

CHAPTER I

PERFORMANCE AUDITS

NARMADA, WATER RESOURCES, WATER SUPPLY AND KALPSAR DEPARTMENT

1.1 Salinity Ingress Prevention Programme

Highlights

The progress of implementation of the Salinity Ingress Prevention Programme in the State was slow. As a result, an increase in areas affected by salinity ingress was noticed. Funds received as grants from the Twelfth Finance Commission were transferred to other non-executing divisions and shown as expenditure to avoid lapse of grants on expiry of the time limit. Despite recommendations by High Level Committees (HLCs) appointed by the Government, no groundwater legislation was enacted to restrict and regulate the withdrawal of groundwater. Works of Bandharas¹ and Spreading Channels² could not be completed due to non-acquisition of land. Tidal Regulators³ were not functioning and Bandharas and Spreading Channels were constructed in upstream areas in deviation of the recommendations of the HLCs. The execution of works for construction of Check Dams, Recharge Tanks, Nala Plugs etc., were not satisfactory. Adverse impact of salinity was observed on agricultural produce, groundwater quality and health of the coastal community. No High Level Review and Monitoring Committee was appointed and evaluation of the socio-economic impact and benefits from construction of these structures was not carried out.

The HLCs recommended (1978-1984) completion of works within seven years but only 41 per cent of the works were completed as of March 2010. The pace of completion of construction work was very slow in Madhavpur-Malia and Malia-Lakhpat reaches, where only 26 and 29 per cent of the works were completed respectively as of March 2010.

(Paragraph 1.1.6)

To avoid lapse of Twelfth Finance Commission grants, ₹50.37 crore was withdrawn and shown to have been spent though the amount had been deposited with non-executing divisions.

(Paragraph 1.1.7.1)

¹ A solid non-gated wall with crest level above high tide level.

² Construction of narrow channels near the coastal line connecting two reservoirs.

³ Structure with gates on large river to stop tidal ingress into the river bed.

Groundwater legislation to restrict and regulate the withdrawal of groundwater was not enacted by the Government even though it was recommended by the High Level Committees.

(Paragraph 1.1.8.1)

Gates of the Rukmavati Tidal Regulator were not functioning despite incurring expenditure of ₹ 50.28 lakh on repairs and maintenance.

(Paragraph 1.1.9.2)

Twenty-two Bandharas were constructed away from the mouths of the rivers.

(Paragraphs 1.1.9.4)

In seven cases, infructuous expenditure of ₹ 43.11 crore was noticed due to works remaining incomplete for want of required land.

(Paragraphs 1.1.9.6 and 1.1.10.2)

Expenditure of ₹ 1.92 crore on the Wandh Bandhara proved wasteful due to location of a mega power plant in the upstream area of the Bandhara.

(Paragraph 1.1.9.7)

No High Level Review and Monitoring Committee was constituted and evaluation of the socio-economic impact of structural works was not carried out even after issuance of a direction by the Government.

(Paragraphs 1.1.13 and 1.1.13.2)

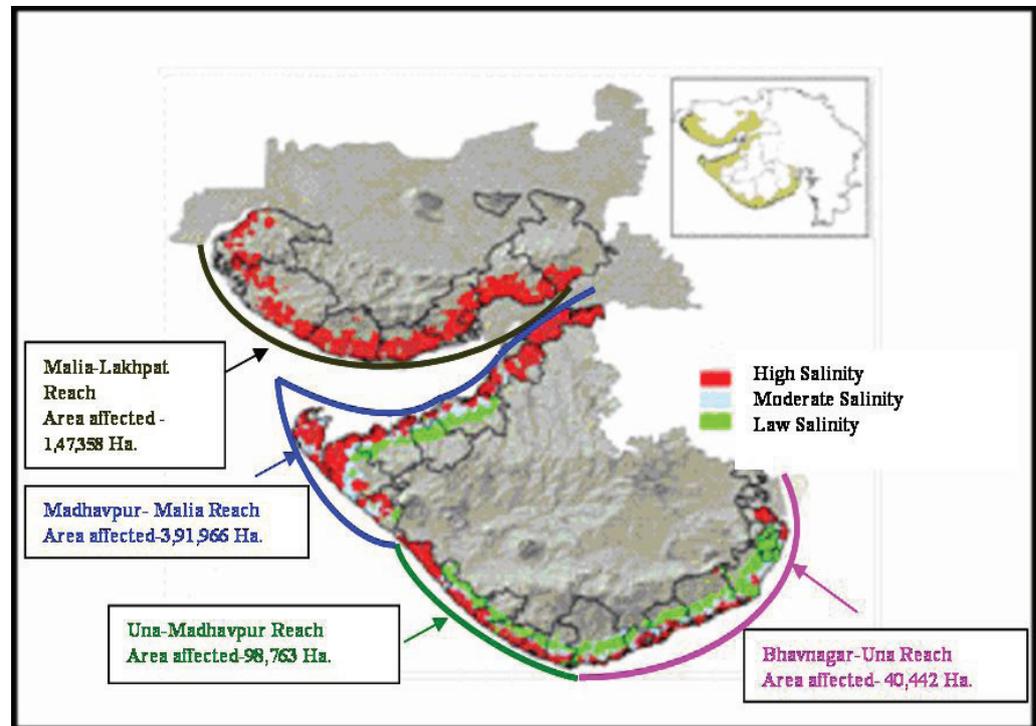
1.1.1 Introduction

The State of Gujarat has the longest coastline of 1600 km, which is about one third of the total coastline of India. Of this, Saurashtra and Kachchh districts have a 1125 km coastal belt from Bhavnagar to Lakhpat. Due to heavy withdrawal of groundwater and very meagre recharge sources (only rainfall), ingress of sea water has converted the available groundwater resources into a saline belt, rendering cultivable land useless and the water in the wells saline and unsuitable for irrigation and drinking purposes. The phenomenon of salinity ingress has affected 779 villages as of 1976, covering a population of 13.30 lakh and an area of 10.65 lakh hectares. The Government of Gujarat (Government) appointed (1976 and 1978) High Level Committees (HLC) to suggest measures for prevention of ingress of salinity and measures to remedy damages that had already occurred. The HLCs had recommended commissioning of a yearly study to monitor the areas that had been affected by salinity ingress. The last such yearly exercise was carried out in 2007-08⁴ and as per the report following this exercise, there had been an overall increase of 15 *per cent* in salinity ingress

⁴ By Groundwater Division for the Una-Madhavpur Reach and by GWRDC for other three Reaches.

area, involving an additional affected area of 88,947 hectares when compared with the base data for the period 1977 to 1984. Details of the increase/decrease in the four reaches are given in para 1.1.6.1.

Map 1 –Areas affected by salinity ingress in four coastal reaches



(Source: Superintending Engineer, Salinity Ingress Prevention Circle, Rajkot)

1.1.2 Organizational set up

The Secretary, Water Resources (WR) and the Special Secretary (WR) under the Narmada, Water Resources, Water Supply and Kalpsar Department (department) at the Government level are responsible for planning, implementation and monitoring of the Salinity Ingress Prevention Programme (SIPP) in the State. They are assisted by the Chief Engineer and Additional Secretary (CE and AS), Saurashtra, CE and AS, Panchayat (for Kachchh region) and the Managing Director, Gujarat Water Resources Development Corporation (GWRDC), Gandhinagar for implementation of SIPP. There are two⁵ Superintending Engineers (SEs) heading circle offices specific to SIPP and nine⁶ Executive Engineers (EE) working as heads of divisional offices below the two SEs.

1.1.3 Audit Objectives

The audit objectives were to assess whether

- proper planning was done for implementation of SIPP in the State,

⁵ (i) Kachchh Irrigation Circle, Bhuj and (ii) Salinity Ingress Prevention Circle, Rajkot

⁶ (i) Salinity Control Division, Bhavnagar, (ii) Salinity Control Division, Bhuj, (iii) Kachchh Irrigation Division, Bhuj, (iv) Water Resources and Investigation Division, Bhuj, (v) Kachchh Irrigation Construction Division, Bhuj, (vi) Salinity Control Division, Jamnagar, (vii) Salinity Control Division, Porbandar, (viii) Salinity Control Division, Rajkot, and (ix) Groundwater Division, Rajkot

- adequate funds were provided and these were utilized economically, efficiently and effectively,
- schemes were undertaken as per the recommendations of the HLCs and implemented in adherence to the rules and regulations in force,
- a system of monitoring and evaluation was present.

1.1.4 Audit criteria

The implementation of SIPP was assessed against the following criteria keeping in view the audit objectives:

- Remedial measures suggested in the reports of HLCs - I and II.
- Budget proposals, allocation of funds and expenditure statements.
- Conditions and stipulations specified in administrative approvals, technical sanctions and Rules and Guidelines issued by the Government.
- Monitoring and evaluation reports.

1.1.5 Scope of audit and audit methodology

The performance audit aimed to assess the process of planning, implementation and monitoring of various works that were recommended by the HLCs. The impact of salinity ingress was also assessed on the basis of data and information provided by the Government. Records for the period from 2005-10 of schemes under SIPP were test-checked between November 2009 and May 2010 in the Secretariat of the department, two circle offices and eight divisions⁷.

The performance audit was carried out keeping in view construction works and other such measures that were recommended by the two HLCs. Physical evidence was obtained in the shape of replies to audit queries, copies of documents, maps, photographs etc. An Entry Conference and an Exit Conference were held in February 2010 and July 2010 respectively with the Secretary of the department and other officials.

Audit findings

Planning

1.1.6 Delay in implementation of schemes under SIPP

Between 1976 and 1981, the Government demarcated the areas affected by salinity in the four coastal reaches of the State. However, HLC-I limited its report to only the Una-Madhavpur Reach comprising 160 km of coastal length. The report of HLC-I was accepted by the Government in 1978. HLC-II, which was appointed by the Government in 1978, gave its reports in the years 1983 and 1984 pertaining to three coastal reaches i.e. the Bhavnagar-Una Reach comprising 180 km of coastal length, the Madhavpur-Malia Reach

⁷ All the divisions mentioned in footnote 6 were test-checked except for Groundwater Division, Rajkot.

comprising 425 km of coastal length and the Malia-Lakhpat Reach comprising 360 km of coastal length. The Government accepted the report of HLC-II relating to the Bhavnagar-Una Reach in 1984 and the reports of the Madhavpur-Malia Reach and the Malia-Lakhpat Reach in 1992.

Despite passage of 18 to 32 years since acceptance of reports of the HLCs, only 41 per cent of works were completed.

The HLCs had recommended completion of various schemes for SIPP on a high priority basis within seven years of the acceptance of the reports. The HLCs recommendation were specific to locations and also included execution of works of Tidal Regulators, Bandharas, Check Dams⁸, Recharge Tanks⁹, Recharge Wells¹⁰ and construction of Spreading Channels.

Although the Government had accepted the reports of the HLCs, including their recommendation for construction of these works on a high priority basis, the progress of construction of the works was found to be very slow. As of March 2010, out of a total of 3357 works that were recommended by both the HLCs, only 1374 works (41 per cent) were completed.

Of the four reaches, the completion of works was very good in the Una-Madhavpur Reach, where out of 299 works recommended by HLC, 293 (98 per cent) were completed. However, in the Bhavnagar-Una Reach, out of 817 works, 359 works (44 per cent) were completed in the Madhavpur-Malia Reach, out of 1271 works, 332 works (26 per cent) were completed and in the Malia-Lakhpat Reach, out of 970 works, 281 works (29 per cent) were completed as of March 2010.

The works suggested by the HLCs and their status as of March 2010 are given in Table – 1.

Table - 1 : Physical progress of various components suggested by the HLCs

Sr. No.	Works suggested by HLCs and accepted by Government (1978-1992)	No. of works to be taken up	No. of works completed (March 2010)	Percentage of completed work
1	Tidal Regulators	53	11	21
2	Bandharas	127	64	50
3	Check Dams	1575	885	56
4	Recharge Tanks	122	17	14
5	Recharge Wells	1480	397	27
6	Spreading Channels	526 (km)	100 (km)	19
	Total¹¹	3357	1374	41

(Source: Information provided by the department)

The table shows that except for Bandharas and Check Dams, the physical progress of other works was very poor. As against the original cost of ₹ 789.12¹² crore estimated by the HLCs, a total expenditure of ₹ 772.04 crore had been incurred (up to March 2010) with estimated expenditure for the remaining works as per the last revised estimate (1992-2005) being ₹ 2093.16 crore. This shows that with the delay in implementation of the recommended works, the cost of the projects had escalated by 263 per cent.

⁸ Structures constructed in the beds of rivers to store monsoon flow.

⁹ Recharge tanks: structures constructed in low depression areas for diverting surplus water.

¹⁰ Recharge wells: structures with three to four metres diameter filled with rubble and sand.

¹¹ Excluding Spreading channels.

¹² Original estimate of HLC-I was ₹ 64.00 crore and HLC-II was ₹ 725.12 crore.

In reply, the Secretary, WR stated (May 2010) that the lengthy procedure of acquisition of forest land and private land, delays in finalization of designs due to unfavorable site conditions, shortage of technical staff and non-availability of funds in the initial periods resulted in delays in the progress of SIPP.

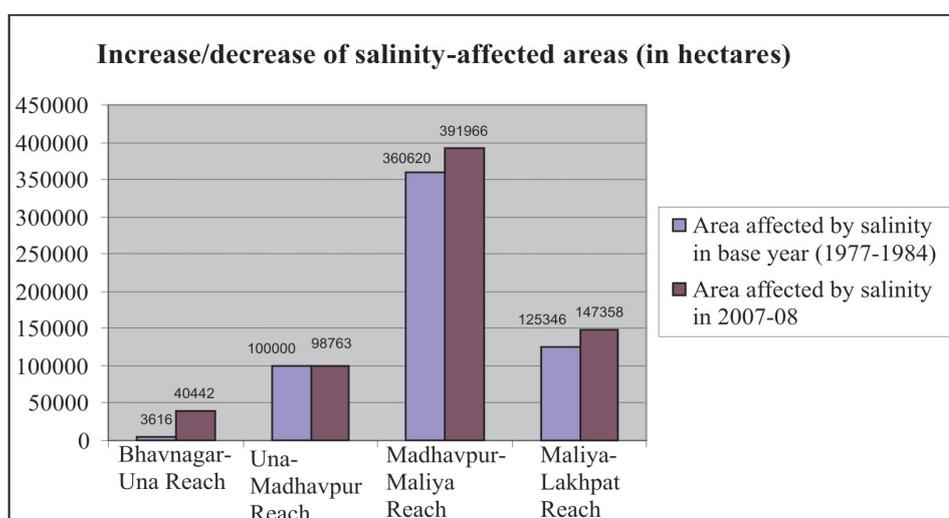
The Government, having accepted the recommendations, had failed to complete land acquisition procedures/finalise designs in advance and mobilize the necessary financial resources for the completion of these works despite the passage of 18 to 32 years from the acceptance of these two reports. As highlighted by the HLCs, the delays in completion of these works had consequences including the risk of increase in salinity-affected area. This aspect was reviewed in audit and it was noticed that among other reasons, non-timely construction of structures as was recommended by HLCs did contribute to increase in areas affected by the ingress of salinity (15 per cent). The details are given in the following paragraph:

1.1.6.1 Increase of salinity-affected areas

The HLCs in their reports had also recommended constant monitoring of groundwater conditions and water quality along with the extent and degree of salinity in groundwater, on the basis of which the areas that had been assessed to be affected by salinity were computed. The Groundwater Division, Rajkot and the Gujarat Water Resources Development Corporation, Gandhinagar had conducted (2007-08) studies which had reported changes in groundwater levels and groundwater quality after analyzing pre and post-monsoon water samples drawn from observation wells located along the coastal line of all the four reaches of the Saurashtra and Kachchh regions.

Details of changes in the areas affected by salinity ingress are as reflected in Chart 1.

Chart 1



(Source: Data compiled from reports of groundwater studies conducted by the Groundwater Division, Rajkot and the Gujarat Water Resources Development Corporation, Gandhinagar)

Areas affected by salinity ingress ion had increased by 88947 hectares.

As may be seen from the above chart, there was increase in the area affected by salinity ingress ion in the Bhavnagar-Una Reach by 36,826 hectares, the Madhavpur-Malia Reach by 31,346 hectares, and the Lakhpat-Malia Reach by 22,012 hectares. Only in the Una-Madhavpur Reach, there was a marginal decline of 1,237 hectares.

In reply, the Secretary attributed (May 2010) the increase in salinity-affected areas to excessive drawal of groundwater by farmers as the technology and means of pumping had improved stating that increased drawal of water led to realization of better value of agricultural products.

The reply is not acceptable as the primary structures (Bandharas, Tidal Regulators, Spreading Channels, Check Dams, Recharge Wells) which were recommended to be built by the HLCs and accepted by the Government for prevention of salinity ingress ion, had not been constructed fully.

Financial Management

1.1.7 Financial management

The budget provisions and expenditure incurred during 2005-2010 were as given in Table - 2.

Table - 2 : Details of budget provision and expenditure incurred (2005-10).

Year	Budget Provision			Expenditure			Excess (+)/ Saving (-) in Plan (percentage)
	Non-Plan	Plan	Total	Non-Plan	Plan	Total	
2005-06	0.25	55.98	56.23	0.42	18.37	18.79	(-)37.44 (67)
2006-07	1.00	66.98	67.98	1.03	58.19	59.22	(-)8.76 (13)
2007-08	0.90	156.45	157.35	0.62	94.38	95.00	(-)62.35 (40)
2008-09	0.77	135.80	136.57	0.79	102.56	103.35	(-)33.22 (24)
2009-10	0.73	93.22	93.95	0.82	122.56	123.38	(+)29.43 (31)
Total	3.65	508.43	512.08	3.68	396.06	399.74¹³	(-) 112.34 (22)

(Source: Data provided by the department)

There was an overall saving of ₹112.34 crore (22 per cent) against the budget provisions during the period. The Secretary attributed (May 2010) the savings in the period 2005-09 to non-commencement of works because of difficult location of sites and heavy rain. He further stated that more funds were demanded during the year 2009-10 to utilize the grants sanctioned by the Twelfth Finance Commission before expiry of its time limit (March 2010). The reply is not acceptable as the aspect of difficult locations should have been considered at the time of planning of these works.

¹³ Included expenditure of ₹ 198.52 crore from Twelfth Finance Commission and ₹ 135.64 crore from NABARD project

1.1.7.1 Diversion of funds

Four divisions
diverted
Twelfth Finance
Commission grants
of ₹50.37 crore.

As per provisions contained in Rule 193 (2) of the Gujarat Treasury Rules, money should not be drawn unless it is required for immediate disbursement. In disregard of these rules, EEs of four divisions had, during the period September 2009 to March 2010, deposited a total amount of ₹50.37 crore meant for 19 works financed through Twelfth Finance Commission grants. Drawal of funds without immediate requirement and depositing them with other non-executing divisions, reflected adversely on the system of financial management. Out of these 19 works, two works were at the tender stage while in the case of eight works, the expenditure incurred was less than 50 *per cent* of the tendered cost as of March 2010 as detailed in **Appendix-I**.

As per the condition of the Government of India (GOI), the last instalment of ₹20 crore was to be released only after submission of a completion certificate by the State Government indicating that the approved works had been completed in all respects, to be signed by the executing agencies and countersigned by the Finance Department. It was noticed (May 2010) that for receiving grants of the Twelfth Finance Commission, the completion certificates for all works were submitted to GOI on 16 March 2010, confirming that all the works were completed at an expenditure of ₹196.98 crore. Accordingly, GOI had released the last instalment of ₹16.98 crore on 23 March 2010.

Further, utilisation certificates showing that all the works had been completed and 100 *per cent* achievement of financial targets were submitted to GOI on 23 April 2010. The fact remains that in respect of 19 works, which had not been completed, unutilized funds of ₹50.37 crore were shown to have been utilized, which was a misrepresentation of facts to GOI.

1.1.7.2 Works sanctioned under NABARD loan project

As provided in the General Terms and Conditions of Schedule-I, condition no. 6(vi) of the sanction letter of October 2005 of NABARD, the State Government was to incorporate a clause in the tender document relating to works to be taken-up with the assistance of NABARD stating that the contractor/firms would be responsible for the defect liability period preferably for three years and in no case less than two years after the projects were commissioned/ completed.

Scrutiny of records of all the four divisions¹⁴ of Kachchh revealed that in the cases of 21 Bandhara works completed with NABARD assistance as of March 2010, the divisions had made provision of only one year for defect liabilities in each work. The divisions had also released security deposits after one year of completion of 15 works as detailed in **Appendix-II**. This resulted in deviation of the agreed terms of NABARD assistance and undue favour to the executing agencies.

The EEs stated (May 2010) that the divisions had not received the sanction letter of NABARD or the letter after finalization of tender documents and the defect liabilities for period of one year were kept as provided in the B-2 agreement.

¹⁴ (1) KICD, Bhuj – Three Bandharas, (2) KID, Bhuj – Five Bandharas, (3) SCD, Bhuj – Six Bandharas and (4) WRID, Bhuj – Seven Bandharas.

1.1.7.3 Undue favour to an agency by accepting bank guarantee for shorter period

As per provisions contained in Para 208(i) of Gujarat Public Works Manual Volume-I, an agency should submit a bank guarantee of five *per cent* of the estimated cost in lieu of a performance bond before receiving a work order. The validity of the guarantee should be beyond one year from the stipulated date of completion in the case of works costing ₹50 lakh and above.

Scrutiny of records of EE, SCD, Porbandar revealed (March 2010) that bank guarantees for ₹1.66 crore were received by the division for periods which were shorter than the stipulated period. The periods which were short were computed to be between one year (two cases)¹⁵ and two years (one case)¹⁶.

Implementation of the scheme

1.1.8 Management techniques

1.1.8.1 Legislation to restrict and regulate drawal of groundwater not enacted despite recommendation of HLCs

As stated earlier, to prevent and regulate the drawal of groundwater, particularly in areas where adequate provision for recharging of groundwater was not in existence, the HLCs had recommended a legislation to restrict the drawal of groundwater. It was envisaged that the legislation would regulate digging of new wells and installation of pumps in the existing wells and the owners of the wells would have to obtain licences specifying the limits to the drawal of groundwater on an annual basis. It was, however, seen in audit that neither had the aforesaid legislation been enacted by the Government nor had any effective mechanism been devised to regulate the drawal of groundwater.

The State Government could not finalise groundwater legislation to control withdrawal of groundwater.

The Secretary stated (November 2009) that the draft bill for groundwater conservation and management had been prepared (October 2007) by GWRDC and was under consideration of the Government. Despite the acceptance of the recommendation of HLCs by the Government, concrete action had not been taken, as a result of which, the drawal of groundwater remained unregulated, paving the way for ingress of salinity in the affected areas.

1.1.8.2 Non-availability of periodic data of groundwater recharge and withdrawal for three reaches

As mentioned in the HLCs' reports, GOI guidelines stipulated safe pumping of groundwater withdrawal up to 60 to 70 *per cent* of the net recharge. The data on the quantum of withdrawal and quantum of recharge analyzed by the HLCs revealed that 100 *per cent* pumping was being done in salinity-affected areas. The

¹⁵ (1) Ogee Spill in Vadodara Zala TR – Bank Guarantee of ₹4.18 lakh received for period up to 19-03-2009 instead of 24-02-2010; (2) Kindri Creek-Karli Creek SC – Bank Guarantee of ₹63.39 lakh received for period up to 12-03-2006 instead of 10-03-2007.

¹⁶ (1) Pachhatar-Kolikhada SC – Bank Guarantee of ₹98.88 lakh received for period up to 12-09-2010 instead of 14-09-2012.

HLCs recommended periodic comparison of the rate of increase of withdrawal and natural recharge in the affected areas and examination of the final picture that may emerge as a result of implementation of SIPP. Scrutiny revealed that no data regarding recharge and withdrawal of groundwater for three reaches were available with GWRDC, in the absence of which, the formulation and planning of interventional measures were adversely affected. The Groundwater Division, Rajkot had, however, collected the data for the Una-Madhavpur Reach pertaining to 2008.

1.1.9 Salinity control techniques

1.1.9.1 Tidal Regulators

The HLCs recommended the construction of Tidal Regulators (TR) to stop the ingress of sea water. The top portion of the gates were to be kept above the maximum tide level to prevent entry of tide water into the land and the gates were to be opened during floods to allow the discharge of excessive flood water to prevent submergence of the land areas in the upstream.

The HLCs had specified the construction of 53 TRs, against which only 11 had been constructed as of March 2010. Among various construction works such as Bandharas, Check Dams, Recharge Tanks/Wells and Spreading Channels, the pace of construction was the worst in the case of TRs, particularly in the Bhavnagar-Una Reach where eight TRs were recommended for construction but none had been constructed. In the case of the Malia-Lakhpat Reach where 21 TRs had been recommended, only one had been constructed as of March 2010.

The department stated (July 2010) that due to problems in smooth operation of gates, it was decided not to construct TRs. Audit scrutiny revealed that the quality of the TRs was not up to the mark and there were frequent problems in the functioning of the gates installed in TRs as discussed in the next paragraph.

1.1.9.2 Non-functioning of Rukmavati Tidal Regulator

A mention was made in Para No. 4.19.8.5 of the CAG's Audit Report for the year ended March 1997 regarding construction of the Rukmavati TR. The civil work of Rukmavati TR was completed in July 1986 at a cost of ₹2.37 crore and the work of providing automatic tilting steel gates was completed in June 1991 at a cost of ₹74.40 lakh. Thus, the civil work of TR had remained unproductive for five years.

The gates of Rukmavati TR were not functioning even after incurring expenditure of ₹50.28 lakh on their repairs.

The Central Water Commission (CWC) had pointed out (November 2005) that the deterioration in the condition of the gates was due to corrosion from sea water and the gates were not operational as trash/bushes were getting stuck in the axles of the gates. CWC had suggested that the damaged gates should be replaced with vertical gates or alternatively, raising of the wall may be considered. Repairing of the gates was not suggested by the CWC. Audit scrutiny (March 2010) revealed that the EE, SCD, Bhuj, responsible for the functioning of the TR, had proceeded (June 2005) with award of a contract for

the work of repairing the gates at a tender cost of ₹28.31 lakh with a completion period of four months. The repair work was completed in March 2007 after a delay of 17 months at a cost of ₹50.28 lakh. The delay period was regularized by the Government in December 2007.



(Photograph showing non-functioning of Gates due to trash/bushes getting stuck in the axle)

Even after incurring expenditure of ₹50.28 lakh on repairs, functioning of the gates was not up to the requirement. Frequent operational problems were highlighted by the EE of SCD to the SE, mentioning leakages of water through the gates. Expenditure of ₹50.28 lakh on the repairs was thus largely wasteful. The department stated (July 2010) in the exit conference that construction of a wall in place of the gates as suggested by the CWC was under consideration.

1.1.9.3 Bandharas

The HLCs had suggested the construction of 127 Bandharas to deal with the problem of salinity ingress. However, it was observed during audit that only 64 Bandharas had been constructed as of March 2010. In the Bhavnagar-Una Reach and the Madhavpur-Malia Reach, the progress of construction of Bandharas was only 24 *per cent* and eight *per cent* respectively against 100 *per cent* achievement noticed in the other two reaches. Scrutiny of work of construction of some of the Bandharas revealed non-completion of work and problems in acquisition of land as discussed in the succeeding paragraphs.

1.1.9.4 Construction of Bandharas away from the mouth of the rivers

As mentioned in Chapter-11 of the HLC-II (1978) report, there were 55 rivers (major and minor) which were draining in the Maliya-Lakhpat reach. Due to

flat slopes of the river beds near the mouth, tidal water was entering through estuaries¹⁷ of the rivers up to two to six km into the land, as a result of which the water in the wells within and in the surrounding areas of these estuaries was saline. Therefore, the HLCs had suggested stopping of tidal ingress into the rivers by sealing the mouths of the rivers by constructing Bandharas. The height of these Bandharas was to be kept above the maximum tide level.

Twenty-two Bandharas were constructed away from the mouths of rivers at distances ranging from 0.85 to 13 km.

Scrutiny of the records of three¹⁸ divisions, however, revealed that instead of constructing Bandharas at the mouths of rivers, out of the total of 33 Bandharas constructed as of March 2010, 22 Bandharas were constructed away from the mouths of rivers and in the upstream, at locations ranging between 0.85 to 13 km inside the mouths of the rivers as detailed in **Appendix - III**. Such locations of Bandharas negated the objective of building them, as tidal water continued to intrude into the river causing salinity in the surrounding wells that were located in the vicinity.

When this was pointed out, the EEs of these divisions replied (May 2010) that the selection of sites was done after assessing aspects such as soil strata and surrounding bank areas; avoidance of sand dunes, slushy and marshy areas and minimizing land acquisition problems. The reply is not acceptable as construction of Bandharas away from the mouths of rivers defeated the purpose of prevention of tidal ingress into the lands. During the exit conference in July 2010, the Secretary agreed with the audit observation. He, however, clarified that Bandharas constructed away from the mouths of the rivers served the purpose of recharge of groundwater. The fact, however, remains that the objective of construction of Bandharas at the mouths of the rivers to stop tidal water remained unachieved.

1.1.9.5 Construction of additional Bandharas on same rivers

The department accorded (January 2010) administrative approval to Layja - 2 Bandhara on Kharod river and Changdai Bandhara on Sai river at costs of ₹9.99 crore and ₹2.70 crore respectively even though in the upstream of these rivers, Mota Layja Bandhara and Modkuba Bandhara respectively had been previously constructed in July 2007.

Audit scrutiny revealed that the Mota Layja Bandhara and Modkuba Bandhara constructed earlier were nine km inside from the mouth of river. As such, the expenditure of ₹8.35 crore incurred on construction of the Mota Layja Bandhara (₹4.82 crore) and Modkuba Bandharas (₹3.53 crore) was infructuous and wasteful since additional Bandharas had to be proposed on the same river.

The EE, Salinity Control Division (SCD), Bhuj stated (May 2010) that the existing Bandharas were not falling in the catchment area of the proposed new Bandharas as the sites of Layja -2 Bandhara and Changdai Bandhara were 6.5 km and five km away from the existing the Mota Layja Bandhara and Modkuba

¹⁷ Partly enclosed coastal bodies of water with one or more rivers or streams flowing into them, and with free connection to the open sea.

¹⁸ (1) Kachhch Irrigation Construction Division, Bhuj - five Bandharas, (2) Kachhch Irrigation Division, Bhuj - eight Bandharas and (3) Salinity Control Division, Bhuj - nine Bandharas.

Bandhara respectively and this would not adversely affect the performance of the proposed Bandharas.

The fact that additional Bandharas on the same rivers was proposed points towards the ineffectiveness of performance of the Bandharas that had been constructed earlier. The HLCs had recommended only one Bandhara each at the mouth of these two rivers. Further, the proposed second Bandharas were also not located at the mouths of the rivers and were inside at a distance of 2.5 (Layja-2) and four km (Changdai) from the mouths. Consequently, adverse implications in terms of inflow of saline tide into the surrounding areas with the attendant risk of causing salinity in the wells located in the surrounding existed.

1.1.9.6 Unfruitful expenditure due to non-acquisition of land

As provided in a Government circular dated 7 June 1996, read with para 232 of the Gujarat Public Works Department Manual Volume- I, tender notices are to be issued only after acquisition of minimum 75 per cent of the land that is required for execution of proposed works. Further, 100 per cent land should be acquired before issuing of work orders or the arrangement of land acquisition should be such that the works may be completed as per the time schedule.

Expenditure of ₹11.59 crore incurred on three Bandharas rendered infructuous due to non-acquisition of land.

It was, however, noticed (April 2010) that in the three cases discussed below, work orders were issued before acquisition of the required land, in anticipation of completion of the procedure for acquisition of land. Subsequent non-acquisition of the proposed land led to non-completion of the works and infructuous expenditure.

(a) The land required for the work of the Vira Bandhara at Lerakh River at Malia-Lakhpat Reach was 26.78 hectares of private land and 8.63 hectares of Government land. Though no land was acquired, the EE, Kachchh Irrigation Construction Division (KICD), Bhuj awarded (February 2007) the work of construction of the Bandhara at the tendered cost of ₹5.53 crore with a time limit of completion as 18 months. Due to non-acquisition of the private land, the work of the left bank earthen bund between chainage 1445 to 1745 metres could not be completed. The contractor executed works to the extent of ₹4.15 crore, leaving incomplete work valuing ₹32.69 lakh as of September 2009. Due to incomplete work of the weir, the storage capacity of the Bandhara was also reduced from 12.71 metric cubic feet (mcft) to Nil, rendering the expenditure incurred of ₹4.15 crore infructuous.

(b) The work of the Hadiyana Bandhara was awarded (March 2007) by EE, SCD, Rajkot at a tendered cost ₹6.01 crore, with a time limit of 18 months for completion. Audit scrutiny revealed (April 2010) that work valuing ₹4.17 crore was completed as of March 2010. Work of the earthen bund in chainage 3200 to 4890 metres was pending as of March 2010 due to non-acquisition of 1.68 hectares of private land as the matter was pending in court. As the work was awarded before ensuring arrangements for acquisition of land, the expenditure incurred so far remained blocked without any benefits.

(c) The work of the Lakhapar Bandhara was awarded (March 2007) by EE, Kachhch Irrigation Division (KID), Bhuj at a tendered cost of ₹3.58 crore without ensuring availability of 16.58 hectares of required land. Audit scrutiny revealed that work of the left side earthen bund from chainage 75 to (-) 290 metres was completed, leaving a gap in the chainage between 327.30 and 75 metres due to non-acquisition of private land. The total expenditure incurred (September 2008) was ₹3.27 crore and the contractor was relieved (April 2009) from the work as the matter of land acquisition was pending in court.

Thus, commencement of works before acquiring land resulted in delays in completion of works besides non-achievement of the targeted benefits of the scheme.

1.1.9.7 Wasteful expenditure on Wandh Bandhara

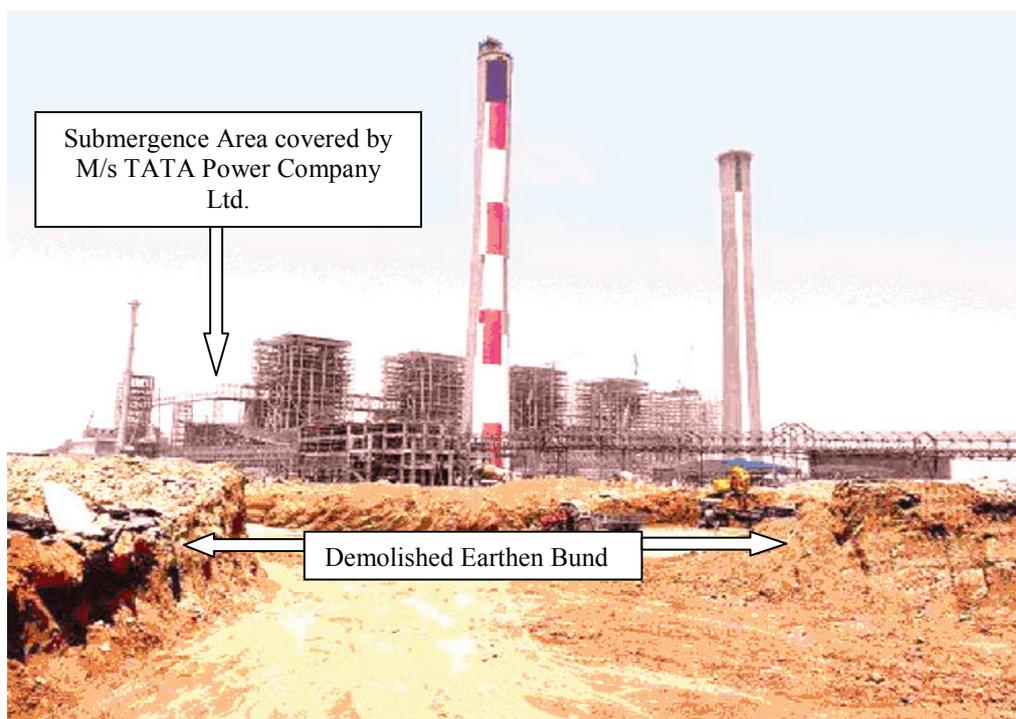
The work of construction of the Wandh Bandhara was awarded (March 2007) by EE, WRI Division, Bhuj to an agency and was completed (March 2008) at a cost of ₹1.92 crore.

Audit scrutiny revealed that instead of constructing the Bandhara on Khari River as suggested by the HCL, the Wandh Bandhara was constructed on its tributary i.e. Vonkla. The work was initiated (March 2007) without taking any action for acquisition of the required 31 hectares of Government land (Survey Number 180 of village Vandh) for earthen bunds and submergence area. Only in July 2007, a proposal for acquisition of land was submitted to the Deputy Collector, Bhuj by the Division.

However, the Government had transferred (July 2005) the entire land (442 hectares) of Survey Number 180 to M/s Mundra Port for development of a Special Economic Zone. On an application (January 2007) by M/s TATA Power Company Ltd., Mumbai (M/s TATA) for setting up a 4000 MW Power Project, the Government transferred (September 2007) 133.30 hectares of Government land out of Survey Number 180 to M/s TATA after taking it back from M/s Mundra Port.

Expenditure of ₹1.92 crore on Wandh Bandhara construction on the land proved wasteful as the land had already been allotted to M/s TATA Power Company Ltd.

During the process of transfer of land, M/s TATA had pointed out (June 2007) that the ongoing Bandhara construction work would interfere with the work in their main plant area and sought intervention for its stoppage. No decision was on record in respect of this plea of M/s TATA. In May 2009, the Deputy EE of this Division reported to the EE that the constructed left bank earthen bund between chainage 150 and 300 m had been demolished.



(Photograph showing location of the plant and the demolished earthen bund)

The department proceeded to award the contract for construction of this Bandhara without assessing the availability of land. Even after it came to their notice that the land for the submergence areas and the earthen bund had been transferred, the construction work continued, rendering the entire expenditure of ₹1.92 crore wasteful.

In reply, the EE stated (May 2010) that due to non-availability of a suitable site on the main river, the Bandhara was constructed on its tributary. During the exit conference, the Secretary stated (July 2010) that though their proposal for land acquisition was pending with the revenue authorities, the land had been transferred to M/s TATA by the revenue authorities, without consultation with the department.

1.1.10 Recharge techniques

1.1.10.1 Spreading Channels

Scrutiny of works pertaining to Spreading Channels revealed the following:

1.1.10.2 Spreading Channel construction works

Only 19 per cent of Spreading Channel works was completed.

(a) Out of 526 km of SCs recommended by HLCs, only 100 km had been completed (March 2010). Due to the absence of links between reservoirs through the construction of SCs, sea water continued to intrude into surrounding areas of completed structures i.e. Bandharas and Tidal Regulators. Therefore, the aim of reducing salinity ingression could not be fully achieved in these areas. Out of the four reaches, in the Bhavnagar-Una Reach and the Malia-Lakhpat Reach, as against recommendations for construction of 60 km

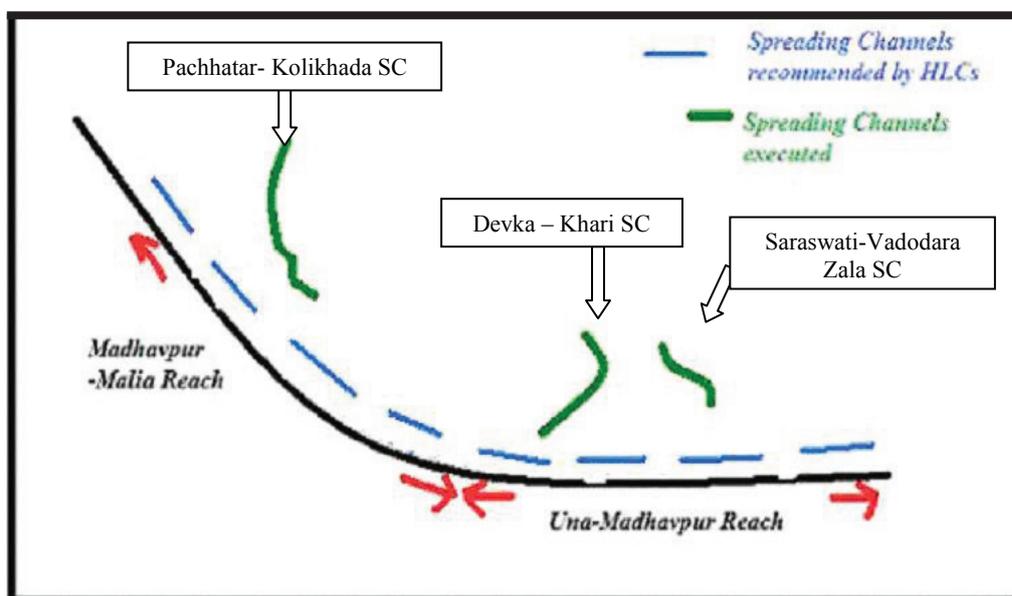
and 166 km of SCs respectively, there was no construction as of March 2010. In the Una-Madhavpur Reach, the entire recommended length of 60 km of SC had been constructed.

The Secretary stated (May 2010) that due to shortage of funds and non-availability of sufficient technical manpower, the work of the SCs could not be taken up simultaneously. The reply is not acceptable as there were savings of ₹ 112.34 crore during 2005-10. On this being pointed out during the exit conference (July 2010), the Secretary stated that SC works would be taken up and completed expeditiously.

Three Spreading Channels were executed in upstream areas contrary to the recommendation by the HLCs.

(b) The HLCs had specified the locations of the SCs, which were required to be constructed near to the coastline connecting the reservoirs. By means of SCs, barriers of sweet water are formed which push back seawater intrusion by their hydrostatic heads. The locations of SCs were specified by the HLCs in maps, attached with their reports which showed that they were to be located parallel to the coastline. It was seen that contrary to the recommendation of the HLCs, three¹⁹ SCs were constructed which were not near the coastline but were in fact perpendicular or inclined at an obtuse angle or at a curve from the coastline. Thus, construction of SCs did not fulfill the objective of prevention of ingress of saline water. The locations of the three SCs constructed are reflected in the diagram below:

Map 2 Showing upstream locations of three Spreading Channels



(Source: Map furnished by the EE, SCD, Porbandar)

When reasons for construction of SCs contrary to the provisions were called for, the EE stated (May 2010) that the surrounding landholders would be benefited through these works which were based on the HLCs recommendation. In the exit conference the Secretary stated (July 2010) that the SCs were constructed after taking into account the geomorphologic structure of land so as to ensure percolation of water into the ground reservoir. The reply is not acceptable as the

¹⁹ (i) Saraswati -Vadodara Zala SC with three km length completed in November 2009 at a cost of ₹48.25 lakh, (ii) Devka – Khari SC with 4.92 km length work in progress with expenditure of ₹46.03 lakh as of March 2010 and (iii) Pachhatar – Kolikhada SC with length of 23.19 km work in progress with expenditure of ₹9.69 crore.

primary objective of construction of SCs to create barriers near the coastline to prevent ingress of saline water was not achieved.

(c) As provided in a Government Circular of July 1996, read with para 232 of the GPWD Manual Volume- I, a tender notice is to be issued only after acquisition of 75 per cent of the land for execution of work. Further, cent per cent land should be acquired in time so that work can be completed within the time schedule.

Scrutiny of records of EE, SCD, Porbandar and EE, SCD, Rajkot revealed that four spreading channel works (details in **Appendix-IV**) were commenced without proper planning/feasibility studies to ascertain the availability of the required land, on which a total expenditure of ₹31.52 crore was incurred up to March 2010. As a result, the works remained incomplete on expiry of their time schedule due to non-acquisition of land.

The commencement of works before acquisition of land was in contravention of Government instructions and resulted in non-completion of entire lengths of SCs, as a result of which water could not flow from one reservoir to other. The envisaged objective of joining two reservoirs could not be achieved even after delays ranging from one year to eight years. Non-completion of the works resulted in blocking of Government money besides non-achievement of the primary objective of creating barriers to prevent the inflow of saline sea water.

1.1.10.3 Noli-Netravati Spreading Channel

The work of Noli-Netravati Spreading Channel had remained incomplete despite passage of 16 years since its commencement.

The department accorded (October 1994) administrative approval for the construction work of the Noli-Netravati SC linking Sil Bandhara and Sardagram Bandhara. The work was estimated to cost ₹5.53 crore. The length of the SC was 15.99 km and the work was to be executed in phases. Though the work of construction commenced in 1994, as of March 2010 only 15.81 km of the SC had been completed, after incurring expenditure of ₹6.36 crore. There were missing links at two locations comprising gaps in the construction of SC by 110 metres and 62 metres. Construction works in these two missing links was not completed (June 2008) on account of court cases pertaining to land acquisition at chainage 11200 to 11310 metres and chainage 9660 to 9722 metres. Availability of 100 per cent of land was not ensured ignoring the Government instructions of July 1996. Consequently, expenditure of ₹6.36 crore remained blocked for two years without obtaining the envisaged benefit of achieving transfer of water between two Bandharas. Despite the passage of more than 16 years after commencement of the work, it had not been completed. As a result, in the absence of water in the constructed channels, the objective of preventing of salinity also remained unachieved.

1.1.10.4 Progress of other components

The HLCs had recommended (1978 and 1984) the construction of check dams²⁰, recharge tanks²¹ and recharge wells²²; afforestation along the tidal zones; gully

²⁰ Structures constructed in beds of rivers to store the monsoon flow.

²¹ Structures constructed in low depression areas where surplus water can be diverted.

²² Wells of three to four metres diameter in beds of rivers to be filled with rubble and sand filter at the top.

and nala plugging²³ at the dispersal of tributaries and coastal land reclamation²⁴. The pace of construction of various items of work recommended by the HLCs, as of March 2010 was very poor. As against 122 recharge tanks recommended, only 17 (14 *per cent*) were constructed, whilst against 1480 recharge wells recommended, only 389 (26 *per cent*) were constructed. Against 43,700 hectares of afforestation works recommended, only 3818 (nine *per cent*) hectares was completed and only 4487 (seven *per cent*) gully/nala plugging was done out of 64,400 that was recommended.

Non-completion of these works in time posed attendant risks of increase in areas affected by ingress of salinity.

1.1.11 Impact of salinity ingress on livelihoods and environment

Salinity ingress had a socio-economic and environmental impact which led to a decline in natural resources as well as in quality of lives of the people in the affected areas. The Coastal Salinity Prevention Cell, Ahmedabad (CSPC) constituted by the State Government in December 2004, carried out a baseline study in 2007-08 mainly to assess impact of ingress of salinity in the day to day life, occupation and health of the inhabitants of these areas covering 1165 villages of seven²⁵ districts of Saurashtra and Kachchh region. Details showing district-wise and taluka-wise villages located at various distances from the sea coast for each of the four reaches are given in **Appendix-V**. Increasing salinity led to decreasing crop yields, the non-availability of safe drinking water, poor health status etc. as discussed in the succeeding paragraphs.

1.1.11.1 Crop productivity in saline soil

The HLCs recommended (1978-1984) effective changes in the cropping pattern and suggested that the farmers should be educated to go in for crops requiring less water and having salt tolerance. The HLCs further suggested that Gujarat Agriculture University should undertake a detailed research programme to develop location-specific agro-technology and cropping patterns and the results of the research should be transferred to the farmers by establishing trial-cum demonstration farms in different areas. The department did not have any data on the cropping patterns being adopted prior or subsequent to HLCs' reports.

Decrease in crop yield was noticed in saline areas.

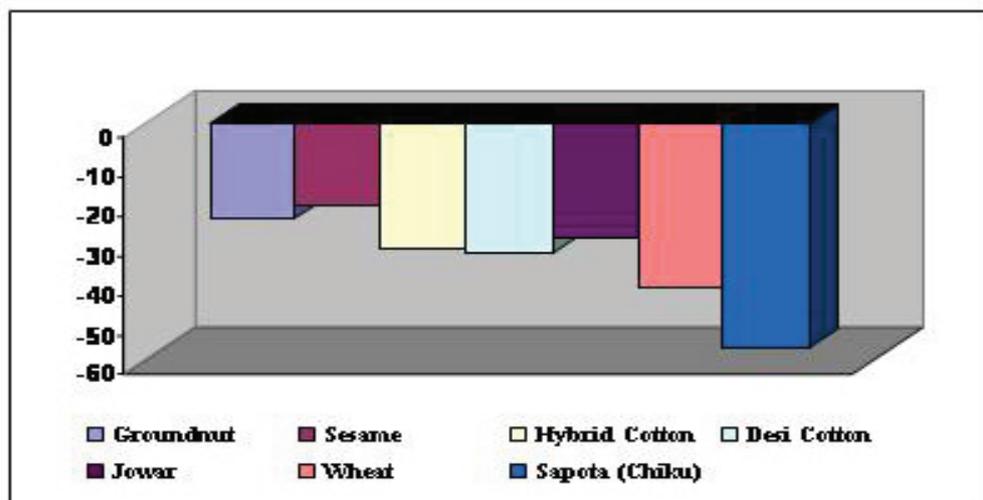
Salinity of the soil adversely affects crop productivity. Reduction in the main crop yields in saline soil as compared to non-saline soil is shown in Chart 2 below.

²³ Structure to arrest flood water at small tributaries of rivers.

²⁴ Construction of bunds along the sea coast to stop tidal ingress into saline land and leaching salts with application of sweet water.

²⁵ (1) Amreli - 88 villages, (2) Bhavnagar - 188 villages, (3) Jamnagar - 240 villages, (4) Junagadh - 291 villages, (5) Kachchh - 251 villages, (6) Porbandar - 61 villages and (7) Rajkot - 46 villages.

Chart 2 - Chart showing reduction of crop productivity in saline areas as compared to non-saline areas (percentage)



(Source: Data collected from CSPC, Ahmedabad)

The Secretary stated (May 2010) that the Government did not have any direct control over the crops being sown by the farmers and that they chose their crops and followed their own practices of agriculture considering economic aspects. The fact remains that little had been done in respect of the recommendations of the HLCs to create awareness and disseminate knowledge towards modification in cropping patterns in salinity-affected areas.

1.1.11.2 Impact of salinity on groundwater

The results of a groundwater quality analysis carried out by GWRDC in 2007 and the Groundwater Division, Rajkot by collecting water samples from 886²⁶ observation wells located on coastal areas showed unsafe water quality in a majority of the areas as shown in Table – 4.

Table - 4 : Results of water samples collected from coastal areas

Water Quality Zones	Range of Total Dissolved Solids values (parts per million)	Number of samples	Percentage
Fresh water zone	< 2000	359	41
Low salinity zone	2000 to 4000	270	30
Medium salinity zone	4000 to 6000	118	13
High salinity zone	> 6000	139	16

(Source: Data provided by GWRDC and Groundwater Division, Rajkot)

Scrutiny of results revealed that 27, 19, 15 and 10 samples taken from Porbandar, Mangrol, Okha and Mandvi Talukas respectively were falling under

²⁶ (1) Amreli – 35, (2) Bhavnagar – 96, (3) Jamnagar – 237, (4) Junagadh – 297, (5) Kachchh – 138, (6) Porbandar – 68 and (7) Rajkot -15.

the high salinity zone. Similarly, 12, 11 and 10 samples taken from Veraval, Abadasa and Mahuva talukas respectively were falling under the medium salinity zone.

Salinity ingress had affected the quality of groundwater resource of the entire coastline. The baseline study showed that out of 1165 villages, 540 villages had drinking water problems such as no source, inadequate source of water availability and poor quality of water.

1.1.11.3 Impact of salinity on health

Inhabitants of coastal areas were affected by kidney stones, fluorosis, gastric problems etc due to drinking of saline water.

Inhabitants of coastal areas often have poor health, mainly due to lack of potable drinking water in the coastal district of Amreli, Jamnagar and Kachchh. Non-availability of potable water forced people to drink saline water which can cause water-borne and other diseases like kidney stones, gastric problems etc. A baseline study carried out (2007-08) in 1165 villages by CSPC indicated that 890, 753 and 337 villages reported high number of cases of kidney stones, gastric problems and fluorosis respectively as shown in Table - 5.

Table - 5 : Villages affected by various diseases at various distances from sea coast

Diseases type	Total No. of villages facing health problems	Distance of affected villages from sea coast		
		< 5 km	5 to 10 km	> 10 km
Kidney stones	890	347	236	307
Fluorosis	337	151	87	99
Gastric problems	753	269	207	277

(Source : Compiled from data provided by CSPC, Ahmedabad)

Cases of kidney stones in saline areas affected four *per cent* of the population as compared to two *per cent* in non-saline areas. The study report pointed out that the cases of fluorosis were more in the villages of Amreli, Jamnagar and Kachchh districts.

Other points of interest

1.1.12 Non-recovery of Labour Welfare Cess

Building and other construction workers are one of the largest and most vulnerable segments of unorganized labour. Government of India enacted (August 1996) the Buildings and other Construction Workers (Regulation of Employment and Conditions of Services) Act, 1996 for constitution of Welfare Boards in each State to undertake social security schemes for such workers. GOI also enacted the Building and Other Construction Workers Welfare Cess Act, 1996 (Cess Act). To augment the resources of the Board, Section 3 of the Cess Act provides for levy and collection of labour welfare cess at the rate of not less than one *per cent* of the cost of construction incurred by an employer.

Accordingly, the State Government framed (August 2003) the Building and other Construction Workers (Regulation of Employment and Conditions of

Service) Rules, 2003 and constituted (December 2004) a Gujarat Building and Other Construction Workers Welfare Board (Board). The Board resolved to collect cess with effect from 18 December 2004. In January 2005, Government made it mandatory for all its departments, Public Sector Undertakings (PSUs) and local authorities to collect and pay the cess as per the Cess Act. It appointed all Heads of Departments of Government and PSUs as cess collectors to effect recovery of the cess.

Labour Welfare Cess of ₹1.66 crore was not recovered.

Audit scrutiny revealed (February to April 2010) that four²⁷ divisions had taken up (March 2006 to December 2008) construction works of 44 Bandharas and one work of Protective Wall and incurred an expenditure of ₹166.06 crore upto March 2010. However, one *per cent* Labour Welfare Cess had not been recovered from the agencies, which worked out to ₹1.66 crore as detailed in **Appendix-VI**.

The divisions stated (April-May 2010) that the instructions regarding provision of Labour Welfare Cess were received subsequent to the issue of tender copies. Therefore, provision of Labour Welfare Cess was not made in the agreement. The reply is not acceptable as the Government had made it mandatory (January 2005) to collect one *per cent* Labour Welfare Cess and the draft tender papers of these works were approved subsequent to this date.

Monitoring and Evaluation

1.1.13 High Level Review and Monitoring Committee

The HLCs recommended that a special committee of experts may be appointed to monitor this most important project and proposed the appointment of a High Level Review and Monitoring Committee with one of the two Superintending Engineers as a Member Secretary. The Committee was to comprise experts from disciplines like irrigation, agriculture, forest, soil conservation, groundwater, public health, planning and finance.

Multi-disciplinary Review and Monitoring Committee was not appointed by Government though recommended by HLCs.

It was seen during audit that no High Level Review or Monitoring Committee was appointed by the Government. In reply, the Secretary stated (May 2010) that the primary focus of the Government was to undertake various works suggested by HLC-I and HLC-II. The Secretary further stated that monitoring of the Una-Madhavpur coastal reach was being carried out by the Geologist-I, Groundwater Division, Rajkot while for the three other reaches, the monitoring work was being carried out by GWRDC.

The reply is not acceptable as the HLCs had recommended a multi-disciplinary Review and Monitoring Committee involving experts from different streams. Entrusting the work of monitoring to a geologist or to GWRDC would not yield the benefits of obtaining inputs of experts from various disciplines.

²⁷ (i) KICD, Bhuj, (ii) KID, Bhuj, (iii) SCD, Bhuj and (iv) WRID, Bhuj.

1.1.13.1 Non-implementation of recommendations of the evaluation reports

The HLCs had suggested constant monitoring of groundwater conditions and water quality. It was, however, seen that for the Malia-Lakhpur Reach, only one report for the year 2007 had been prepared and published by GWRDC. In respect of the other reaches, reports had been prepared for the Bhavnagar-Una Reach and the Madhavpur-Malia Reach upto 2007 and for the Una-Madhavpur Reach upto 2008. During test check it was found that evaluation reports were not available with any division and no action had been taken on the recommendations envisaging that the recharge of groundwater from external surface water sources may be increased and a groundwater development plan may be prepared for the region under which the user industry should pay for the development of this precious resource in proportion to their usages.

The Secretary stated (July 2010) in the exit conference that the evaluation reports were delayed due to constraint of technical staff. He, however, agreed to act upon the recommendation given in the evaluation reports.

1.1.13.2 Socio-economic impact

In the meeting held (October 2000) by the CE and AS of the department, it was decided to carry out the evaluation of various works undertaken under the SIPP scheme. Accordingly, the SE, SIPC, Rajkot forwarded (May 2001) a proposal received from Saurashtra University costing ₹4.95 lakh for evaluation of the Una-Madhavpur area to the Government. However, concrete action was not taken on the proposal to go ahead with the work of evaluation through this University. The SE, SIPC, Rajkot again submitted (August 2002) a proposal for preparation of an evaluation report by the Indian Institute of Management, Ahmedabad as per the direction of the Government received in this regard in August 2002. The Institute submitted (January 2003) its proposal with an estimated cost of ₹16.80 lakh for the Saurashtra Region. No further action was taken by the Government in this regard to proceed with the work. A study report for the Meghal River Basin was entrusted (May 2008) by the Government to the Mahatma Gandhi Labour Institute (MGLI), Ahmedabad. Further, a proposal for evaluation of the socio-economic impact of four structures constructed in Junagadh District was submitted (August 2008) by the Coastal Salinity Prevention Cell (CSPC) and an MOU was signed (March 2009) between CSPC and EE, SCD, Bhavnagar with the stipulated period of completion being August 2009. However, the final report had not been prepared by the MGLI and CSPC as of March 2010.

Formulation of plans for SIPP work was thus deprived of essential inputs that could have been obtained through the various evaluation reports.

1.1.14 Conclusion

The HLCs recommended implementation of SIPP within seven years to control and prevent salinity ingress. The progress of implementation of SIPP in the State was found to be slow. Consequently, there were increases in the areas affected by salinity ingress except in the Una-Madhavpur Reach, where the progress of completion of works was 98 *per cent*. Despite

recommendations by HLCs for annual monitoring of groundwater recharge and withdrawal, the required data was not available with the department. No groundwater legislation was passed to control the withdrawal of groundwater. In the Kachchh region, Bandharas were constructed inside the river instead of at the mouths of rivers, defeating the purpose of preventing tidal ingress into the surrounding areas. The mandatory requirement of acquisition of land before awarding work orders was not adhered to, resulting in non-completion of Bandharas and Spreading Channel works. Spreading Channel works were executed in upstream areas instead of in areas near the sea coast as recommended by the HLCs. Salinity ingress led to deterioration of the environment in coastal areas with adverse implications on agriculture and health. No High Level Review and Monitoring Committee had been appointed for monitoring and evaluation of various works executed under SIPP.

1.1.15 Recommendations

- Government should constitute a High Level Review and Monitoring Committee comprising experts from multiple disciplines such as irrigation, agriculture, forest, soil conservation, groundwater, etc. for effective implementation of SIPP as recommended by the High Level Committees.
- Annual groundwater recharge and withdrawal should be monitored for all reaches and to prevent unregulated extraction of groundwater, a legislation as recommended by the HLCs should be enacted,
- Surveys and investigations should be completed for all the remaining works, which should be taken up after complete acquisition of land for smooth and effective implementation of works,
- Construction of works relating to Spreading Channels should be taken up simultaneously with construction of Bandharas/Tidal Regulators so as to achieve the objective of creation of sweet water barriers. Locations of Spreading Channels should be in accordance with the accepted recommendations of HLCs.
- Efforts should be made to complete the remaining works which were recommended by HLCs to arrest further increase in areas affected by salinity ingress,

HEALTH AND FAMILY WELFARE DEPARTMENT

1.2 Chiranjeevi Yojana

Highlights

The State could not achieve the intended goal of bringing down its Maternal Mortality Rate (MMR) by March 2010 despite launching (2005-06) the Chiranjeevi Yojana, a State-specific intervention programme. In 40 per cent (93 out of 231) talukas of the State, no Empanelled Private Practitioners (EPPs) joined the Yojana even in the fifth year after its launch. The fund allotment system was not properly established and monitoring of funds/expenditure at the State level was absent. Entitled beneficiaries under the scheme (Below Poverty Line (BPL) expectant mothers and eligible Above Poverty Line (APL) expectant mothers) were not provided or short provided with transport charges in a number of instances. Chief District Health Officers had not established a system for cross-checking of BPL eligibility from revenue authorities in respect of claims furnished by EPPs under the Yojana, in the absence of which, there existed a risk of processing of bogus and fraudulent claims.

Release of funds under the programme without assessing actual requirements resulted in blockage of ₹48.62 crore in the State. In the six selected districts that were test-checked, a total amount of ₹27.93 crore was lying unspent as of 31 March 2010.

(Paragraphs 1.2.7.2 and 1.2.7.3)

Utilization certificates of ₹22.27 crore were pending from Chief District Health Officers and District Health Societies as of 31 March 2010.

(Paragraph 1.2.7.4)

In the selected districts, the Maternal Mortality Rate (MMR) ranged between 0.41 to 1.84 per 1000 whereas the Infant Mortality Rate (IMR) ranged between 11 and 50 per 1000 at the end of March 2010. The latest Sample Registration System data also showed that the State had not been able to achieve the envisaged target of one per 1000 for MMR and 30 per 1000 for IMR.

(Paragraph 1.2.8.1)

Out of 231 talukas in the State, in 93 talukas, services of EPPs were not available even after four years of implementation of the scheme. The Extended Chiranjeevi Yojana introduced in April 2008 in order to encourage participation of EPPs in 40 selected underserved talukas proved a failure as the department was able to obtain an EPP only in one such taluka.

(Paragraphs 1.2.8.3 and 1.2.8.4)

There were cases of short/non-payment of transport charges to the beneficiaries.

(Paragraphs 1.2.8.7)

1.2.1 Introduction

The ‘Chiranjeevi Yojana’ (Yojana) was launched by the Government of Gujarat in November 2005 with a view to reducing the Maternal Mortality Rate (MMR) from 3.89:1000 to 1:1000 and the Infant Mortality Rate (IMR) from 57:1000 to 30:1000 by the end of 2010. The Yojana aimed to provide free of cost deliveries to marginalized (BPL and APL) mothers by skilled private practitioners in private nursing homes and Government hospitals and to provide transport facilities to these beneficiaries.

The Yojana was launched by the State with Public Private Participation (PPP) for the first time, involving Empanelled Private Practitioners (EPPs) to supplement the ongoing Reproductive Child Health (RCH-II) programme, wherein deliveries of entitled expectant mothers were to be carried out in Government institutes such as hospitals, Community Health Centres (CHCs) Primary Health Centres (PHCs), etc. The successful implementation of the Yojana was mainly dependent on (a) the ability of the Health and Family Welfare Department (department) in identifying and registering the beneficiaries, especially in remote villages, (b) ensuring provision of adequate ante-natal care (ANC) and post-natal care (PNC) to the registered beneficiaries and (c) empanelment of adequate number of private practitioners.

1.2.2 Organisational set-up

The Principal Secretary and Commissioner, Health and Family Welfare Department (department) is in charge of implementation of the Yojana and also acts as the head of the Executive Committee of the State Health Society (SHS), a governing body headed by the Chief Minister of the State. The Yojana is implemented by the Additional Director, Family Welfare (AD) at the State level. At the district level, the Chief District Health Officers (CDHOs) implement the Yojana through District Health Societies (DHSs) and various institutions. At the block level, the Yojana is implemented by Block Health Officers (BHOs) through Public Health Centres (PHCs) and Empanelled Private Practitioners (EPPs). An organogram of the department for implementation of the Yojana is given in **Appendix-VII**.

1.2.3 Audit objectives

The broad objectives of the performance audit were to assess whether:

- (i) an effective system of planning existed for the implementation of the Yojana;
- (ii) a proper system of allocation of funds was in existence and these were utilised economically for furtherance of the objectives of the Yojana;

- (iii) the Yojana was efficiently and effectively implemented and payments made to EPPs were as per prescribed norms and regulations in force;
- (iv) a proper reporting system existed and a field monitoring system was established to ensure correctness of data with respect to the two primary indicators, viz. MMR and IMR.

1.2.4 Audit criteria

The audit criteria adopted for conducting the performance audit were

- (i) Rules and Regulations and resolutions issued by Government on the implementation of Chiranjeevi Yojana and other identical schemes;
- (ii) Orders and instructions issued while releasing funds;
- (iii) Provisions of the Budget Manual and Gujarat Treasury Rules;
- (iv) Standard terms and conditions in the Memorandum of Understanding entered into under the Yojana;
- (v) Evaluation reports of various agencies on the Yojana.

1.2.5 Scope and methodology

Records at the department and the Office of the Commissioner, Health, Medical Services and Medical Education, and the State Health Society (SHS) at Gandhinagar at the State level for the period 2006-10 were test-checked. In respect of the six districts²⁸ selected out of the total of 26 districts in the State, the records of the offices of the CDHOs and DHSs and 25 *per cent* of the offices of Block Health Officers²⁹ (BHOs) in each selected district for the period 2006-2010 were also test-checked. In each block, 250 cases of payments made to EPPs were selected spread out over four years (2006-2010) to assess that proper checks were applied as mentioned in the MoU. Entry and exit meetings were held with the Principal Secretary of the department on 15 April 2010 and 27 July 2010 respectively to obtain the views and response of the department.

1.2.6 Planning

The Yojana was planned as a special intervention programme to accelerate the reduction of IMR from 57:1000 to 30:1000 and MMR from 3.89:1000 to 1:1000 by the end of the year 2010 as against the target of achieving the reduction by the year 2012 under the Reproductive Child Health programme. For this purpose, the Yojana envisaged obtaining the services of private doctors, i.e. EPPs for ensuring increased institutional deliveries, especially in rural and remote areas. However, even after five years of launching of the Yojana, in 93 talukas (40 *per cent* of talukas in the State), EPPs could not be empanelled by the department. Even the belated attempt by the department to enrol private practitioners in 40 under-served talukas of 16 districts by launching (2008-09) the Extended Chiranjeevi Yojana (ECY) was not successful, as only two clinics

²⁸ (1) Banaskantha, (2) Dahod, (3) Kachchh, (4) Panchmahal, (5) Sabarkantha and (6) Vadodara.

²⁹ Block Health Officers: (1) Deesa and (2) Palanpur in Banaskantha; (3) Devgadbaria and (4) Zalod in Dahod; (5) Bhuj and (6) Mandvi in Kachchh; (7) Halol and (8) Santrampur in Panchmahal; (9) Himatnagar (10) Modasa and (11) Bhiloda in Sabarkantha; (12) Chhotaudepur; (13) Vadodara and (14) Dabhoi in Vadodara district.

could be established in only two districts. Thus, the aim of providing clinical care at places near expectant mothers with a view to encouraging institutional deliveries was defeated as discussed in the succeeding paragraphs.

1.2.7 Financial management

1.2.7.1 Funding Pattern

Release of funds without assessing requirement resulted in blockage of 36 per cent of grants released during the period 2006-07 to 2009-10

As stated earlier, the Yojana was launched (November 2005) to supplement the ongoing RCH programme. The department provided funds to the SHS and CDHOs under the Yojana for carrying out the programme activities. While the department was allocating the funds directly to CDHOs, the SHS was releasing the funds to DHSs for Yojana activities. Part of the funds was also provided by Project Administrators (PAs), Integrated Tribal Development Project, out of funds placed at their disposal under the Tribal Area Sub-Plan to the CDHOs of the respective districts. Since funds under the programme were provided through three different sources (SHS, CDHOs and PAs of the Tribal Development Department (TDD)), the department had no consolidated details on the actual release of funds, the expenditure incurred by the CDHOs and DHSs and the balances that remained under the programme at the end of the year. In the absence of a centralised monitoring authority and availability of complete up to date details of the funds that were released through various sources for the Yojana and the amounts that had been spent therefrom, adequate control over expenditure incurred on planned activities did not exist. This led to availability of huge unspent balances with district implementation agencies as discussed in the succeeding paragraphs. During the exit meeting (July 2010) the department agreed that information in respect of releases by TDD was not currently available but a system of quarterly financial monitoring was being introduced to ensure consolidated monitoring of funds received from various sources and their utilisation in future.

1.2.7.2 Release of grants in excess of requirement

Details of grants released by the department to SHS as well as to CDHOs and expenditure booked thereagainst during the period covered by the review were as given in Table-1.

Table-1 : Grants released and expenditure under Chiranjeevi Yojana
(₹ in crore)

Year	Grants released by department	Expenditure incurred	Excess (-)/ Savings (+)
2006-07	04.12	08.87	(-) 04.75*
2007-08	45.00	23.49	(+) 21.51
2008-09	31.06	24.00	(+) 7.06
2009-10	54.00	29.20	(+) 24.80
Total	134.18	85.56	(+) 48.62

*Excess met out of RCH-II funds

(Source: Department's records)

Of the total grants released, 36 per cent i.e. ₹48.62 crore, was not utilised as of 31 March 2010.

Of the total grants released, 36 per cent i.e. ₹48.62 crore, was not utilised as of 31 March 2010.

Additionally, during 2006-2010, the six³⁰ PAs of the Integrated Tribal Development Project in the State had released an amount of ₹5.61 crore to the respective CDHOs, out of which ₹5.11 crore was spent on the Yojana by the CDHOs and the balance of ₹ 50 lakh remained unspent with them in their Personal Ledger Accounts (PLA).

During scrutiny (February / May 2010) of records of the department, it was noticed that as against a sum of ₹ one crore shown as released in 2006-07 to CDHO, Banaskantha, only ₹12 lakh was received and accounted for. For the balance amount of ₹88 lakh, the CDHO, Banaskantha stated that no allotment order from the department had been issued, although the department had shown the entire grant of ₹ one crore as released. The department, in its reply, while admitting (July 2010) non-receipt of the grant of ₹88 lakh by the District Panchayat, Banaskantha, attributed the same to non-availability of adequate staff and vacant posts, on account of which they were unable to cope with work load and reconcile the grant of ₹88 lakh which was meant for Banaskantha. Further, during the exit meeting it was stated (July 2010) that a system of quarterly monitoring was being introduced for effective financial control, so as to regulate releases of subsequent quarterly grants.

1.2.7.3 Financial releases reported as expenditure

The department was treating the entire grants released to the CDHOs and SHS as expenditure. On scrutiny of the records of the selected districts, it was seen that balances of unspent grants were available with the CDHOs/DHSs in their accounts as detailed in Table-2.

Table-2 : Grants and expenditure in selected districts

Name of the district	2006-10		(₹ in crore)	
	Grant received	Expenditure incurred	Balance funds as at the end of respective financial year	Percentage of unutilized grants
Banaskantha	10.60	6.10	4.50	42
Dahod	12.17	7.21	4.96	41
Kachchh	5.63	1.95	3.68	65
Panchmahal	11.25	7.98	3.27	29
Sabarkantha	16.85	6.33	10.52	62
Vadodara	2.85	1.85	1.00	35
Total	59.35	31.42	27.93	47

(Source: Grant and expenditure records of respective CDHOs)

Rupees 31.31 crore was shown as spent by the department even though ₹10.71 crore was lying in the accounts of SHS as at the end of March 2010.

It may be seen from the above that there were huge savings ranging from 29 per cent (Panchmahal) to 65 per cent (Kachchh) which were not being recognised by the department as it had considered the release of grants to be expenditure incurred on the Yojana. In case of releases to SHS also, the department was considering it as expenditure even if the funds were lying in the accounts of SHS or DHSs. An amount of ₹31.31 crore was shown as spent by the department even though ₹10.71 crore was lying in the accounts of SHS as at the end of March 2010.

³⁰ PA Dahod : ₹3.36 crore, PA Mandvi : ₹0.10 crore, PA Chhotaudepur : ₹0.32 crore, PA Palanpur : ₹0.16 crore, PA Godhra : ₹0.30 crore and PA Khedbrahma : ₹1.37 crore.

Unspent balance of ₹27.93 crore at the CDHO level indicated that the requirement was not assessed realistically by the department. Releases of funds by the department without assessing the actual requirements resulted in blockage of about 50 *per cent* of the grants that had been placed at the disposal of implementing agencies. Further, releases of funds without adequate plans for their utilisation reflected adversely on the system of financial management of the Yojana. It was admitted (July 2010) by the department that as the scheme was in the initial phase, proper planning could not be done and grants were released on *ad hoc* basis, which resulted in unspent balances at the district level. Further, during the exit meeting, it was stated (July 2010) that monitoring of the release of grants and expenditure by field offices would be done on quarterly basis to ensure effective utilisation of funds in future.

1.2.7.4 Pendency in submission of utilisation certificates

Utilisation certificates (UCs) in respect of expenditure incurred from the grants received were required to be sent to the department/PAs after completion of the respective financial years by the DHSs and CDHOs. It was observed that UCs of ₹19.08 crore had been kept pending from six³¹ DHSs for onward transmission to the department. Out of the above, UCs amounting to ₹1.31 crore pertained to 2006-07, ₹7.03 crore pertained to 2007-08 and ₹6.70 crore pertained to 2008-09 and were thus pending for over one to three years.

Similarly, in respect of grants released to CDHOs by PAs of ITDP, UCs in respect of ₹3.19 crore (2007-10) from four³² CDHOs were pending (May 2010). Out of the above, ₹32 lakh pertained to 2006-07, ₹93 lakh to 2007-08 and ₹55 lakh to 2008-09 and were thus pending for periods for over one to three years.

This indicated lack of monitoring of the funds that were released by the department as well as the PAs of TDD. It was stated (July 2010) by the department, in its reply that strong instructions would be issued to all the District Panchayats to compile and submit UCs at the earliest.

1.2.8 Implementation of Yojana

1.2.8.1 Non-achievement of envisaged goals

As stated earlier, the objective of the Yojana was to reduce MMR to 1:1000 and IMR 30:1000 by the end of March 2010. The details of IMR and MMR in selected districts³³ as reported by the respective CDHOs were as shown in Table-3.

³¹ (1) Banaskantha : ₹6.10 crore, (2) Dahod : ₹0.24 crore, (3) Kachchh : ₹1.07 crore, (4) Panchmahal : ₹6.76 crore, (5) Sabarkantha : ₹3.47 crore, (6) Vadodara: ₹1.44 crore.

³² CDHOs : (1) Dahod : ₹1.40 crore, (2) Mandavi : ₹0.10 crore, (3) Sabarkantha : ₹1.37 crore and (4) Vadodara : ₹0.32 crore.

³³ Information in respect of Sabarkantha district was not being reported and hence not available.

Table-3 : Status of IMR MMR in selected districts

Year	2006-07		2007-08		2008-09		2009-10	
	IMR	MMR	IMR	MMR	IMR	MMR	IMR	MMR
Banaskantha	20	.77	23	.47	20	.60	26	0.41
Dahod	22	.85	21	1.22	19	.83	50	1.72
Kachchh	10	.88	9	1.25	16	1.16	11	1.40
Panchmahal	14	.63	18	0.96	24	.80	30	1.05
Vadodara	36	2.4	34	2.1	30	1.00	37	1.84

(Source: Reports/information from CDHOs)

It may be seen from the above that the MMR ranged between 0.41 to 1.84 and IMR 11 and 50 at the end of March 2010. It may also be seen that in respect of Panchmahal District, both the IMR and MMR had been showing a continuous increasing trend (except for a slight decrease of MMR in 2008-09). Though the IMR and MMR in all the six districts showed improvement in 2008-09 compared to the earlier years, in 2009-10, the IMR/MMR had increased substantially. While all the selected districts except Banaskantha were far behind the goal envisaged for MMR, in respect of IMR, only three (Banaskantha, Kachchh and Panchmahal) of the selected districts had achieved the target.

The goal of reducing MMR/IMR could not be achieved

The details of IMR and MMR in respect of the State as a whole, though called for in audit, were not furnished by the department. On a review of the Sample Registration System³⁴ (SRS) data published for the State as a whole, it was seen that as per the latest bulletin, the IMR for Gujarat was 50³⁵ and the MMR was 1.60³⁶. Thus the target ratio of IMR of 30:1000 and MMR of 1:1000 was not achieved. The department, in its reply, attributed (July 2010) non-reduction of MMR/IMR to the expected level to social constraints and backwardness in some of the districts. It further stated that the target was set to be achieved by 2015. In the exit conference (July 2010), the department brought out that a system of on-line tracking of all births, treatment provided, doctors who had rendered medical services and such other details would be put in place, which would enable them to effectively monitor the implementation of the Yojana.

1.2.8.2 Absence of system of ensuring ante-natal and post-natal care for Yojana beneficiaries

Expectant mothers under the RCH program were provided treatment in three stages, i.e. ante-natal treatment (ANC) where anti-tetanus injections and other medicines was provided to expectant mothers during the 12-week period prior to delivery; medical care at the time of actual delivery and post-natal treatment (PNC) for one month after delivery. Public health institutes such as PHCs and

³⁴ Sample Registration System (SRS) data are published by the Registrar General of India, Ministry of Home Affairs, Government of India at interval of two years by making population survey.

³⁵ SRS bulletin for 2008 published in October 2009.

³⁶ SRS bulletin for 2004-06 published in April 2009.

SCs were recording the details of ANC and PNC treatment in registers and also in Mamta cards³⁷, which were allotted to the beneficiaries i.e. expectant mothers.

Details of ANC were missing in respect of 1478 test-checked claims.

The system allowed the option to beneficiaries to either avail of the facility of delivery at public health institutes or with EPPs under the Yojana. In the event of availing of delivery facilities with EPPs, the system of transferring Mamta cards having records of treatment already availed of by the beneficiaries did not exist. Though the Yojana has specified recording of details of the ANC that was provided to the beneficiaries at the time of availing of treatment from the EPPs, these necessary details including the ANC registration numbers were not found to have been recorded. Resultantly, in none of the 1478 claims that were preferred by EPP, these details were found to have been recorded. In fact, none of the claims contained details of ANC registration. Claims were, however, passed by the respective CDHO/BHO without recording details of ANC registration. To that extent, assurance to the effect that ANC treatment was indeed extended to all the beneficiaries could not be vouchsafed in audit. Either a system of mandatory transfer of Mamta cards or compulsory recording of ANC treatment with registration numbers needed to be considered on priority by the Government so as to ensure availing of composite treatment by the expectant mothers. It was stated (July 2010) that the point would be taken care of in future. It was further stated that it was proposed to introduce e-Mamta software through which linkage between ANC/PNC provided to the mothers and children and deliveries under various programmes would be obtained in future.

1.2.8.3 Empanelment of Private Practitioners

Under the Yojana, maternity services were to be provided by specialists i.e. gynecologists and obstetricians who were to be in possession of the minimum prescribed infrastructure³⁸ and were willing to serve as Empanelled Private Practitioners (EPPs) to eligible expectant mothers belonging to BPL/APL families at the time of their deliveries.

Year-wise details of the number of beneficiaries attended to by EPPs during 2006-10 in the State were as given in Table – 4.

Table-4 : Delivery performance by EPPs

Year	Number of EPPs enrolled	Number of deliveries	Average delivery per EPP
2006-07	742	47706	64
2007-08	865	121043	140
2008-09	867	135706	157
2009-10	721	155721	216
Total		460176	

(Source: Progress reports/statement at department/CDHOs)

³⁷ Cards utilised for recording history of events of medical treatment provided (ANC-delivery stage and PNC) for safe delivery of expectant mothers and health of newborn babies. The cards have to be retained by beneficiaries for availing of eventual medical treatment for safe health of their children.

³⁸ Separate Delivery room, operation theatre and equipment etc.

In 93 out of 231 talukas, services of EPPs were not available

The average delivery per EPP had increased from 64 in 2006-07 to 216 in 2009-10. However, the number of EPPs had actually declined from 865 in 2007-08 to 721 in 2009-10. Further, it was seen that as of 31 March 2010, services of EPPs were not available in 93 talukas of 23 districts out of a total 231 talukas in 26 districts of the State as detailed in **Appendix-VIII**. Though the Yojana was in its fifth year, roll-out to all the talukas in the State was not done. There were 183 talukas where less than five EPPs were enrolled and 146 talukas where there were less than two EPPs.

The district wise number of EPPs, number of total deliveries and deliveries per EPP for the entire state for the year 2006-07 to 2009-10 are given in the **Appendix-IX**. Concentration of EPPs was found to be highest in the developed districts of Surat (48), Vadodara (58) and Ahmedabad (106) and was much less in three prominent tribal districts of Narmada (3), Tapi (3) and Ahwa-Dangs (4). Further analysis revealed that number of deliveries per EPP was very high in the tribal districts of Patan, Dahod and Panchmahal being 413, 934 and 618 respectively when compared with deliveries per EPP in developed districts of Ahmedabad (88), Surat (106) and Vadodara (127). High number of deliveries per EPP in predominantly tribal districts underscores the need of presence of more EPPs in these districts. Even in the developed districts of Ahmedabad and Surat, the highest concentration of EPPs was in the urban areas. Thus, the enrolment of EPPs was not in proportion to the requirement of the districts and the concentration of EPPs was more in the 26 district headquarter talukas where 314 (43 *per cent*) EPPs were found to be enrolled out of the total 721 EPPs (2009-10) in the State. Concentration of EPPs in predominantly urban areas did not serve the purpose of the Yojana as in such areas, institutional health facilities such as Government hospitals were already available. During the exit conference, the department agreed (July 2010) with the audit observations and stated that it was considering a proposal to increase the incentive package to EPPs with a view to attract more EPPs.

1.2.8.4 Extended Chiranjeevi Yojana

As part of the effort to achieve the commitment of the State Government to reduce the maternal mortality rate, the 'Extended Chiranjeevi Yojana' was launched in April 2008, which envisaged payment of one-time assistance of ₹5.40 lakh to encourage private practitioners to establish private nursing homes in 40 identified under-represented talukas of 16 districts³⁹.

Even after two years of introduction of the Extended Yojana, out of these 40 talukas in the State, private practitioners came forward to register under this modified Yojana only in two talukas⁴⁰. Of the two, the clinic in Vadodara district was closed due to a fraudulent claim preferred by the EPP. Thus, the objective of roll out of the Yojana to the under-served talukas was a failure, as even after two years since its launch, enrolment of EPPs to serve in these non-represented talukas was negligible. Even in the light of the poor performance, no review of the package extended to the EPPs was undertaken nor was any

³⁹ Amreli - six, Banaskantha - one, Bharuch - three, Bhavnagar - four, Dang - one, Jamnagar - two, Junagadh - one, Kachchh - one, Narmada - two, Navsari - one, Panchmahal - two, Porbandar - two, Rajkot - two, Surat - five, Surendranagar - five and Vadodara - two.

⁴⁰ One each in Kawant (Vadodara District) and Dediapada (Narmada District).

other further remedial measure identified or implemented by the Government. The department, in its reply, stated (July 2010) that the scheme had not achieved the desired success as gynaecologists were not ready to provide services in under-served areas. It was also stated in the reply that a proposal was under consideration of the department to increase the payments of incentive package to attract more numbers of gynaecologists.

1.2.8.5 Delays in making payments to EPPs

Payments to EPPs were delayed for periods ranging from three to 14 months in Sabarkantha district.

The MoUs entered into with EPPs envisaged that they would submit monthly bills with supporting documents towards their claims of ₹1795 per delivery in their clinics or ₹659 per delivery performed in Government hospitals, as the case may be. However, the MoU did not specify the period within which the bills would be paid. On a scrutiny of the payments released to EPPs in the selected districts, it was seen that no uniform system of passing of bills existed. The powers of passing the bills and effecting payments were vested with CDHOs in the districts of Kachchh and Sabarkantha, while in the other four districts, the powers of passing the bills and payments were vested with the BHOs working under the CDHOs. Further, while in Kachchh, the bills were directly submitted by the EPPs to the CDHO, in Sabarkantha the bills were sent to BHOs who were forwarding these to the CDHO for passing and making payments. Consequently, it was seen that payment of claims amounting to ₹3.45 lakh pertaining to 10 EPPs⁴¹ were delayed for periods ranging from three to 14 months at Sabarkantha district. Although, the United Nations Population Fund Agency (UNFPA), in its evaluation review (October 2006) had brought out this lacuna in implementation of the Yojana, the delays continued. As delayed settlement of bills is one of the reasons for reluctance on the part of private practitioners to participate in the Yojana, this situation needs to be addressed for ensuring wider participation and acceptance of the Yojana by the EPPs.

1.2.8.6 Non-renewal of MoUs in time

As per the orders of the department for implementation of the Yojana, EPPs were to enter into MoUs with the health authorities. The MoUs entered into were valid from the date of entering up to 31 March of the year. A scrutiny of the MoUs entered into by EPPs in the selected districts revealed that in most of the cases, they were not renewed promptly. Out of the six districts test-checked, only in one district (Panchmahal), MoUs were being renewed promptly. In Vadodara, Sabarkantha and Kachchh districts, none of the MoUs were renewed. In Dahod district, none of the MoUs were renewed after 2007-08 and in Banaskantha district, out of 91 MoUs, only eight were renewed and that too, after a delay of three years. Though the EPPs continued to perform work under the previous arrangements, in the absence of a legally enforceable MoU, there could be difficulties in enforcing the rights and obligations of the respective parties, particularly in cases of disputes.

The need thus, arises for ensuring issuance of specific instructions and procedures evolved for ensuring timely renewal of MoUs in this regard, so

⁴¹ Delays between 1-6 months – six EPPs, 7-12 months – two EPPs and above 12 months - two EPPs.

that uniform procedures are in force across the State. The department, in the exit meeting stated (July 2010) that it proposed to issue comprehensive guidelines/operational manual laying down the various procedures/formalities to be adhered to for ensuring compliance.

1.2.8.7 Deficiencies in scrutiny of claims of EPPs

Beneficiaries were deprived of transport charges

According to instructions of the department issued in September 2006, remuneration of ₹1795⁴² / ₹659⁴³ payable to an EPP per delivery was inclusive of ₹200 payable to the mother towards transportation, ₹50 payable to the attendant accompanying her and ₹100⁴⁴ to be spent by the EPP towards the provision of diet to the mother. Irregularities noticed in test check of 3500 claims in 14 blocks of six districts⁴⁵ are discussed in the succeeding paragraphs.

(a) As per the scheme guidelines, a sum of ₹200 was to be paid by an EPP to each beneficiary towards transportation charges. While preferring a claim of ₹1795 per delivery, which included reimbursement of ₹200 paid to the beneficiary, the EPP was to enclose an acknowledgement to the effect that this amount had been received by the beneficiary. It was, however, noticed in audit that claims in respect of 108 cases of seven blocks⁴⁶ involving an amount of ₹ 22,000 for reimbursement of transportation charges were admitted without acknowledgement to the effect that payments had made to the beneficiaries. Hence, it could not be ensured that the benefits had been extended to the beneficiaries as per the objectives of the Yojana.

(b) Further, it was noticed in audit that in 794 cases of four blocks⁴⁷, transport charges of only ₹100 were paid to urban beneficiaries as per the claims submitted by EPPs instead of the ₹200 payable. Thus, the beneficiaries were not paid the full amounts they were entitled to as per the Yojana. CDHOs stated (March-May 2010) that in future, care would be taken to see that the beneficiaries received their entitled charges.

(c) All BPL expectant mothers were eligible for benefits under the Yojana. Further, the Yojana was extended from 2006-07 to APL mothers of Scheduled Caste families (income tax non-payees). EPPs were to submit copies of BPL cards as also income certificates issued by competent authorities, wherever applicable, to prove the genuineness and eligibility of the beneficiaries. In 107 cases pertaining to nine blocks⁴⁸, claims not supported by the above details were passed. Lack of insistence on submission of these mandatory details was indicative of laxity in controls. Further, in the absence of these details, the risk of bogus and fraudulent cases being admitted existed.

⁴² If the delivery was carried out by EPP in his clinic.

⁴³ If the delivery was carried out by EPP in a Government hospital.

⁴⁴ Included in ₹ 1795.00 per delivery to be made to EPP.

⁴⁵ Banaskantha-500, Dahod-500, Kachchh-500, Panchmahals-500, Sabarkantha-750 and Vadodara-750.

⁴⁶ Palanpur - eight and Deesa - six (Banaskantha District), Devgadbaria-one (Dahod District), Mandvi-14 (Kachchh District) Halol-75 (Panchmahal District), Himatnagar-two (Sabarkantha District) and Chhani-two (Vadodara District).

⁴⁷ Palanpur and Deesa (Banaskantha District), Santrampur (Panchmahal District), Himatnagar (Sabarkantha District).

⁴⁸ Deesa-one (Banaskantha District), Zalod-one (Dahod District), Bhuj-five and Mandvi-37 (Kachchh District), Himatnagar-two and Bhiloda-26 (Sabarkantha District), Chhani-three, Chhotaudepur-12 and Dabhoi -20 (Vadodara District).

1.2.9 Monitoring and Evaluation

1.2.9.1 Shortfall in convening periodical meetings

The Yojana was launched to supplement the ongoing programme of RCH-II which contemplated formation of a committee at the State level and two committees at the district level in the Governing Body and the Executive Committee. The Governing Body was the highest decision-making body at the district level and was to meet once in three months. The Executive Committee in charge of execution of the programme, was to meet quarterly. The District Programme Committee which was a sub-committee of the Executive Committee was to meet monthly and was responsible for programme management and monitoring. The position of meetings convened (2006-2010) by the Governing Body and Executive Committee at the district level during the period under review was as shown in Table – 5.

Table – 5 : Meetings held during 2006-2010

Monitoring of the Yojana could not be done due to non-convening of meetings of Governing Bodies and Executive Committees at the prescribed intervals.

CDHO	Governing Body		Executive Committee	
	No of meetings to be held	Meetings actually held	No of meetings to be held	Meetings actually held
Banaskantha	16	4	16	7
Dahod	16	4	16	5
Kachchh	16	4	16	7
Panchmahal	16	8	16	10
Sabarkantha	16	6	16	6
Vadodara	16	5	16	6

(Source: Information from the CDHOs)

It may be seen from the above that meetings of the Governing Bodies had been convened only on one to two occasions per annum instead of one meeting per quarter in the selected districts. Even the Executive Committee in charge of programme execution and monitoring had not met quarterly in any of the selected districts. The effective implementation and monitoring of the Yojana could not be done due to the non-convening of the decision-making body and the executing body at the prescribed intervals. It was stated (July 2010) by the department during exit meeting that monitoring would be strengthened for better implementation of the Yojana.

1.2.9.2 Deficiencies in the Reporting System

It was observed that reporting of physical performance of the number of deliveries under the Yojana was regularly made to the department by CDHOs but there were differences in the data (2006-10) prepared by CDHOs of six selected districts and that the data compiled and reported by the department as shown in Table – 6.

Table – 6: Reporting under the Yojana

CDHO	State compiled data (No. of deliveries under the Yojana)	District data (No. of deliveries under the Yojana)	Difference
Banaskantha	40874	40796	(+)78
Dahod	43879	44100	(-) 221
Kachchh	16533	16512	(+)21
Panchmahal	63472	64741	(-) 1269
Sabarkantha	50078	45569	(+)4509
Vadodara	17241	15770	(+)1471
Total	232077	227488	4589

(Source: Progress reports of the departments/CDHOs)

The difference between the districts' data and the data compiled at the State level was attributed to the huge clientele and different levels of reporting involved. A reliable and proper system of reporting, therefore, needed to be evolved.

No proper financial reporting system was established from the DHSs to the CDHOs and at the department level as there were three⁴⁹ funding agencies and the reports of all the three agencies were not received by the department. Consequently, the department did not have consolidated details of expenditure incurred by all the districts under the Yojana against grants allotted during 2006-10, indicating inadequate control.

1.2.9.3 Evaluation

A Report of the United Nations Population Fund (UNFPA) brought out in October 2006 on the evaluation of the implementation (2005-06) of the Yojana in five districts had brought out the following deficiencies and needs:

- lack of awareness among beneficiaries in respect of benefits such as amounts receivable towards transport charges and attendant charges under the scheme and the need for programme-related communications for building comprehensive awareness about the scheme at the potential client level;
- need for undertaking a costing exercise for the purpose of revisiting remuneration norms ;
- need for appointing an independent agency for accreditation, enrolment of EPPs, monitoring, quality control, billing and fund disbursement under the Yojana.

Further, the Director, Evaluation of the State Government who had furnished an evaluation report in August-2008, had recommended that doctors in remote areas should be encouraged by increasing their remuneration and that an awareness programme needed to be launched.

As evidenced by the observations in the preceding paragraphs of this report, the deficiencies pointed out in the UNFPA evaluation report still continued.

⁴⁹ Health and Family Welfare Department, State Health Society and Project Administrators (Tribal Development Department).

The problem of reluctance of EPPs to serve under the Yojana, particularly in remote areas, also remained unresolved.

1.2.10 Conclusion

A sound system of financial monitoring was not established by the department which resulted in blockage of funds. Release of funds without planning for expansion of the programme in the State reflected adversely on the system of financial management of the programme. Out of 231 talukas in the State, in 93 talukas, the services of EPPs were not available even after four years of implementation of the scheme. The Extended Chiranjeevi Yojana, to attract adequate EPPs in 40 unrepresented talukas, could attract only two EPPs. Scrutiny of claims of EPPs revealed that beneficiaries were not paid transport charges in many cases. The enrolment of EPPs was not up to the requirement, which was attributed to low remuneration offered and delays in passing of the claims. Chief District Health Officers had not established a system for cross-checking of BPL eligibility from revenue authorities in respect of claims furnished by EPPs under the Yojana, in the absence of which, there existed a risk of processing of bogus and fraudulent claims.

1.2.11 Recommendations

- The department should periodically obtain details of all the funds that are available under the Yojana with the district implementation authorities and link the release of the same to achievement of targets and milestones, for which a plan of activities should be drawn up.
- A uniform system of checking of claims furnished by EPPs and their processing should be evolved so as to ensure that the benefits under the scheme are passed on to the beneficiaries and bills are correctly regulated and paid in a timely manner.
- A system of check of births and eligibility of all claims under the Yojana with the records of the revenue authorities / local bodies should be evolved on priority.
- The need for launching an awareness campaign should be considered so as to educate the beneficiaries as well as medical professionals with regard to their rights, obligations and entitlements under the Yojana.
- A system which generates regular, periodic, correct and up to date information with respect to primary indicators of MMR/IMR should be established on priority basis.

HEALTH AND FAMILY WELFARE DEPARTMENT

1.3 Procurement of Medicines, Drugs and Equipment

Highlights

The Health and Family Welfare Department provides health and medical services to the public through Government hospitals and dispensaries. The procurement of medicines, drugs and equipment required by these hospitals and dispensaries for the treatment of patients is made through the Central Medical Stores Organization (CMSO), Gandhinagar, which finalizes procurement through tenders and is responsible for ensuring supplies of medicine and equipment to hospitals and dispensaries. Failure to fix rate contracts for medicines in the formulary list forced the hospitals to purchase essential medicines locally, thereby depriving them of the benefits of economies of scale and standardization. Orthopaedic implants were procured from unlicensed suppliers and manufacturers. Pre-despatch testing was not followed and the system of testing samples was deficient, resulting in the quality of drugs supplied to patients not being ensured. Cases of irregularities in procurement and poor utilisation of equipment were noticed. Award of comprehensive maintenance contracts (CMCs) for machinery and equipment, which were already under CMCs, resulted in unfruitful expenditure. Critical equipment remained unutilized due to non-supply of consumables.

While expenditure on procurement of medicines was more than the grants allotted over the period (2005-10), the expenditure on equipment was 31 per cent less than the grants that were received during this period.

(Paragraph 1.3.6)

CMSO failed to supply the quantities of medicines and surgicals indented by hospitals. The percentage of short supply against the items indented during 2007-10 ranged between 23 and 85 in respect of tablets, between 32 and 69 in respect of injections, between 20 and 56 in respect of surgical goods and between 44 and 86 in respect of instruments.

(Paragraph 1.3.7.7)

There was no pre-despatch sampling of medicines and test results of samples of drugs and medicine by laboratory were delayed by more than six months, making the testing process ineffective.

(Paragraphs 1.3.8.1 and 1.3.8.5)

Technical specifications of equipment were framed to match the equipment of individual suppliers in disregard of the procedure prescribed in the procurement manual.

(Paragraphs 1.3.9.3 and 1.3.9.4)

Awarding of contracts for maintenance of condemned and faulty equipment resulted in avoidable and wasteful expenditure.

(Paragraph 1.3.9.6)

1.3.1 Introduction

The Health and Family Welfare Department (department) of the Government provides health and medical services to the public through six hospitals⁵⁰ attached to medical colleges, 52 Government district and taluka hospitals and 275 community health centres (CHCs). Procurement of drugs, medicines and equipment is made centrally through the Central Medical Stores Organisation (CMSO), Gandhinagar, which is mandated to supply reliable and good quality drugs, medicines and equipment to field units (hospitals and CHCs) at economical rates. Funds for the medicines are placed at the disposal of four Additional Directors⁵¹ (ADs) located at Gandhinagar, working under the Commissioner, Health, Medical Services, Medical Education and Research (Commissioner). The medicines are received at the Central Store, Gandhinagar and at four Regional Stores (Amreli, Jamnagar, Patan and Surat) and are to be supplied as per the indents of the field units. In cases of purchase of equipment, indents are placed with CMSO by the respective ADs on the basis of requirements projected by the field units. Orders for supply are finalized and placed by the CMSO, while payments are made by the respective indentors directly upon receipt of the equipment.

1.3.2 Organisational set up

The Principal Secretary, Health and Family Welfare Department, was the head of the department. He was assisted by the Commissioner, who in turn was assisted by four ADs⁵². The Commissioner, Food and Drugs Control Administration (FDCA), Gandhinagar and the Director of the Central Medical Stores Organization (CMSO), Gandhinagar were the other two important functionaries associated with procurement of drugs and equipment and worked directly under the Principal Secretary of the department.

CMSO carries out its activities through its Drugs branch which processes and finalizes rate contracts for supply of medicines, its Instrument branch which receives and scrutinizes indents of equipment and finalizes acceptance of tenders, its Medicine depot which receives indents for medicines and distributes them and its Quality Assurance branch which supervises the quality of the drugs.

⁵⁰ Ahmedabad, Bhavnagar, Jamnagar, Rajkot, Surat, Vadodara.

⁵¹ In charge of Health, Medical Education, Medical Services and Family Welfare.

⁵² Additional Director, Medical Education; Additional Director, Medical Services allots 70 per cent grant and Additional Director, Medical Health and Additional Director, Family Welfare allots 80 per cent grant to CMSO.

1.3.3 Scope of audit and audit methodology

The performance audit covered a review of records for the period 2005-10 pertaining to financing, indenting, purchasing, sampling and testing of drugs and utilisation of medicines and equipment procured by the department. Records in the offices of the Principal Secretary, Health and Family Welfare Department, the Commissioner of Health, Medical Services, the Medical Education and Research (Commissioner) Gandhinagar, three⁵³ out of four ADs, the Commissioner, Food and Drugs Control Administration (FDCA), Gandhinagar, the Director of CMSO, Gandhinagar, three⁵⁴ out of six civil hospitals, five out of 25 district hospitals⁵⁵ and 25 per cent of CHCs⁵⁶, i.e. 18 CHCs in the selected districts were test-checked between November 2009 and May 2010. The hospitals and CHCs were selected on the basis of their geographical locations.

An entry conference was held on 15 April 2010 where audit objectives, methodology and criteria were discussed.

1.3.4 Audit criteria

The audit criteria adopted for conducting the performance audit were

- the State Government's guidelines on procurement of drugs/ medicines and equipment, and
- the Central Stores Purchase Organizations (CSPO) Manual

1.3.5 Audit objectives

The objectives of performance audit were to assess whether: –

- the system of procurement of medicines, drugs and equipment was economical and efficient and timely supplies were made to ensure their continued availability;
- the quality of drugs and medicines was ensured through a system of periodical sampling and laboratory testing;
- the hospitals and medical colleges were provided with good quality equipment in a timely manner through an economical and efficient system of purchase and these were utilized properly

Audit Findings

1.3.6 Financial management

Budget provision and expenditure thereagainst under medicines and equipment for the period 2005-06 to 2009-10 of the department were as given in Table-1.

⁵³ Medical Services, Health and Medical Education.

⁵⁴ Ahmedabad, Rajkot and Vadodara.

⁵⁵ Dahod, Himmatnagar, Rajkot, Surat and Surendranagar.

⁵⁶ Dahod (Fatehpura, Limdi, Sukhsar), Himmatnagar (Idar, Prantij, Bayad, Malpur), Rajkot (Padhari, Kotda-Sangani, Lোধika), Surat (Olpad, Kamrej, Bardoli, Palsana), Surendranagar (Patdi, Sayala, Muli, Halvad).

Table - 1 : Provision, expenditure and savings under medicines and equipment for the period 2005-10

(₹ in crore)

Year	Provision			Expenditure			Excess (-)/ Savings(+)
	Medicines	Equipment	Total	Medicines	Equipment	Total	
2005-06	58.07	41.20	99.27	57.87	31.83	89.70	(+)9.57
2006-07	61.65	24.93	86.58	73.93	11.59	85.52	(+) 1.06
2007-08	65.97	37.16	103.13	75.71	30.40	106.11	(-)2.98
2008-09	87.71	33.33	121.04	77.20	14.62	91.82	(+)29.22
2009-10	59.74	57.33	117.07	87.71	46.06	133.77	(-)16.70
Total	333.14	193.95	527.09	372.42	134.50	506.92	(+)20.17

(Source: Information provided by Additional Directors)

As against the total provision of ₹333.14 crore in respect of medicines during 2005-10, the total expenditure was ₹372.42 crore, which was 12 per cent more than the budget provision. In respect of equipment, against a total provision of ₹193.95 crore, the total expenditure was ₹134.50 crore, which was 31 per cent less than the provision. Expenditure under medicines was more than provision in all the years except 2005-06. A review of the expenditure incurred on equipment revealed that the expenditure was not spread evenly over each year and a high proportion was incurred in the month of March, contrary to the provisions of Paragraph 109 of the Budget Manual which stipulated that Government expenditure should be evenly distributed throughout the year. Several instances of finalisation of orders for equipment in the month of March were noticed as discussed in paragraph 1.3.8.1.

1.3.6.1 Non-adherence to prescribed ratio of devolution of funds

In respect of AD (Medical Education), the ratio of grant devolution of 70:30 between CMSO and field units was not maintained

According to the prescribed (October 2005) purchase policy of the department, ADs were required to allocate grants to the CMSO and the respective field units under their jurisdiction in the ratio of 70:30 i.e. 70 per cent of the grants of the field units were required to be placed with the CMSO directly by the respective ADs for centralized purchase of medicines and the balance 30 per cent was to be released to field units for purchase of medicines to meet local requirements. Scrutiny of records in the office of the AD (Medical Education) revealed that there was excess expenditure in procurement of medicines every year except in 2008-09 and the ratio of devolution of funds was not followed as shown in Table-2.

Table-2 : Provision and expenditure, prescribed ratio of allotment and actual expenditure for Additional Director, Medical Education

(₹ in crore)

Year	Provision	Expenditure	Savings(-) / Excess (+)	Percentage of savings/ excess	Prescribed allotment		Actual expenditure	
					CMSO (70)	Field units (30)	CMSO	Field units
2005-06	30.42	38.51	(+) 8.09	27	26.96	11.55	14.61 (38)	23.90 (62)
2006-07	27.28	40.88	(+) 13.60	50	28.62	12.26	15.82 (39)	25.06 (61)
2007-08	29.09	44.05	(+) 14.96	52	30.84	13.21	15.00 (34)	29.05 (66)
2008-09	52.06	41.05	(-) 11.01	21	28.74	12.31	16.78 (41)	24.27 (59)
2009-10	26.59	55.58	(+) 28.99	109	38.91	16.67	16.94 (30)	38.64 (70)
Total	165.44	220.07	(+) 54.63	33	154.07	66.00	79.15 (36)	140.92 (64)

(Source: Information provided by Additional Director (Medical Education) and CMSO)

The above table shows that excess expenditure ranged between 27 *per cent* (2005-06) and 109 *per cent* (2009-10) and the percentage of expenditure between CMSO and the field units was 36 and 64 respectively during 2005-10.

Additional Director (Medical Education) stated (June 2010) that expenditure on medicines was dependent on patients' flow and other clinical investigations and that facility of treatment could not be denied to any one.

Non-maintenance of the ratio of grants between CMSO and the field units resulted in more medicines being purchased locally at higher prices, thereby defeating the intended purpose of centralised and bulk purchasing for maintaining efficiency, economy and quality in procurement of medicines.

The aspect pertaining to differences in prices between local purchases and the CMSO system was analysed in audit. Analysis done in respect of three selected hospitals⁵⁷, showed that the local purchase price of 30 medicines that were procured locally during 2007-08 to 2009-10 were 11 to 235 *per cent* higher when compared with the same specification of medicines procured through the CMSO during same period as detailed in **Appendix-X**. During the exit meeting, while admitting (August 2010) the audit observation, the department stated that they were moving towards maintaining the ratio of 70:30.

1.3.7. System of procurement of drugs and medicines

1.3.7.1 Procurement of drugs and medicines

CMSO invited annual online indents⁵⁸ from the field units for common medicines included in the formulary list⁵⁹ up to the limit of grants of the respective field units placed at its disposal by the respective ADs. CMSO was required to enter into a Rate contract with suppliers for procurement of the medicines included in the formulary list and was to arrange for supply of these to the indentors through the Central Medical Depot at Gandhinagar and the four Regional Depots at Amreli, Jamnagar, Patan and Surat.

1.3.7.2 Non-updating of formulary list in a periodical manner

The department announced (October 2005) and issued a purchase policy for procurement of medicines and equipment by the CMSO. According to the policy, a formulary committee consisting of Director, CMSO; Additional Directors of Family Welfare and Health; representatives from Commissioner, FDCA and from medical colleges and district hospitals was to meet regularly and update the formulary list annually. The list included essential medicines, diagnostic kits and surgical items commonly used by all the hospitals/CHCs.

The department failed to regularly update the formulary list because of which, the benefits of new innovations in the medical field were not received.

⁵⁷ Ahmedabad, Rajkot and Vadodara.

⁵⁸ Upto 2008-09- Half-yearly indents and from 2009-2010 Annual indents.

⁵⁹ A list of essential medicines prepared by CMSO after inviting opinions from all stake-holders i.e. civil hospitals, medical colleges, district hospitals, etc.

Scrutiny of records at CMSO revealed that the Government constituted the formulary committee only in April 2007. The committee first met in January 2008 and then in July 2009. Up to the year 2007-08, the formulary list of 2004-05 was used for finalizing rate contracts and therefore, changes in the intervening period in the field of medicines were not factored in while ordering medicines through rate contracts. Government replied (August 2010) that the formulary committee had met in January 2008 and July 2009 to update the formulary list central purchase list of medicines. However, up to 2008-09, purchases were made on the basis of the formulary list of 2004-05 and therefore, changes in the intervening period in the field of medicines were not factored in. Non-updating the formulary list in a regular manner deprived the hospitals of new innovations in the medical field. While admitting the audit observation, in the exit meeting the department stated (August 2010) that they were proposing to convene the meeting of the formulary committee twice in a year.

1.3.7.3 Failure of CMSO to enter into rate contracts

As per the purchase policy of the department, CMSO was responsible for centralized procurement of medicines included in the formulary list. For this purpose, CMSO entered into rate contracts through issue of tenders. However, during audit, it was noticed that CMSO had not taken action for inviting tenders in respect of all items included in the formulary list. In respect of certain medicines, though tenders were called for, rate contracts were not finalized. Details of medicines for which tenders were issued by CMSO, number of medicines for which rate contracts were finalized and the number of medicines that had remained out of rate contracts are given in the Table-3.

Table-3 : Medicines included in formulary list and medicines for which rate contracts were entered into

Year	No. of medicines in the formulary list	No. of medicines for which contract was running from previous year	No. of medicines for which tenders were required to be floated	No. of medicines for which tenders were floated	No. of medicines for which tenders were not floated	No. of medicines for which rate contracts were entered into during the year	No. of medicines from the formulary list that remained out of the rate contract system	Percentage of medicines for which tenders not floated	Percentage of medicines for which rate contracts not finalized
1	2	3	4 (2-3)	5	6 (4-5)	7	8 (4-7)	9	10
2005-06	569	Nil	569	542	27	333	236	5	42
2006-07	569	142	427	293	134	229	198	31	46
2007-08	569	131	438	283	155	214	224	35	51
2008-09	554	144	410	368	42	281	129	10	32
2009-10	579	83	496	480	16	368	128	3	26

(Source: Information provided by CMSO)

CMSO failed to finalize rate contracts in respect of medicines in the formulary list, resulting in local purchase by field units at higher rates

The purchase policy (October 2005) of the department had made it mandatory that all the medicines in the formulary list should be procured through rate contracts. As against this, during 2005-06 to 2009-10, 26 per cent (2009-10) to 51 per cent (2007-08) of the medicines in the list were not sourced through the rate contract system. Resultantly, these had to be procured at higher rates as mentioned in Para 1.3.6.1 and the benefits of centralized procurement in terms of standardization of quality and economies of scale could not be achieved. Out

of the above, three *per cent* (2009-10) to 35 *per cent* (2007-08) of medicines in the formulary list were not even included in the tenders floated, indicating the failure of CMSO to take steps to procure medicines through the rate contract system. Government replied (August 2010) that this was due to offers not received, offers being technically disqualified and commercially unviable offers. The fact remains that in the case of 26 to 51 *per cent* medicines, rate contracts could not be carried out forcing hospitals to go in for local purchases or medicines remaining out of stock. A few instances where rate contracts could not be entered into by CMSO on account of lapses are discussed in the succeeding paragraphs. During the exit meeting, while admitting (August 2010) the audit observation, the department stated that they were proposing to introduce a stock monitoring system so as to ensure that essential medicines were indented in time and there were no stock-outs.

1.3.7.4 Non-finalisation of rate contract due to incorrect tender specifications

Contrary to DGCI instructions, CMSO inserted the WHO-GMP certificate condition for purchase of sutures and catguts which led to non-finalization of tender, forcing field units to go in for local purchases.

The Drug Controller General of India (DCGI) had clarified (March 2004) that the World Health Organization (WHO) Good Manufacturing Practice (GMP)⁶⁰ was required only for items to be exported and not for home consumption. DCGI had further instructed (March 2004) the Drug Controllers of all the States, that for the domestic market, procurement agencies should refrain from insisting upon WHO-GMP certificates from the manufacturers situated in India. The Supreme Court of India also gave a decision (January 2005) that this certificate was not required for local purchase. Commissioner, FDCA Gujarat clarified (February 2006) to CMSO that there was no need to insert the condition of WHO-GMP certification in local tenders. In spite of this, the Director, CMSO, while inviting (October 2005) tenders for entering into rate contract for supply of 112 different types of sutures⁶¹ and catguts⁶², specified that the suppliers/manufacturers should provide WHO-GMP certificates. As no response was received from the suppliers, this tender could not be finalised. In reply to Audit, the Government stated (August 2010) that it had taken a policy decision (April 2000) that all life-saving medicines should be procured from suppliers who had WHO-GMP certificates. The DGCI and FDCA's instructions were contrary to this, so they were ignored. The reply is not acceptable as the policy was against the court's decision. Thus, due to inclusion of an unnecessary provision in the tender, rate contracts could not be finalised for the above life-saving items during 2005-08. The entire quantity had to be procured from the limited grant of 30 *per cent* available with the field units and purchases were made locally, wherein the WHO-GMP certificate was not insisted upon, thus negating the stated reason for not entering into rate contract.

⁶⁰ WHO-GMP certificate is given by FDCA certifying that the standard set of guidelines prescribed by WHO was followed by drug manufacturing units in respect of medicines under international trade.

⁶¹ Suture: Thread used for stitch or stitches made when sewing up a wound.

⁶² Catgut is a type of cord that is prepared from the [natural fibre](#) in the walls of animal [intestines](#), widely used in [surgical](#) settings.

1.3.7.5 Non-finalisation of rate contract due to failure to finalise standard tender specifications for diagnostic kits and reagents

Non-finalization of specifications for kits and reagents essential for clinical analysis of patients' samples resulted in their non-procurement, leading to discontinuation of various tests at Civil Hospital, Rajkot.

The laboratories in the hospitals attached to medical colleges require diagnostic kits and reagents for carrying out various investigations/ examinations/tests on patients' blood, urine, serum, sputum etc. Kits and reagents for this purpose were included in the formulary list and thus, were required to be procured by CMSO centrally through the rate contract system. Records at CMSO for the period 2005-06 to 2009-10, revealed that rate contracts were not entered into for these most of the items included in the list. In the absence of rate contracts, hospitals had to purchase these items locally. Thus the failure to enter into rate contracts for diagnostic kits and reagents resulted in non-maintenance of standards and uniformity in procurement of kits. Besides, economy in purchases also could not be ensured.

Out of three civil hospitals test-checked there were shortage of diagnostic kits and reagents at Rajkot as shown in Table-4 below which led to discontinuation of tests for periods detailed below:

Table-4 : Tests which could not carried out for want of kits and reagents

Name of kit/ reagent	Type of test	Average tests per month	Period of non-supply	Departments reply
Alkaline Phosphate	Colorimetric test method using blood serum and Chemical kits	650	01-08-07 to 23-09-08 15-12-09 to March 2010	Test was discontinued during short supply period and from 30-01-2010 due to non-supply of kits.
Acid Phosphate	--do--	0	15-12-08 to March 2010	Test stopped since 2007
CK-MB	--do--	80	21-08-08 to 13-04-09 to 1-06-09	Test discontinued during short supply period
Cholesterol kit	--do--	360	16-10-07 to March 2010	Test discontinued during short supply period
LDH test kit	--do--	02	2-09-07 to March 2010	Test stopped in 2008 after stock was used completely
SGOT test kit	--do--	00	20-06-07 to March 2010	Test stopped since 2007 after stock was used completely
HDL Cholesterol kit	--do--	04	31-08-08 to March 2010	Test stopped from August 2008 pending receipt of stock.

(Source: Stock register of bio-chemistry department)

Similarly, out of five district hospitals test checked, at District Hospital, Dahod due to non-availability of kits for pregnancy tests during 2005-06 to 2008-09, the tests could not be carried out. Also, due to non-availability of kits, cholesterol tests (August and September 2009), glucose blood sugar tests (February to September 2009) and total protein tests (November 2009 to January 2010) could not be carried out during the periods of non-availability. Government replied (August 2010) that due to non-availability of general specifications and offers not being received from suppliers for diagnostic kits and reagents, rate contracts could not be finalized. The reply is not acceptable since CMSO, as a central procuring agency, should have evolved a procedure for timely procurement of laboratory chemicals. Despite the inclusion of these

diagnostic kits in the formulary list in 2004-05, no rate contract could be finalized by the CMSO even till March 2010. In the absence of the same, purchases had to be made locally by the hospitals, leading to erratic supply and shortages and consequent denial of testing services at the hospitals to patients.

1.3.7.6 Purchase of orthopaedic implants from unlicensed suppliers and manufacturers

Orthopaedic implants to the tune of ₹8.37 crore were purchased from unlicensed suppliers.

Government of India, declared (October 2005) orthopaedic implants as drugs under the provisions of the Drugs and Cosmetics Act, 1940. The manufacture, sale or distribution thereof required licences from the Drug Controller appointed under the Drugs and Cosmetics Rules, 1945. During scrutiny of records at civil hospitals, Ahmedabad, Vadodara, Rajkot, Surat and Jamnagar, it was noticed that these hospitals purchased orthopaedic-implants to the tune of ₹8.37⁶³ crore from 23 unlicensed local suppliers and manufacturers⁶⁴ during the period October 2005 to March 2009, in contravention of GOI directions.

In response to an audit query, Commissioner, FDCA, referred (May 2010) the matter to the Assistant Commissioner, Central Licensing and Approval Authority (CLAA) stating that 14 companies had filed civil applications in the High Court against this order and the matter was pending with the court. In the absence of any stay order by the High Court on the implementation of the GOI notification, purchases from these unlicensed manufacturers were contrary to the provisions of the law. Purchases from unlicensed local suppliers had the attendant risk of the quality and standard not being maintained with adverse consequences on the health of the patients. During the exit meeting, department while accepting (August 2010) the audit observation, stated that FDCA had been instructed to identify more manufacturers for issuance of licences and to explore the possibility of utilisation of licensed manufacturers from other States.

1.3.7.7 Short supply of medicines by CMSO

There were short supply and non-supply of medicines indented by field units

Based on the indents and availability of medicines covered under the rate contracts of the respective years, the Director, CMSO purchased medicines and supplied these to the indenting units. Scrutiny of records of indents and supply of medicines at CMSO revealed that there were wide gaps between the number of items indented and supplied for the period of 2007-10 as detailed in **Appendix-XI.**

Analysis revealed that there were huge gaps between the quantum of demanded and supplied items. The percentage of short supply to the total number of items indented ranged between 23 and 85 in respect of tablets, 32 and 69 in respect of injections, 20 and 56 in respect of surgical items (which were considered critical and life-saving) and 44 and 86 in respect of instruments. Similarly, the percentage of items where there was no supply to the total number of items indented was between four and 16 in respect of

⁶³ Ahmedabad (₹551 lakh), Jamnagar (₹88 lakh), Rajkot (₹118 lakh), Surat, (₹2 lakh) and Vadodara (₹78 lakh).

⁶⁴ Civil Hospitals - Ahmedabad (9), Jamnagar (4), Rajkot (6), Surat (1), Vadodara (3)

tablets, eight and 13 in respect of injections, 38 and 52 in respect of surgical items and six and 42 in respect of instruments. Consequently, the share of local purchases exceeded the prescribed share of 30 *per cent* of the total grants of the hospitals. Further, stock-outs due to non-supply of medicines indented by the hospitals would have had a direct bearing on the patients who would have been forced to purchase medicines from the market, thus defeating the objective of providing medical facilities to them free of cost.

1.3.7.8 Non-maintenance of minimum stock of medicines at CMSO

As stated earlier, CMSO purchases medicines/drugs/kits on the basis of indents and supplies them to indenting units as per their grants. It supplies stocks monthly to big hospitals, quarterly to district hospitals and six-monthly to CHCs. As per the guidelines (2001) for the working of CMSO, the Director, CMSO was required to fix minimum and reorder levels of medicines to ensure uninterrupted supplies to the field units. No such minimum and re-order levels had been fixed for any of the medicines. Scrutiny of stock registers at CMSO for the period 2005-10 revealed that various medicines including life-saving and essential drugs were not in stock for long periods. Illustrative cases of certain essential medicines being out of stock as recorded from the register of medicine depot are given in **Appendix-XII**. Government stated (August 2010) that CMSO had adopted the policy of demand-based purchase and due to constraints like lack of grant, changes in indented quantity of medicines and non-availability of rate contracts, medicines could not be procured. However, it was the responsibility of CMSO to maintain adequate stock for prompt supply of medicines to the field units. In the absence of the medicines, the hospitals would have had to procure them locally at higher cost or they would have had critical medicines out of stock forcing patients to source them from the market, defeating the objective of free medical treatment. During the exit meeting, while admitting (August 2010) the audit observation, the department stated that they were proposing to introduce a stock monitoring system so as ensure that essential medicines remained in stock all the time in the hospitals.

1.3.8 Testing of samples and substandard medicines

1.3.8.1 No pre-despatch testing of samples

Mandatory tender condition of pre-despatch sampling was not implemented.

Review of tender conditions for purchases of medicines revealed that before despatch of medicines to field units, testing of samples of the medicines supplied against the rate contracts was to be done. To meet the expenses on account of testing charges, one *per cent* of the total value of medicines supplied by suppliers was being deducted towards testing charges. Samples were to be drawn by an authorized person⁶⁵ nominated by the Director, CMSO and tested at a laboratory approved and licensed by the Commissioner, FDCA. From the records of the store for the period 2005-10, it was seen that pre-sampling of materials received in store before sending them to indenting units was not being done. Despite non-drawal of samples for free despatch testing, one *per cent* deductions towards testing charges were being effected from the bills of the suppliers. CMSO stated (May 2010), that the Drug Testing

⁶⁵ Senior Drug Inspector.

Laboratory, Vadodara was the only laboratory to conduct tests and it did not have the capacity to handle approximately 5000 to 6000 batches purchased by CMSO every year. Further, it took three to six months to give sample results and the samples could not be quarantined for such long periods as issues of shelf life of the medicines were involved. Government further stated (August 2010) that it had decided (July 2010) to start pre-despatch sample testing and CMSO had initiated action in this regard.

In this regard, a case of supply (February 2009) and issue without pre-despatch testing of Ampicilin Sodium Injection⁶⁶ 500 mg and Benzyl Penicillin⁶⁷ IP procured at a total cost of ₹7.52 lakh and supplied during February 2009 by M/s Injectcare Parenterals Pvt. Ltd. was noticed, wherein, subsequently, the supplier had informed CMSO in March 2009 in respect of Ampicilin Sodium Injection and in August 2009 in respect of Benzyl Penicillin not to use the same as the vials were not labelled correctly. However, as these medicines had already been supplied in March 2009 to 114 hospitals/CHCs, they had to be called back. As in the meanwhile, 36,466 vials had already been consumed, CMSO could return (November 2009) only 90,460 vials of Benzyl Penicillin and 1,17,774 vials of Ampicillin. Thus, due to non-conduct of pre-despatch testing, incorrect injections had been issued and also partially consumed and utilised on the patients. CMSO replied (May 2010) that due to the incorrect use of the above no adverse reaction had been reported. The fact remains that incorrect medicines were administered to the patients.

1.3.8.2 Inadequate sampling of medicines by FDCA

There was a three to 85 per cent shortfall in sampling of medicines by FDCA.

Under the Food and Drug Control Act, Drug Inspectors were required to collect samples of medicines from the central depot as well as from the hospitals and send them to the drug testing laboratory for analysis. Scrutiny of records of FDCA revealed wide gaps between the targets fixed for drawal of samples and the actual samples drawn as detailed in Table-5.

Table-5: Sampling targets, actual samples taken and shortfall in sampling by FDCA

Year	Strength of Drug Inspectors/ Sr. Drug Inspectors ⁶⁸	Samples to be taken as per norm of six sample per month	Samples drawn	Shortfall	Percentage of shortfall
2005-06	38	2736	769	1967	72
2006-07	37	2664	2584	80	3
2007-08	37	2665	396	2269	85
2008-09	44	3168	2270	898	28
2009-10	45	3240	2204	1036	32

(Source: Information provided by Commissioner FDCA)

Shortfalls in sampling ranged between three *per cent* in 2006-07 and 85 *per cent* in 2007-08. Commissioner, FDCA attributed the shortfall to acute

⁶⁶ 1.38,700 vials.

⁶⁷ 106000 vials.

⁶⁸ Drug inspector (DI) / Sr. Drug Inspector (SDI) who was at headquarters was not supposed to draw samples.

shortage of field staff and added that as against the requirement of 399 field inspectors for drawal of samples, only 126 posts were sanctioned, of which only 53 posts were filled up. He added further that during 2005-06 and 2007-08 sampling was discontinued for eight and 10 months respectively due to huge pendency of samples for analysis at the drug testing laboratory in Vadodara. As the targets had been fixed based on the actual strength of SDI/DI, the reply of the Commissioner that the shortage was due to shortage of field staff is not tenable.

1.3.8.3 Outstanding recovery on account of supply of sub-standard medicines amounting to ₹1.04 crore

As per tender conditions for purchases, if any stores supplied against the acceptance of tenders /rate contract are found to be not of standard quality on inspection and/or analysis by the competent authority, the supplier shall be liable to replace the entire quantities of the relevant batches within four weeks of declaration of the medicines as substandard after testing or make full payment of the entire consignment against particular invoices, irrespective of the fact that part or full quantity (batch) of the stores supplied may have been consumed.

Rupees 1.04 crore towards non-replacement of medicines declared substandard, were not recovered from suppliers.

During scrutiny of records maintained at CMSO, it was noticed that an amount of ₹1.04⁶⁹ crore (**Appendix-XIII**) was to be recovered from 65 rate contract holders for the period ranging between 1995 and 2010 towards supply of sub-standard medicines, which showed that there was no effective mechanism for recovery. This also resulted in undue favours to the rate contract holders.

In reply, Director, CMSO stated (May 2010), that recoveries for batches of sub-standard medicines which were not replaced were done by forfeiting earnest money deposits and security deposits. Recoveries were also made through raising revenue demands through Collectors. The reply is not acceptable as an amount of ₹1.04 crore was still pending for recovery after adjustment of the deposits.

1.3.8.4 Substandard samples of medicines

Inspectors of FDCA as well as CMSO take random samples of medicines procured by CMSO and send them for analysis to the drug testing laboratory at Vadodara. Table - 6 below shows the number of samples taken and analysed during the period 2005-10.

Table-6 - Details of samples of medicines taken and their test results

Sr. No.	Year	Samples taken	Samples declared sub-standard	Percentage of sub-standard samples over total samples
1	2005-06	895	138	15
2	2006-07	1089	137	13
3	2007-08	677	77	11
4	2008-09	621	102	16
5	2009-10	771	111	14
	Total	4053	565	14

(Source: Information provided by the Commissioner FDCA)

⁶⁹ More than 10 years: ₹ 6,56,426, More than five years : ₹ 29,28,008, between one and five years : ₹45,78,883 and less than one year : ₹ 22,57,172.

Analysis of the table shows that the percentage of samples declared substandard ranged between 11 and 15. Inordinate delay in analysing samples and giving of results by the drug testing laboratory, led to consumption of sub-standard medicines before their being declared so as discussed in Paragraph 1.3.8.5 below.

1.3.8.5 Late receipt of test reports of medicine samples

Test reports of samples of medicines were received more than one year after sampling.

Although CMSO guidelines⁷⁰ for procurement of medicines and equipment provided for testing of samples of drugs by the Drug Testing Laboratory, Vadodara, no time limit for submission of test results had been prescribed. Samples of drugs procured by CMSO were taken by the Drug Inspectors at CMSO as well as the concerned district hospitals and sent for testing to the Drug Testing Laboratory, Vadodara. Scrutiny of records at Rajkot, Surat, Vadodara and Ahmedabad civil hospitals revealed that test reports of sampled drugs were received very late and in many cases after one year of sampling, leading to consumption of drugs before receipt of report (illustrative list in **Appendix - XIV**). This made the testing process ineffective and defeated the very purpose of testing the samples. Commissioner, FDCA stated (June 2010) that due to shortage of staff at the Drug Testing Laboratory, there was a pendency of results. As testing of medicines was essential, urgent steps needed to be taken to ensure prompt testing of samples before the medicines were administered to the patients. Despite specific provision for testing of samples collected by drug inspectors, control remained ineffective for want of adequate infrastructure for testing. During the exit meeting, while admitting (August 2010) the audit observation, the department confirmed that a system of pre-despatch sampling had been introduced with effect from 1 August 2010.

1.3.9 Purchase of equipment

Indents for purchase of equipment are placed by the respective ADs as per projections of requirements made by the field units. Orders for supply are finalized and placed by CMSO while payments are made by the respective indentors. For the purchase of equipment, separate budget provisions are made for each wing⁷¹ of the department. Specifications of equipment are prepared by a Committee⁷² appointed by the respective ADs and submitted to the Director, CMSO along with the necessary administrative approvals. CMSO invites tenders for procurement of the equipment and after technical scrutiny by the technical committee of indenting units, the purchase procedure is finalized and Acceptance of Tenders issued to the successful tenderers. Supply of equipment is made directly to the indenting units and payments are made by the indentors.

1.3.9.1 Rush of tender procedure in the month of March in cases of procurement of equipment

Rule 109 of the Budget Manual stipulates that expenditure should be uniformly spread over the whole year and rush of expenditure during the last

⁷⁰ Issued in 2001 by State Vigilance Commission.

⁷¹ Medical Education, Medical Health, Medical Services and Family Welfare.

⁷² Committee of Additional Director, one indenting officer and three specialists from other hospitals.

quarter and particularly during the month of March should be avoided as due to rush of expenditure, there were chances of irregularities being committed. The Central Stores Purchase Organisation manual prescribes that indents for the purchase of equipment should reach CMSO latest by September of the respective financial year in which the purchase is to be made, along with necessary administrative and budgetary sanctions. The prescribed time schedule from the acceptance of indent to the issuance of purchase orders is 16 weeks⁷³. Records of CMSO and at the offices of the ADs revealed that there was no system of submission of indents in time and requirements were sent for individual purchases instead of in a consolidated manner. Such indents were sent at different intervals even up to March, leaving no time for CMSO to properly scrutinize and complete the tender process. During the course of audit at CMSO it was noticed that the quantum of tenders, being finalized was comparatively high during the month of March than during the rest of the year, as detailed in Table-7.

Table-7 - Total tenders finalized during the year

Year	Total Acceptance of Tenders finalized during the year	Acceptance of Tenders finalized during March	Acceptance of Tenders finalized on 31 March	Percentage of Acceptance of Tenders finalized in March	Percentage of Acceptance of Tenders finalized on 31 March over AT done in March
2005-06	114	72	16	63	22
2006-07	122	107	8	88	7
2007-08	95	54	8	57	15
2008-09	57	52	22	91	42
2009-10	122	89	53	73	60

(Source : Statement prepared from the Acceptance of Tender register of CMSO)

Fifty seven to 91 per cent of tenders for equipment were finalized in the month of March leading to rush of expenditure and deficiencies in technical scrutiny

Acceptance of Tenders finalized in the month of March ranged between 57 per cent (2007-08) and 91 per cent (2008-09) of the total Acceptance of Tenders finalized during the whole year. Acceptance of Tenders finalized on the last working day of March ranged between seven per cent (2006-07) and 60 per cent (2009-10) of Acceptance of Tenders that were finalized during the month. CMSO stated (May 2010) that this was due to non-receipt of indents in time from the indenting officers, late receipt of administrative sanction from the Government and non-availability of purchase committee officials in the months of January and February. The reply is not acceptable as finalizing tenders in March and on 31 March would leave inadequate/no time for proper scrutiny of tenders, resulting in likely selection of inferior quality equipment.

⁷³ Two weeks for screening of indent, three weeks for issue of enquiry, three to four weeks for receipt of tenders, one week for preliminary scrutiny of tenders, two weeks for scrutiny by indenting officers, two weeks for CSPO for final scrutiny, one week for issue of acceptance letter to firms and receive confirmation and one week for issue of final Acceptance of Tenders.

1.3.9.2 Irregularities in purchase of Tele-Radiology System

Tele-radiology systems purchased at a cost of ₹8.72 crore during the year 2005-06 were not functional at three hospitals and were partially utilized at three hospitals.

Based on an indent received (January 2006) from the AD (Medical Education) for requirement of six tele-radiology systems for six hospitals⁷⁴ attached with medical colleges, Director, CMSO procured (March 2006) the equipment at a cost of ₹8.72 crore. The tele-radiology system comprised two sub-systems - Computerized Radiography (CR) system (three systems for each hospital) to convert X-ray images into digital images and Picture Archival and Transmission System (PATS) to transmit X-Ray images as well as digitized images of Computerized Tomography (CT), Medical Resonance (MR), Ultra Sonography (USG) and Colour Doppler to various clinical departments and to store these images in the data base for future clinical and research purposes.

During scrutiny of tender files, irregularities in the purchase procedure as well as in the specifications were noticed as detailed below.

- Under basic requirements of the proposed system, it was stated in the tender that an open system for multi-vendor modalities was required whereas the selected system was a closed system i.e. with single vendor capability, forcing users to purchase consumables such as X-ray films and cassettes only from original equipment manufacturers, which created a monopoly supply situation. This was against the tender stipulation.
- The terms and conditions required the bidders to submit certificates conforming to the Health Insurance Portability and Accountability Act (HIPPA)⁷⁵. HIPPA was a US Government Act passed in 1996 to cover health plans, health care providers and health clearing houses. Insistence of this requirement excluded local vendors from the bidding process.
- Specifications required that the cameras should have the ability to print at least two different sizes commonly used (not indicated in specification) of images to allow flexibility in usage. Hospitals mostly used 8"x10" and 10"x12" size films but the cameras had the ability to support only 11"x14" and 11"x17" images. Larger size films proved very costly (around ₹100 per film) compared to smaller size films (₹10 to 25 per film.).
- Though PATS was an Information Technology (IT) product, no IT expert was involved in formation of specifications although one of the Secretariat Purchase Committee members had suggested (March 2006) that Gujarat Informatics Limited (GIL) should be involved in the process. Further, an evaluation team member had also pointed out that they were radiologists and the system was an IT one, with which they were not familiar.

⁷⁴ Ahmedabad, Bhavnagar, Jamnagar, Rajkot, Surat and Vadodara.

⁷⁵ HIPPA is a United State of America's Act passed in 1996 for quality assurance in health care system in the field of health system in the United States.

- The information generated from PATS was to be utilized by the clinical departments but representatives of the latter were not included in the specification forming committee.

The tele-radiology systems were supplied and installed between March and November 2006 in various hospitals. On scrutiny of the records of the selected hospitals and information collected from others, it was found that the system was not in use (May 2010) at the Rajkot, Bhavnagar and Vadodara hospitals while only the X-Ray module was utilized at the Ahmedabad, Jamnagar and Surat hospitals, even after four years of its purchase. The Civil Hospital, Bhavnagar stated (June 2010) that as no trained person was available to operate the system and as existing clinicians were not accustomed to the PATS system, the equipment was not used. At Rajkot, the system could not be made operational due to non-completion of civil work at the time of delivery of the system and upon its completion, the supplier failed to provide demonstration services. At Vadodara, it was stated (April 2010) that the system was working during its warranty period of one year after installation and subsequently developed problems. The company failed to rectify the problems though an annual maintenance contract was entered into and the system was out of order since November 2008. Government stated (August 2010) that the specifications were scrutinized and finalized by the expert committee appointed by the AD (Medical Education). The reply, however, did not assign reasons for the deficiencies in the purchases. Thus, procurement of equipment at a huge cost of ₹8.72 crore without adequate infrastructure and assessment of acceptability with the medical staff resulted in the system remaining unutilized/not being fully utilized.

1.3.9.3 Irregularities in preparation of specifications

The Central Store Purchase Organization (CSPO) Manual prescribes that indentors should give general detailed specifications of stores required by them. The specifications should be of general nature and not for specific brands. Indenting officers should declare in a checklist that the specifications were general in nature. If any branded equipment is required, the indenting officers should get approvals from the Government. During scrutiny of tender records at CMSO, it was found that this basic and most important condition of purchase procedure was not being adhered to by the indenting officers and specifications prepared by the indentors were customized to favour particular suppliers. Scrutiny of the number of single offers/single technically qualified offers revealed that out of 510 tenders finalized (2005-10) by CMSO, there were 89 single offers (₹9.91 crore) and 106 single technically qualified offers (₹28.45 crore). Thus, the total number of single/technically qualified offers was 195 (38 per cent) out of 510 which amounted to 37 per cent (₹38.36 crore) of the total value of ₹104.15 crore of all the tenders finalized for equipment (Year-wise details are given in **Appendix-XV**). The high percentage of tenders finalized on single offer was indicative of tender specifications not being general in nature. Cases in tender specifications favouring a particular party were noticed as discussed in the following paragraphs. During exit meeting, while admitting (August 2010)

the audit observation, the department stated that a market survey cell was being created to identify suppliers of equipment.

1.3.9.4 Specifications of specular microscope prepared to suit a particular supplier

Specifications of specular microscope were prepared to suit a particular supplier.

CMSO invited tenders for the purchase of a specular microscope in December 2008. Two suppliers participated in the tender process, namely M/s BioMedix Optotechnik and Devices Pvt. Ltd and M/s Mehra Eyetech. In the technical evaluation, the product of M/s Eyetech was rejected as it did not meet the specifications required by the indenter and the tender was awarded (March 2008) to M/s Bio-Medix Optotechnic, valuing US \$ 27,946 plus taxes of ₹140,312. Scrutiny of records revealed that the specifications required by the indenter (Civil Hospital, Ahmedabad) were custom-made to suit only one supplier i.e. M/s BioMedix Optotechnic and Devices Pvt. Ltd. The specifications matched word for word, the brochure provided by the successful bidder. In reply, Government stated (August 2010) that the equipment was purchased under Pradhan Mantri Swasthya Suraksha Yojna (PMSSY) and the specifications were finalized by Ministry of Health and Family Welfare, Government of India in April 2008. The reply was contrary to the facts, as the tender was finalized in March 2008. Further, the specifications were found to be the same as contained in the brochure of the selected model. This was also proved by the fact that only two suppliers participated in tender and one was technically disqualified. Consequently, as there was only one supplier, purchase at competitive prices could not be ensured. Preparation of specifications to suit a particular supplier was contrary to the purchase procedure.

1.3.9.5 Non-adherence to Atomic Energy Regulatory Boards (AERB) in purchase of CT scan machines

Five CT Scan machines purchased during 2003-04 to 2004-05 were not compliant to mandatory AERB norms.

As per the Atomic Energy and Regulatory Board (AERB) regulations, any radiology equipment should be registered with them and should adhere to safety norms prescribed for radioactive equipment. During scrutiny of tender procedures for purchase of CT scan machines for General Hospitals, Gandhinagar, Godhara, Junagadh and Himmatnagar, it was found that CMSO did not incorporate the condition of mandatory AERB certificates in the tender. The tender was finalized (March 2004) and awarded⁷⁶ to M/s. Blue Star Limited. Subsequently, one more machine was purchased⁷⁷ (2004-05) from the same company for General Hospital, Surendranagar. Government appointed (November 2008), an agency (MNE Technologies Private Limited), to check quality assurance compliance of radiology equipments and AERB norms. Accordingly, the authorized agency during its inspection, noticed (December 2009) that the machine was not complying with the safety norms and KVp⁷⁸ exposure was found to be more than the tolerance limit. Similar violations of AERB norms were also noticed in respect of the CT scan machine installed at Himmatnagar. Further, as the technical specifications of the balance three CT scan machines were the same, these machines would also be non-compliant

⁷⁶ US \$ 218830 per machine.

⁷⁷ US \$ 197489.

⁷⁸ Peak Kilo voltage applied on X-ray tube.

to AERB norms. In reply to an audit observation, CMSO stated (May 2010) that compliance to AERB norms was mandatory and the technical committee rejected any offer which was not compliant to AERB norms. The reply is not acceptable as the selected machine did not conform to radiation safety norms. Non-insertion of the mandatory safety provisions as per AERB norms in the tender resulted in supply of machines with higher exposure to radioactivity, which would affect the patients.

1.3.9.6 Unfruitful expenditure on Comprehensive Maintenance Contract of equipment supplied under ORET

Equipment covered under Comprehensive Maintenance Contracts were either non-functional or the contracts were awarded before installation, thus rendering the expenditure wasteful.

Mention was made in paragraph 3.10 of the Comptroller and Auditor General's Audit Report, 2000 regarding the ill-conceived Oriented Development Related Export Transactions (ORET) Project launched for upgradation of hospitals for promotion of health care. Further scrutiny of records relating to utilization and maintenance of equipment procured under the project revealed irregularities and avoidable payment to M/s Philips Electronics India Limited (PEIL) for comprehensive maintenance contracts (CMCs) of equipment⁷⁹ for Radiology and Urology departments, which were not in use as discussed below:

At the time of awarding the CMC to PEIL for the period 2005-06, a technical committee member stated (January 2006) that as the CT scan machines were very old and remained out of order frequently, CMC was not required for them. However, this advice was ignored and CMCs for five machines⁸⁰ at the rate of ₹18 lakh per CMC period was awarded.

- At Civil Hospital, Ahmedabad, a CT scan machine covered under the ORET project was purchased in 1999, but was shifted to Bhuj after earthquake. However, it was stated that it was not installed but sent back to Ahmedabad. The machine was installed in December 2003 at the trauma centre. The machine was under CMC for the period 2005-06 to 2007-08 at the CMC value of ₹18 lakh per year. Records showed that the machine was never used for its intended purpose as PEIL failed to repair it despite repeated attempts. In spite of this, CMC for the machine was entered into during the period up to 2007-08 and the machine was condemned in 2009. This resulted in a wasteful expenditure of ₹54 lakh on the CMC of the above machine for the period of CMC⁸¹.
- CT scan machines had one laser camera each and even though a CMC was entered into for CT scan machines including laser cameras, a separate CMC for laser cameras was observed to have been awarded during 1 May 2007 to 30 April 2008 at a total cost of ₹8.40 lakh for

⁷⁹ Tomo Scan EG C.T. scanner, Easy Diagnost with Digital Spot imaging X ray machine (EDDSI), Easy Diagnost with floor column X ray machine< multi-radiology System 300 MA X ray machine (MRS), BV-25 Gold C-arm image intensifier, SD 250 ultrasound with probes, SD 360 ultrasound with probes, SD 100 ultrasound with probes, Urodiagnost multiradiography floor column system, Litho Diagnost ME litho tripsy, UPS, Automatic film processor, Laser Camera HQ T 969 kodak.

⁸⁰ Ahmedabad, Bhavnagar, Rajkot, Surat and Vadodara.

⁸¹ 1 October 2004 to 30 November 2005; 2 February 2006 to 1 February 2007; 1 May 2007 to 30 April 2008.

five laser cameras⁸²(one each) for five CT scan machines and subsequently for the period 1 September 2008 to 31 August 2009 at a cost of ₹1.24 lakh per camera. Payment of ₹ 48.20 lakh, thus, was wasteful and avoidable as CMC for CT scan machine including laser camera was in force during the above period.

- At District Hospital, Dahod, an Easy Diagnostic Floor Column machine was installed in September 2009. CMC for the above machine was, however, in force for the period 2005-06 to 2009-10⁸³ i.e. before installation, involving avoidable payment of ₹40 lakh. Similarly, a Multi-Radiography System (MRS) though installed only in January 2009, was under CMC even before its installation and an amount of ₹11 lakh was paid for the period 2004-09. CMC charges of ₹51 lakh became infructuous for the period for which machines were not installed.

During the exit meeting, the department agreed (August 2010) with the audit observation and stated that while renewing the CMCs, it would be ensured that the equipment was in working condition and was in use.

1.3.10 Non-utilization of equipment

1.3.10.1 Poor Performance of Fully Automatic Random Access Biochemistry Analyzer

Additional Director, Medical Education purchased (March 2006) fully automatic random access biochemistry analysers for six medical colleges of the State at a total cost of ₹96 lakh. During the check of records at the Rajkot and Vadodara medical colleges, it was noticed that halogen lamps and probes went out of order many times. Equipment went out of order 13 times at Jamnagar and Rajkot respectively and at Vadodara 14 times since installation⁸⁴. There was inconsistency in the results reported at Vadodra and Jamnagar. Hospitals accepted the failure of the equipment. Civil Hospital, Vadodara stated (April 2010) that due to frequent breakdowns, there was more use of consumables. This was indicative of inadequate technical evaluation before purchase of the equipment which resulted in the equipment not being optimally utilized.

1.3.10.2 Non-utilization of equipment due to non-supply of consumables

Scrutiny of records at Civil Hospital, Rajkot revealed that a Polymerase Chain Reaction (PCR) machine was purchased (March 2006) for the Microbiology Department at a cost of ₹21.91 lakh. The machine was to be utilized for detection of genetic material of microbes for conducting tests for detection of diseases like dengue, chikungunya etc. Scrutiny showed that the machine was not utilized up to 2008-09 due to non-purchase of consumables like filter tips, PCR tube, DNA isolation kit, Viral RNA isolation kit, reverse transcription kit etc. The Head

⁸² Ahmedabad, Bhavnagar, Jamnagar, Rajkot and Surat.

⁸³ 1 October 2004 to 30 September 2005; 2 February 2006 to 1 February 2007; 1 May 2007 to 30 April 2008 and 1 September 2008 to 31 August 2009.

⁸⁴ Jamnagar - March 2007, Rajkot - February 2007 and Vadodara - December 2006.

of Department, Microbiology replied (March 2010) that consumables were not supplied by the Superintendent, Civil Hospital, Rajkot though indents were made regularly. Thus the equipment remained idle for four years due to non-supply of consumables and despite availability of facilities for detection of epidemic diseases, patients were forced to get the required tests done elsewhere.

1.3.11 Internal control mechanism

Performance audit revealed deficiencies in the internal control mechanism of the department. Additional Director (Medical Education) failed to control the excess expenditure over prescribed ratio by the hospitals under his jurisdiction. There was no system to ensure implementation of risk purchase clause and recovery of amounts in case of default by the supplier of medicines. There was no control over timely submission of indents for purchase of equipment to CMSO which led to rush of tender and finalization in the month of March. Analysis of technical specifications of equipment prepared by technical committees revealed that the control of Additional Directors was not adequate to avoid cases of tailored specifications to suit specific vendors. Cases of issue of comprehensive maintenance contracts in respect of equipment which were not in use indicated lack of adequate internal control.

1.3.12 Conclusion

Expenditure on procurement of medicines was more than the grants allotted over the years. Though expenditure on medicines was more than the grants in four out of five years under review, the expenditure on procurement of equipment was less than the allocation in all the years. The ratio of allocation of 70 per cent grant to CMSO for centralized purchase of medicine was not adhered to by AD (Medical Education). Expenditure incurred on procurement of equipment was high during the month of March and particularly on 31 March. CMSO failed to enter into rate contracts for most of the items included in the formulary list. Non-supply of adequate quantities of medicine to field units resulted in procurement at higher prices locally. Due to shortfalls in sampling of medicines and absence of pre-despatch testing, the standard and quality of medicines issued to patients could not be ensured. The mechanism to ensure implementation of risk purchase and recovery of amounts due to non-supply and supply of substandard medicines was not effective. There were irregularities in preparation of technical specifications for procurement of equipment which led to favouring individual suppliers. Award of comprehensive maintenance contracts for equipment, which were not in operation, resulted in avoidable payment. Equipment procured to provide better health care facilities to patients remained unutilized, either due to non-procurement of consumables / accessory or non-availability of adequate manpower.

1.3.13 Recommendations:

- The Formulary committee to update the list of essential drugs should meet regularly and the formulary list of medicines should be updated every year as mandated.

- In order to ensure procurement of common drugs/medicines in bulk at economical rates, rate contracts should be entered into for all the items included in the purchase list.
- A system of pre-despatch sampling and prompt receipt of results of sample analyses should be evolved to ensure that the patients are administered standard and good quality medicines.
- The time limit for submission of indents for procurement of equipment should be strictly adhered to in order to ensure timely purchase, adequate scrutiny of technical specifications and avoidance of expenditure at the fag end of the year.
- Stringent checks at the CMSO level should be applied on preparation of technical specifications of equipment to ensure that the specifications are general and not intended to favour any particular brand or model.

SCIENCE AND TECHNOLOGY DEPARTMENT**1.4 IT Audit of Integrated Workflow and Document Management System (IWDMS)****Highlights**

As a step forward in implementation of e-Governance, the Government entered into (March 2005) an agreement with Tata Consultancy Services (TCS) to develop an application system named Integrated Workflow and Document Management System for efficient management of workflow and documents and files to bring effectiveness and transparency in Government administration. Some of the significant points noticed in the IT Audit of this system were as follows:

Out of the total of 304 Department Specific applications, User Requirement Specifications (URS) for 65 applications were not prepared while for 177 applications, URS were prepared but approval of the users was not obtained.

(Paragraph 1.4.10.1)

System Requirement Specifications (SRS) and System Design Document were not prepared by the Service Provider and hence it was not possible to judge the extent to which user requirements, if any, were met.

(Paragraph 1.4.10.2)

Out of 304 User Acceptance Specification Reports prepared, 43 reports had only signatures without designations of the officials who had approved the same and in three cases, there was no signature or designation.

(Paragraph 1.4.10.3)

The duties of ‘Developer’, ‘Implementing Agency’, ‘System Administrator’ as well as ‘Database Administrator’ were being carried out by the vendor developer (TCS), thus holding unlimited rights to the application/ system.

(Paragraph 1.4.10.4)

Property Rights of the Source Code and Intellectual Property Rights pertaining to the application were given to the vendor which violated the standard procedures laid down for computerization in Government departments.

(Paragraph 1.4.10.5)

Though standard forms were not used for the contract agreement, prior approvals of the Legal and Finance Departments for its drafting were not obtained as required under the General Financial Rules.

(Paragraph 1.4.11.1)

1.4.1 Introduction

The Secretariat departments formulate policies, procedures and guidelines for functioning of the State Government and monitor their implementation. They receive applications, petitions, grievances and representations from individuals and organizations. All establishment matters relating to employees of the departments situated all over the State are also dealt with by Secretariat departments.

The work at the Secretariats involves immense flow of information in the form of files from one officer to another. In the process of seeking concurrence/opinions, approvals and/or comments, files are sent across to different departments in respect of legal, finance and administrative matters.

1.4.2 Organizational set-up

The application enables movement of information across and within departments of the Secretariat. This involves workflow integration of the State Secretariat at all the levels from Deputy Section Officer, Section Officer, Under Secretary, Deputy Secretary, Joint Secretary/Additional Secretary, Secretary/Principal Secretary/ Additional Chief Secretary, Chief Secretary and the Minister/Chief Minister.

1.4.3 Objectives of the application

The Government as a part of its e-Governance Policy have implemented the Integrated Workflow and Document Management System (IWDMS) from 1 April 2007 with the objectives of efficient and transparent administration; efficient monitoring and control; effective internal information exchange; building a knowledge base, enabling a robust decision support system and a structured work environment in the Secretariat as well as collaborative work environment and effective policymaking.

1.4.4 The application and financial outlay

The application is a web-based solution developed by Tata Consultancy Services (TCS) by using Java 2/E in front end, Oracle in Back-end with as “Unix” based application as well as Database Servers at a total cost of ₹7.81 crore including ₹ 2.52 crore as cost of implementation, warranty support and maintenance for 36 months.

1.4.5 Network connectivity

As this is a web-based application, the network back-bone of the Gujarat State Wide Area Network (GSWAN) is used for the same. Though the application is web-based, it is accessed through GSWAN only, so that only the official users of GSWAN can access the application.

1.4.6 Audit objectives

The audit objectives were to assess whether:

- system development was in accordance with the best practices in IT industry.
- the system achieved its stated objectives such as efficient monitoring and control, effective internal information exchange and was a robust decision support system.
- documentation of the system was exhaustive/adequate to ensure continuity/enhancement of the software and enable easy maintenance.
- procurement of the system was done in an equitable manner in accordance with the Rules/Regulations.

1.4.7 Audit criteria

The implementation of the Integrated Workflow and Document Management System (IWDMS) was assessed against the following criteria:

- Rules/Regulations governing procurement.
- System Development followed the accepted stages of System Development Life Cycle (SDLC) i.e. feasibility (Technical/Financial) studies, preparation of User Requirement Specifications (URS), System Requirement Specifications (SRS), System Design Document (SDD) and testing of the software developed.
- Documentation of the System i.e. URS/SRS/ Source Code/ SDD/ Operation/User and System Administration Manuals and System Generated Monitoring Reports.
- System/Database Administration and System Security.

1.4.8 Scope of audit

Twenty five departments⁸⁵ of the Secretariat, the Chief Minister's Office and the Chief Secretary's Office have implemented the application from 01 April 2007. The IT Audit covered the progress of implementation in all the 25 departments for the period from 2007-08 to 2009-10. During the audit, the tendering process, system development process and its implementation as well as security of the application was assessed. The audit was conducted between January and April 2010.

1.4.9 Methodology

The data was in the form of scanned images (All dak as well as files) and notings and drafts were in the text format. Hence, review of the documentation of the application developed, implementation and usage were reviewed in audit.

Audit findings

1.4.10 Procurement of the system

1.4.10.1 Defects in documentation

The IWDMS application consists of three parts i.e. Core applications for all the departments (14), Common applications, which can be used by all the departments (49) and Department Specific applications, which are specific to the needs of a department (304). Review of Department Specific applications revealed certain deficiencies which are discussed below:

Complete documentation of the application was not done.

Out of the total 304 Department Specific applications, URS for 65 applications were not prepared and that for 177 applications were prepared but not approved by the users. No System Requirement Specifications and System Design Document were prepared and produced to Audit. Out of 304 User Acceptance Specification Reports (UASR), three UASR were not approved by the users, 64 UASR were approved by the users in the absence of URS, 167 UASR were approved by the user without approval of URS (details in **Appendix-XVI**). As such, acceptance of the applications in the absence of URS (64) and without approved URS (167) by users was not justified.

⁸⁵ (1) General Administration Department, (2) Home Department, (3) Sports, Youth Services and Cultural Activities Department, (4) Information and Broadcasting Department, (5) Legal Department, (6) Legislative and Parliamentary Affairs Department, (7) Finance Department, (8) Agriculture and Co-operation Department, (9) Industries and Mines Department, (10) Energy and Petrochemical Department, (11) Labour and Employment Department, (12) Social Justice and Empowerment Department, (13) Education Department, (14) Science and Technology Department, (15) Health and Family Welfare Department, (16) Panchayats, Rural Housing and Rural Development Department, (17) Tribal Development Department, (18) Women and Child Development Department, (19) Narmada and Water Resources Department, (20) Ports and Fisheries Department, (21) Revenue Department, (22) Road and Building Department, (23) Food and Civil Supplies Department, (24) Forests and Environment Department and (25) Urban Development and Urban Housing Department.

1.4.10.2 Non-observance of the prescribed procedures in the development of the application

The application software development process as prescribed by the Government was not followed

As provided in Government Resolutions (GR) dated 28 April 2000 and dated 15 May 2001, the Service Provider (SP) was to be asked to conduct a detailed study and prepare the URS document and submit it to the department for their approval. On approval of URS, the SP was to conduct a detailed study and prepare the SRS document and submit it to the department for their approval. On approval of SRS, the SP was to go ahead with preparation of SDD, which would become the basic guide map for the department and used for periodic review of the assigned IT project.

Further, it also provided that the software developed by the SP should be submitted in the form of SDD with test plans.

Gujarat Informatics Limited (GIL), being the nodal agency and IT consultant of the Government as well as the Department of Science and Technology (DST) did not incorporate these provisions in the contract agreement signed with the SP by mentioning these procedures in "Clause-6- Deliverables".

Therefore, the procedures laid down by the Government were not followed by the SP as they were not incorporated in the agreement with them by the Government and the URS, SRS and SDD were not prepared by the SP.

Absence of these documents can adversely affect future maintenance, business continuity and version control of the software developed, which can result in monopoly of the SP and indefinite future liability on the part of the Government.

When the matter was reported (June 2010), the Government stated (August 2010) that it had procured a ready-tested framework to minimize the risk of failure. Accordingly, a Gap Analysis document for all the applications was prepared and approved by the Core and Common Applications Committee (committee) appointed by the State Government in 2005, to make the best use of what was already implemented by other Governments and use it as base line after identifying the gaps with reference to the requirement. Further, it was also stated that any agency could maintain the application for any future change based on the above report. Based on this, there was no requirement of SRS/SDD.

However, as the Gap Analysis approved by the committee did not cover the complete requirements of the users and in the absence of SRS/SDD the system cannot be maintained for future changes by any other agency other than TCS.

1.4.10.3 Non-authentication of the User Acceptance Specification Reports

None of the URS as well as UASR had concurrence/ approval of GIL/ DST.

(i) According to Para-4 of Annexure-C of the Contract Agreement, the responsibility for issuing acceptance letters for Department Specific applications developed by the SP lay with the Secretaries of the concerned departments. Contrary to the above, it was observed that the UASRs were authenticated by authorities mentioned below:

Authenticated by	No. of UASR
Deputy Section Officer	11
Section Officer	49
Under Secretary	42
Personal Secretary	6
Deputy Secretary	39
Joint Secretary	3
Additional Secretary	1
Officer on Special Duty	7
RIC and Secretary	12
Principal Secretary	1
Deputy Director (Statistics)	3
Assistant Executive Engineer	6
Deputy Executive Engineer	2
Superintending Engineer	3
Dy. Collector	28
Accounts Officer/GRF-DM Cell	3
Relief Commissioner	1
Commissioner of Mid-day-Meal	16
Industries Commissioner	25
No designation (only signature)	43
No signature /No designation	3
Total	304

As mentioned above, maximum number of applications was accepted by Section Officers (49) and Under Secretaries (42).

(ii) In none of the abovementioned URS as well as UASRs was there concurrence/approval of GIL/DST, which was the owner of the application software. This resulted in splitting of Common applications as mentioned in Para 1.4.12 and 1.4.13 of this report. When the matter was reported (June 2010), the Government stated (August 2010) that GIL/DST approval was not required. The reply is not acceptable as the Project Implementation and Co-ordination Committee constituted vide the Science and Technology Department's Government Resolution dated 5 May 2005, comprising three senior members of GIL and two senior members of DST including the Additional Secretary (Science and Technology) as Chairman was responsible for reviewing all the deliverables from TCS and making suitable recommendations. However, the Government also stated that all the departments would be requested to take a re-look at their applications within the specific time limit in perception of their usage and necessary changes would be undertaken by TCS on no cost basis.

1.4.10.4 Unlimited access rights with TCS

Sole rights of the application with the vendor developer .

According to the best IT practices, each of the duties relating to 'Developer', 'Implementing Agency', 'System Administrator', 'Database Administrator' should be given to a separate entity, so as to make the system fully secured and dependable and reduce the risk of manipulation of the system.

However, TCS had unlimited access to the system since they were effectively carrying out the functions of System Administrator and Database Administrator etc.

The application system was developed by TCS and the Implementing agency of the application was also TCS. The user rights were granted by TCS on recommendations of the Science and Technology Department. The roles of ‘System Administrator’ and ‘Database Administrator’ were also performed by TCS. There was no formal password policy for grant as well resetting of the users’ passwords.

Due to this, the risks to the application system are as under:

The IWDMS application is used by all the administrative departments of Secretariat and also by the CM’s office and the CS’ office. No encryption technique is in use to protect the confidentiality of communication between these officers.

The database server contains information relating to all the administrative departments as well as the CM’s office and the CS’ office. This information/data may have secret and confidential matters also.

Being System Administrator and also the Administrator of the database server, these data can easily be accessed by TCS.

It was also observed that there was no recorded evidence of security vetting of TCS personnel having full administrative rights.

When the matter was reported (June 2010) the Government, *inter alia*, agreed (August 2010) to have their own officers for System Administration and Database Administration for implementation of the IT system.

1.4.10.5 Property Rights of the Source Code and Intellectual Property Rights of the application given to vendor against the IT procedure of the Government

Violation of the provisions of the Standard Procedures to be followed for computerization

(a) According to Para 10 of Chapter-2 of the Standard Procedures to be followed for Computerization Volume - I (June 2004), full and comprehensive Intellectual Property Rights (IPR) of all the application software developed by all the Service Providers shall rest with Gujarat Informatics Limited, the nodal agency for computerization of the Government.

However, Clause-14 of the Agreement stated :

“The Client (i.e. Government of Gujarat (GOG)) shall not be entitled to claim any right, title, interest including all types of IPR therein except as expressly granted to it by TCS under this Clause.”

“TCS shall, on receipt of full payment of all moneys due under this Agreement to TCS, grant to the Client in respect of the software and deliverables a non-exclusive, non-transferable, limited user license in India to use the software and the deliverables supplied hereunder”.

Further, it was also mentioned in the clause, “Subject to above (conditions ‘a’ to ‘e’), the client and TCS would have joint IPR on the modified/ customized portion of the solution, which was specific to the client”.

Clause-41 of the Agreement stated that the Source Code of the base framework would be the exclusive property of TCS. The Source Code relating to the modified/customized portion of the Government would be the joint property of the Government and TCS. This was against the Standard Procedure to be followed for computerization in the Government.

However, it was noticed that there was no such provision in the contract agreement. The only provision in clause-14 of the agreement was that if the client so desired, it would divest itself of its share of the IPR only to TCS and not to any other third party. Such sale of IPR was to be decided based on mutually agreeable terms.

(b) It was observed that a similar application was being developed by TCS for Bihar Government wherein TCS had not consulted the Government of Gujarat for their permission and/or concurrence to utilize the software developed for Gujarat by customizing it for Bihar Government.

As such, the Joint IPR and Joint Property Rights of the Source Code as mentioned in the agreement were not enforced.

When the matter was reported (June 2010), the Government stated (August 2010) that after completion of the project, re-use of Gujarat-based components, if any, would be identified. The fact remains that there was no prior consultation with Gujarat Government by TCS before use of the software elsewhere.

1.4.11.1 Procedural lapses in drawing up of contract agreement

➤ Non-observance of Gujarat Financial Rules in drafting of the contract agreement

Prior approvals of Legal and Finance departments were not obtained in drafting the contract

As provided in Note-3 (iii) below Rule 15(2) of the Gujarat Financial Rules (GFR), where standard forms of contracts are not used, prior approvals of the Legal and Finance Departments are required to be obtained in drafting the contracts and before they are finally entered into.

There was an agreement dated 28 March 2005 with TCS for development of an Integrated Workflow and Document Management System (IWDMS) application where standard forms of agreement were not used and therefore, the approvals of the Legal and Finance Departments were necessary for drafting the contract agreement, which was not obtained by the department. As a result, the clauses were noticed in the contract agreement, which also involved indefinite future liability on the part of the Government.

When the matter was reported (June 2010), the Government stated (August 2010) that the department had taken the approval (February 2005) of Secretary, Department of Science and Technology to take legal opinion from an external attorney for the contract. Further, it was also stated that the Principal Secretary (Expenditure) of the Finance Department was appointed (September 2004) as Chairman of a committee formed by the Government for negotiation of the price, other terms and conditions for deployment of technical manpower, responsibilities of both the sides and other relevant issues for implementation

of the project. The inputs of the external attorney and the Principal Secretary (Expenditure), Finance Department, as Chairman of the committee were considered for drafting of the contract agreement.

However, the fact remains that the codal provisions of GFR were not observed by the department.

1.4.11.2 Change of clause in the agreement for Payment Terms

It was provided in Para D(b) of the Science and Technology Department's Resolution dated 30 July 2004 that all organizations should follow the payment schedule for release of payment to vendors as given below:

Schedule of payments was not as per the Government instructions

- (i) 25 per cent on acceptance of System Requirement Specification (SRS) and System Design Document (SDD),
- (ii) 35 per cent on successful installation of software on User's Platform and generation of test reports as well as submission of the System Manual and Users' Manual (Operational Manual) in three sets,
- (iii) 25 per cent on account of users' training and implementation of software with successful completion of first parallel run,
- (iv) 15 per cent on successful completion of two months' implementation report.

Further, it was also provided vide Para (D)(d) of the Government Resolution ibid that the Committee could make appropriate changes in the payment schedules, on a case to case basis. The reasons for the changes were to be recorded in the minutes of the meetings of the committee.

However, it was observed that the payment schedule provided in Clause-16 of the Agreement was as under:

1. On signing the Agreement	₹52,90,000
2. On delivery of customized solution	₹2,11,60,000
3. Completion of Installation and Training	₹1,85,15,000
4. Date of "Go-Live"	₹79,35,000

Thus, ₹52.90 lakh i.e. 10 per cent of the total amount was paid to TCS immediately on signing of the contract whereas the first payment of ₹1.32 crore (25 per cent of the contract value) should have been payable on acceptance of SRS and SDD as per the provision cited above. Thus, the contractor received an undue benefit.

Though the 'Payment Schedule' mentioned in the Agreement was not in accordance with that provided in the GR quoted above, no reasons were recorded in the minutes of the meeting for the changes made as required under the provisions of the GR.

When the matter was reported (June 2010), the Government furnished (August 2010) copy of addendum of March 2006 to the agreement for changes in the payment schedule of the contract agreement. However, reasons for deviation from the provisions of GR were not recorded in writing.

1.4.12 Splitting of Common applications

Unnecessary splitting of applications.

As per the list of “Common applications”, there were total 49 applications, out of which 12 applications were developed as “Budget applications”. It was noticed that the applications developed for following Groups “I” to “IV” were connected with each other in their respective group. Among these applications, only one was the Main application for each group and the rest were its “utility” or “query” or “report”. Out of the 12 Budget applications, 11 applications were also included in the department specific applications of the Finance Department, resulting in duplication of Common applications with those of Department Specific applications.

Title of the application	
I.	Leave and L.T.C.
1	Leave Processing and MIS
2	Earned leave encashment/LTC encashment
3	Processing of L.T.C. request
II.	Service Book
1	Maintenance of Nomination Details
2	Service Book
III.	Management of Assets
1	Asset Request
2	Procurement of Asset and Vehicle
3	Maintenance of Asset and Vehicle
4	Asset and Vehicle Discard
IV.	Public Account Committee
1	Processing of Public Accounts Committee
2	Processing of Audit Paras

When the matter was reported (June 2010), the Government stated (August 2010) that the applications, though similar in nature, were different applications as the fields were different, work-flow and logic of approvals were different and access controls were different.

It was, however, noted that the rules and procedures for sanction and processing of Leave, LTC cases were common for all the Government departments. Therefore, three applications in Group-I above created confusion and also duplication. Likewise, in Group-II above, nomination details of an employee were a part of the Service Book. This was a common factor for all the departments and all the members of the staff. Thus, there was unnecessary duplication of Common applications. Same was the case with Group-III and Group-IV above. During the exit conference, the department stated that this would be reviewed.

1.4.13 Department Specific applications

Common applications treated as Department Specific applications and also duplication among them.

On scrutiny of the list of ‘Department Specific applications’, it was noticed that some of the applications which were developed for a specific department as “Department Specific application” were not department-specific but could be used by all the departments and therefore, should have been included in the list of ‘Common applications’. Further, some of the information captured in ‘Department Specific applications’ was also captured in ‘Common applications’, so that there was duplication of “data entry” and “application”.

When the matter was reported (June 2010), the Government agreed (August 2010) to include the department-specific applications which could be used by all the departments in the list of common applications.

There were 48 applications (**Appendix-XVII**) which were not department-specific as they were meant for administrative functions.

There were 41 department-specific applications (**Appendix-XVII**) which were common in nature and were already included in the list of “Common applications”. The data relating to these applications was already present in “Common applications” e.g. Court Case, GPF, Leave, Service Book, Budget etc. Hence, there was duplication of data entry as well as application.

1.4.14 Observations on IWDMS application

On a review of the application system, the following points were noticed:

Defects in the application software

(a) The application did not allow “Copy” and “Paste” of the required portion of the scanned image of the letters received. This resulted in the cumbersome work of retyping of the text for its reproduction in the “Notes” or “Drafts” in the communications submitted to higher authorities for their approval.

(b) No user of any department had powers to add “New Subject” pertaining to his department. For this, he was required to send an online “Service Request” to the SP.

In response to the service request, the SP would add the proposed new subject in the “List of Subjects”. Till then, the user had to wait and keep the Tappal⁸⁶ ‘pending’.

(c) In ‘Common applications’, a new file was opened for every transaction processed and the previous correspondence/papers on the subject were not available on the screen.

For example : In the Leave Processing module, on every occasion of leave, a new file was opened and previous leave applications (requests for leave) were not available in the system to the leave sanctioning authority. As such, the leave sanctioning authority did not know through the module as to how frequently leave was availed by an employee to enable him to take a proper decision.

(d) There was no provision for correcting the mistakes made in ‘File Creation’ and ‘Add Tappal’ functions of the application.

For example: When a tappal was received, it was scanned and sent to the concerned branch/official. If this tappal pertained to an existing file or document in the system, it was attached to the relevant file or document by the concerned official/branch. If this tappal, was attached to a non-relevant existing file or document by mistake, there was no provision in the application to correct the mistake.

⁸⁶ Tappal : Inward / outward letters.

(e) All the employees of Secretariat were given access rights to the IWDMS application. This also included the Class-IV employees of the Secretariat, who were given 'User IDs' to enable them to submit their applications for leave, various advances etc. Submission of such applications on IWDMS was made compulsory and access rights to Class-IV employees were given. It was noticed that the Class-IV employees of the Secretariat were expected to submit their application for leave, advances etc. through the system. However, they were neither given training to use computers nor provided with computers. They were allotted "User IDs" and "passwords". There were chances of misuse of their "User IDs" and "passwords" as they were totally dependent on other members of the staff for computer access as well as operation.

(f) As far as financial matters were concerned, it was observed that the necessary amendments in the relevant provisions of Gujarat Financial Rules and Gujarat Treasury Rules were not carried out.

For example : To apply and accept applications in e-form on IWDMS for festival advance, food grain advance, fan advance, house building advance, motor cycle advance loan or part-final withdrawal from provident fund etc. leave application, its sanction and duty resume report on expiry of leave etc. in e-form on IWDMS were not implemented. As such, these subjects remain uncovered under the relevant rules to this extent.

When the matter was reported (June 2010), the Government agreed (August 2010) to take suitable necessary action in view of the audit observations for the points from (a) to (d). As regards point at (e) the Government remained silent on the issue of possible misuse of User ID as well as passwords of Class IV employees. As far as point (f) was concerned, the Government stated that physical files were also processed simultaneously in this regard and therefore, the amendments in the relevant provisions are not necessary.

As regards implementation of the department-specific application, the General Administrative Department (ARTD) stated (August 2010) that department-specific applications developed for them were not used by them as TCS did not provide them training, guidance and/or demonstrations of the application. DST needs to issue necessary instructions to departments to take a relook at department-specific applications, if necessary, in consultation with TCS and provide training, wherever necessary.

1.4.15 Budget applications in IWDMS application

**Repetition of
Budget Modules in
IFMS and IWDMS**

As far as Budget applications included in "Common applications" were concerned the following points were noticed:

(a) There was a Budget Module in the Integrated Finance Management System (IFMS) also. The IFMS application was a web-based application which was in an advanced stage of development for the Finance Department by TCS.

(b) The initiation, processing and finalization process of the budget in IWDMS and Integrated Finance Management System (IFMS) applications were the same. Hence, the 'Budget Module or application' should have been in one application only i.e. either in IWDMS or in IFMS. Its existence in the IFMS

application would be more relevant. This would also reduce the duplication of the 'Modules' as well as reduce the burden on IWDMS resulting in faster working of the IWDMS application.

DST, which was responsible for maintaining consistency and monitoring of the development process of the application software through GIL, may examine the matter and issue suitable guidelines.

When the matter was reported (June 2010), the Government stated (August 2010) that the budget was not a part of the IFMS project and that the data pertaining to the budget available in IWDMS would be made available in IFMS for release of grants and tracking of expenditure against them.

The reply is not acceptable as the presence of the Budget Module was more relevant to IFMS which was a financial system rather than IWDMS which was a work flow and document management system.

1.4.16 Security audit of IWDMS application

**Security audit
not conducted
periodically by
TCS**

As provided in Clause 4 (j) of the agreement, security audit of IWDMS application was to be carried out by TCS at predefined intervals. Further, it was also provided in Annexure-A to the contract agreement under 'TCS Responsibilities' that TCS was to prepare a design of a Security Model and implement the same for the entire IWDMS application system.

When the matter was reported (June 2010), the Government stated (August 2010) that the security audit was conducted in July 2008.

Thus, the audit was conducted only once during the three years of IWDMS operation and the fact remains that it was not conducted regularly at predefined intervals. During the exit conference, the department stated that yearly security audit would be done in future.

1.4.17 Testing of back-ups of IWDMS at off site server

A "Disaster Recovery" (DR) server was maintained at an off-site location for taking back-ups of the application.

However, the workability of the off-site server was tested only twice, first when the off-site server was configured and secondly when a network problem occurred. Hence, no periodical testing was conducted to ensure that the off-site server was capable of restoring the data whenever required.

1.4.18 Testing of software by Electronic and Quality Development Centre, Gandhinagar

The Science and Technology Department advised (March 2006) all the Government departments/HODs/organisations/agencies who appointed Total Service Providers (TSPs) to develop specific application software should get that application tested at Electronic and Quality Development Centre (EQDC), Gandhinagar at TSP's cost. Such testing of IWDMS application software by EQDC, Gandhinagar was not got done by the Service Provider.

When the matter was reported (June 2010), the Government agreed (August 2010) to ask TCS to get the application tested by EQDC and submit the report.

1.4.19 Conclusion

Government did not follow the provision of GFRs in drafting of the contract agreement and standard procedures for computerization in connection with property rights of the Source Code and IPR of the application. Provisions made for the development of application software were also not followed. A proper technical evaluation of the applications by the Committee appointed for the purpose was not done before acceptance/payment to the vendor. This resulted in duplication or splitting of Common applications as well as Department-specific applications. There were unlimited access rights with TCS. The workability of the back-ups were not tested.

1.4.20 Recommendations

- User System Testing of the developed software may be got done at Electronic and Quality Development Centre, Gandhinagar.
- Adequate training in maintenance of software may be provided to the staff so as to reduce dependency on the vendor and ensure Government's full control over the IT systems.
- Complete documentation of the application developed may be prepared for easy future maintenance of the system.
- Back-ups may be got regularly tested, so that they work whenever needed.
- Security audit of the system may be conducted regularly at pre-defined intervals.
- Need for the usage of encryption techniques may be considered for secret and confidential matters.