and completeness of Management Information System (MIS) generated through the LMS system; and
- the actual usage and utility of the LMS to the Corporation.

Audit criteria

3.3.4 The following audit criteria were adopted:

- milestones set by the Corporation for completion of the project phase wise;
- manuals for the implementation of the LMS application;
- business rules of the Corporation;
- generally accepted best practices relating to IT control, backup and data security *etc*.; and
- guidelines issued from time to time by the State Government for implementation of IT in Corporations.

Audit methodology

3.3.5 The following audit methodology was adopted:

- Scrutiny of records pertaining to the implementation of the Project;

- Scrutiny of records pertaining to the procurement of hardware, software and other consumables for IT activities;
- Examination of minutes of meetings relating to decisions taken in the implementation of the GIS enabled LMS with the vendors;
- Study of MIS reports and files;
- Analysis of data collected from the ROs through Computer Aided Audit Tools; and
- Meetings were held with the officials of the Corporation responsible for implementation of the GIS enabled LMS.

Audit observations

General Controls

Information Technology Strategy

Corporation did not have Information technology strategy.

3.3.6 The Corporation did not have an Information Technology Strategy to computerise its working in a time bound manner and to utilise its IT assets including human resources. The LMS project was trailing behind schedule since 1999.

The Management/Government in their replies stated (August/September 2007) that the IT Strategy was under consideration by the Corporation.

User Requirement Specification and System Requirement Study

URS/SRS not prepared properly.

3.3.7 The Corporation awarded (1999) contract for developing the LMS to C-DAC at a cost of Rs.57.98 lakh with power builder as front end. The work included processing of allotment, transfer, subletting, amalgamation, surrender of all types of plots like industrial, residential, commercial and amenity plots. The Corporation released Rs.23.31 lakh by 2001 though the work was not completed. On the request of C-DAC the front-end tool was changed to Visual Basic and the Corporation awarded (June 2001) another contract for Rs.52 lakh (Rs.29 lakh for LMS and Rs.23 lakh for GIS). Accordingly, the application was developed based on the inputs received from the Corporation as per ‘allotment of one plot with one rate to one allottee’ condition *i.e.*, one plot can be allotted to one person only. Later, the requirements were modified by the Corporation to accommodate ‘more than one allottee for one plot and multi rate multi plot’ conditions *i.e.*, one plot can be allotted to more than one allottee as in case of co-operative societies. C-DAC had developed the modified software only for industrial plots (April 2007). The Corporation without insisting on completion of the balance work as per the contract gave another contract (July 2005) to C-DAC at a cost of Rs.35 lakh for covering other type of plots like residential, commercial and amenities with front end tool as Java. The work was to be completed by January 2006. The Corporation released Rs.62.81 lakh (Rs.23.31 lakh + Rs.29 lakh + Rs.10.50 lakh) till June 2007. The work was not complete as on August 2007.

Thus, defective User Requirement Specification and System Requirement Study resulted in frequent change requests and non completion of LMS even after eight years of its inception. The Corporation failed to get the work completed in a time bound manner due to frequent change requests and as a result the project was trailing since 1999.

The Management/Government in their replies accepted (August/ September 2007) the frequent changes made and the resulting delay in implementation of the project.

Non utilisation of Geographical Information System

GIS was not functional.

3.3.8 The Corporation had procured GIS software (Geomatica Web Server and Geomatica Fundamentals) at a cost of Rs.25 lakh (2001) and also incurred an expenditure of Rs.1.60 lakh for imparting training on the GIS software. C-DAC had customised GIS software at the cost of Rs.23 lakh in 2005 after a delay of three years (May 2002). The software was finally handed over to the Corporation in May 2007. However, it was observed that the same was not in use, resulting in idle expenditure of Rs.49.60 lakh.

The Management/Government in their replies stated (August/September 2007) that decision was taken for non implementation of GIS due to changes in top management.

The above exhibited the lack of a formal strategy on part of the Corporation which could not ensure a considered decision making and carrying the same forward. Thus, the Corporation continued to depend on manual controls and did not have confidence in GIS enabled LMS.

Physical access control

Unrestricted access to server.

3.3.9 It was noticed that server has not been located in a separate room and as such entry to the server room was not restricted and no logs were maintained to safeguard against unauthorised entry. It was also noticed that backups were taken at the ROs also by Nominal Muster Roll employees *i.e.* Casual Laborers (NMR). Besides, the server was used for surfing, email and even for normal office work. Thus, the physical security of the system was not ensured.

The Management/Government in their replies accepted (August/ September 2007) the observations.

Logical access control

Easy access to each type of file by all users.

3.3.10 In any, IT system it is necessary that the master data changes should be authorised at supervisory levels and users should not have any access to manipulate the master data. It was seen that there were no distinct categorisations of users. The LMS master files were updated by the users without any authorisaton. It was seen that unchanged passwords were being used by the operators and the Administrators (ROs) had not deactivated user identifications of the transferred personnel. Further, the system was used after office hours and on holidays. Thus, the 'logical access control' in GIS enabled LMS application was inadequate, making the system prone to manipulation.

The Management/Government in their replies stated (August/ September 2007) that in the new centralised web based LMS this flaw would be overcome.

Audit also observed that TOAD[1] was installed in the LMS Server and used by a third party vendor who was developing software for water billing. The use of tools like TOAD could result in breaching of security of the Oracle database apart from risks to data integrity due to non segregation of the production and the development environments.

Backup policy

The Corporation did not have backup policy.

3.3.11 The Corporation had not formulated any policy regarding backups and the frequency of taking backup. In RO, Thane it was observed that data for the period 5 September 2001 to 27 November 2005 was lost due to server crash which could not be retrieved. The same had to be entered again.

The Management/Government in their replies accepted (August/ September 2007) that the loss of data pertaining to collection of receipts in RO, Thane.

Disaster recovery and business continuity planning

The Corporation did not have disaster recovery and business continuity plan.

3.3.12 Audit observed that the Corporation did not formulate an IT security policy, identifying the threat perceptions and safety measures. The Corporation also did not formulate any 'Disaster Recovery and Business Continuity Plan'. Thus, the continuity and the security of the system could not be ensured.

The Management/Government in their replies accepted (August/ September 2007) that there is no disaster recovery and continuity plan. It further stated that IT Security Policy was being formulated.

[1] A tool for Oracle Application Developers.

Software inventory

Lack of software inventory.

3.3.13 The Corporation had procured (1999-2006) softwares like AutoCad, AutoDesk (Rs.82.99 lakh), Oracle (Rs.39.66 lakh), Geomatica web server and fundamentals (Rs.25 lakh) and Microsoft Office (Rs.42.44 lakh). It was seen that the Corporation did not maintain any inventory of the software procured.

Change management control and system documentation

Absence of change management control procedure and system documentation.

3.3.14 The LMS system required amendments from time to time to accommodate changes in the business rules/orders and to make improvements in the existing version. In the absence of system documentation, deficiencies or bugs that were rectified could not be ascertained by the Corporation. Further, authorised and unauthorised changes could not be distinguished in the system.

The Management/Government in their replies stated (August/September 2007) that the versions were maintained by C-DAC at their development centre. The reply is not tenable, as the versions were to be made available to the Corporation.

During test check in RO, Kolhapur it was observed that due to establishment of silver zone (SZ), which was also coded as A,B,C and D *etc*. along with normal industrial areas, there was duplication in coding, as the coding pattern was over lapping. The staff at RO, Kolhapur effected the changes without approval of the developer (C-DAC) or senior management. Thus, unauthorised changes were incorporated by the staff. Thus, audit observed that unauthorised changes were made without the approval of the management.

The Management/Government in their replies stated (August/September 2007) that it was not possible to monitor and control the activities carried out at field level without system administrator at each location. The reply is not tenable, as lack of change management request procedure resulted in such unauthorised changes.

Application controls

Accuracy of master data

Inaccurate and incomplete master data.

3.3.15 It was observed that master data was not updated regularly. It was updated as and when details of any transaction were fed in the system without any authorisation. As the master data was editable or could be deleted without any authorisation, it defeated the very purpose of transparency in the LMS despite computerisation.

In RO, Kolhapur data was analysed in detail and it was found that the master data was not properly fed in to the LMS system as detailed below:

Sl. No.	Type of plot	Actual (Manual) number of plots	Plots as per LMS	Difference
1.	Industrial	532	313	219
2.	Residential	25	4	21
3.	Amenity	12	4	8
4.	Commercial gala in flattened building	22	--	22
5.	Built up sheds	54	--	54
6.	Commercial gala	52	29	23

The Management/Government in their replies stated (August/September 2007) that the application is useful only for industrial type of plots. Hence, accurate MIS reports cannot be generated from incomplete data. The reply is not tenable, as even the records pertaining to industrial plots were also not updated in the system.

Input controls and validation checks

The LMS system did not have proper mechanism to validate the inputs.

3.3.16 In any IT system, one of the objectives is effective input controls and validations. In the LMS data entry or edition in transactions were not authorised at supervisory levels. The Corporation did not have a well defined role for users of the LMS. During test check at RO, Kolhapur, Nashik and Pune it was found that crucial data were edited without any authorisation and the changes were saved in the system. In addition to it the system had weak inbuilt input control as any four digit number was accepted by the system as the year.

The Management/Government in their replies stated (August/September 2007) that it is failure on part of C-DAC that basic validation for the dates were not incorporated in the application. The reply indicated lack of the involvement of the Corporation in ensuring correct development, testing and implementation of the application.

3.3.17 The Corporation allows subletting of plots by plot holders on payment of subletting charges. Audit observed in one test checked RO, Mahape that essential fields e.g. sublet area, sublet open area and sublet built up area[#], which were crucial for calculation of subletting fees were blank and manual correction was possible, leaving scope for manipulations**.** Out of 690 records; in 13 records subletting IDs were not entered; in 104 records sublet area details were not available; in 419 and 363 records sublet built up areas and sublet open areas respectively were not available and in 96 records total subletting area were blank.

[#] Sublet area denotes total area given on subletting, sublet open area denotes unbuilt area of the plot subletted and sublet built up area denotes built up area subletted.

Further, in RO, Ratnagiri it was seen that in respect of the receipt and payment in 284 records total amount was nil. Further, four records were found with the year of receipt as 2008, 2009, 2020 and 2205.

Thus, due to lack of input controls and validations wrong data were accepted by the system leaving scope for manipulation and defeating the purpose of accuracy, transparency and reliability.

The Management/Government accepted (August/September 2007) that basic validation for the dates were not incorporated in the application.

Incorporation of critical business rules

Incorrect calculation of corner/frontage charges.

3.3.18 In transfer cases of plots, transfer charges are also dependent on the position, location of the plots and are charged at 10 or 15 *per cent* (corner/front) on plots facing highways. It was seen at RO, Pune that the LMS had calculated Rs.18.27 lakh instead of Rs.21.97 lakh as the LMS system did not have provision for calculation of corner/frontage charges. The user had to manually edit the order in rich text mode and make the necessary corrections in the order. Thus, the LMS system had not incorporated critical business rules leading to manual interventions.

The Management stated (August 2007) during exit conference that this was due to lack of proper user acceptance test. The Government stated (September 2007) that manual controls are in place for accuracy in calculation of the transfer premium charges.

System design deficiencies

3.3.19 It was seen that in transfer module while processing transfer of plots cases, the transfer fee was not calculated automatically. The user had to manually calculate the same and feed it. During test check at RO, Pune a short recovery of Rs.20,000 was noticed. In ROs at Kolhapur, Thane, Mahape and Nashik also it was seen that the transfer charges were edited and compared with manual calculations.

The Management/Government in their replies stated (August/September 2007) that this was due to wrong data entry.

The reply is not tenable, as the system was not calculating the transfer fee automatically and the user had to manually enter the same.

Other points of interest

Procurement of hardware and software

3.3.20 The Corporation did not have any purchase policy regarding computer purchases. The Corporation placed orders (March and July 2006) for procurement of 145 Personal Computers (PCs) at a cost of Rs.75.03 lakh and 40 PCs at a cost of Rs.20.03 lakh respectively from a non DGS&D

Favouring Mapleton Technologies to the tune of Rs. 13.72 lakh in procurement of computers.

empanelled vendor (Mapleton Technologies Private Limited) who was their Annual Maintenance Contractor (AMC) for the Corporation since 2004-05. The procurement was for replacement of the old Pentium-I and II machines procured in 1997-99. The Corporation failed to take the benefit of anticipated revision in prices and higher configuration as per the new rate contract of DGS&D (August 2006). The procurement through new rate contract as per the DGS&D would have resulted in savings to the tune of Rs.13.72 lakh.

The Management/Government in their replies stated (August/September 2007) that Mapleton Technologies Private Limited is a channel partner of Lenovo hence they have procured from them and stated that the procurements were done prior to the new rate contract came in to effect.

The reply is not tenable, as the Computers were procured from Non DGS&D vendor and the anticipated revision of the DGS&D rates were known to the Corporation and there was no urgency as the work of the Corporation was not affected due to non procurement of the hardware. The Corporation could have benefited in terms of lower prices with higher configuration if the procurement was done after revision through DGS&D vendors.

Conclusion

The objective of the Land Management System (LMS) was to bring about the improvement in efficiency and effectiveness in transactions relating to land. Geographical Information System (GIS) was developed to make available information regarding plots, roads, pipelines, drainage, streetlights *etc.* Due to faulty user requirement specification and frequent change requests even after lapse of eight years GIS enabled LMS was not fully functional. It was used for industrial plots only. The LMS was not effective as despite the computerisation, most of the land management related functions were being done manually and the use of the legacy FoxPro system continued.

There were inherent weaknesses in the system. The IT Security was weak. The accuracy of data entered could not be assured. Thus, the MIS generated through the LMS was not reliable and complete.

Absence of IT Security policy and well documented Disaster Recovery Plan made the system vulnerable to risk of loss of critical data.

Thus, the Corporation was not in a position to provide reliable information to its customers on land and therefore the objective of undertaking computerisation could not be met completely.

Recommendations

The Corporation may take the following steps:

- **formulate an information technology policy including policy regarding security, control mechanisms, disaster recovery and business continuity plan, utilisation of IT assets, an outsourcing policy and implement it effectively;**

- **devise a suitable mechanism to get feedback from the regional offices and rectify the deficiencies including all the defunct modules in the LMS; and**

- **ensure compliance to terms and conditions by the vendor(s) as well as its own personnel for the development and implementation of the application.**