

CHAPTER V: INTEGRATED AUDIT OF GOVERNMENT DEPARTMENTS

PUBLIC WORKS DEPARTMENT (PUBLIC HEALTH ENGINEERING)

5.1 Integrated Audit of Public Health Engineering

The Public Works Department (PHE) is responsible for piped water supply system in the State, including water quality monitoring and surveillance. As of March 2007, only 591 (7.27 per cent) of the 8132 habitations in the State had access to adequate and safe drinking water. A review of the functioning of the Department brought out the following main points:

Highlights

Budgeting was unrealistic and lacked credibility in view of the persistent and substantial savings.

(Paragraph 5.1.5.1)

The size of the capital budget was contracting, the funds for Centrally Sponsored Schemes were not being spent fully and there was poor control over receipts and expenditure.

(Paragraphs 5.1.5.2 and 5.1.5.4)

The past performance in implementing the programmes of water supply was poor and the achievement of the target of covering the entire State by 2009 appear doubtful.

(Paragraph 5.1.6.2)

Programme implementation was marred by lack of sound planning, ad hoc implementation, delays in implementation, non enforcement of implementation schedules and deficient monitoring.

(Paragraph 5.1.6.4)

The Department's preparedness to tackle the issues of quality control was seriously impaired by the lack of infrastructure, adequate planning, sub-optimal utilisation of the existing facilities and deficient monitoring.

(Paragraph 5.1.7)

The operation and maintenance schedules for each component of the water supply system were not established and enforced.

(Paragraph 5.1.8)

Physical verification of the stores was not conducted regularly and there were instances of surplus material lying unutilised blocking capital.

(Paragraph 5.1.9)

Several weaknesses in the internal control system increased the vulnerability of the Department to fraud and corruption.

(Paragraph 5.1.10)

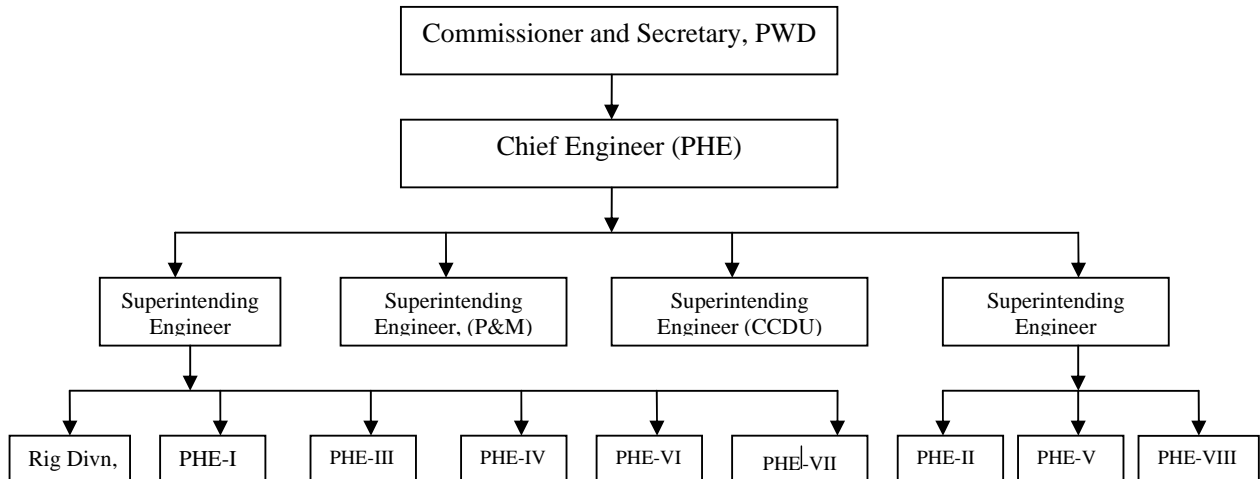
5.1.1 Introduction

The Public Works Department (PHE) is responsible for piped water supply system in the State, including water quality monitoring and surveillance. As of March 2007, only 591 (7.27 per cent) of the 8132 habitations in the State had access to adequate and safe drinking water which, together with high iron content of the underground water in the State and some reported cases of arsenic, posed major challenges for the Department.

The Department undertakes its activities mainly through the Centrally Sponsored Schemes viz., ARWSP¹, AUWSP², NLCPR³ etc. Some works are also taken up under the State plans funded under the Additional Central Assistance (ACA), RWS⁴ etc.

5.1.2 Organisational set up

There are 9 Divisions spread over 4 districts in the State. The Divisions, headed by the Executive Engineers (EE), are supervised by 2 Superintending Engineers (SE), who, along with two other Superintending Engineers - one for Planning and Monitoring and another for Communication and Capacity Development Unit - assist the Chief Engineer. The administrative head of the Department is the Commissioner and Secretary, PWD, who is also the Chief Controlling Officer (CCO) of the Department. The organogram in this regard is given below:



¹ ARWSP: Accelerated Rural Water Supply Programme.
² AUWSP: Accelerated Urban Water Supply Programme.
³ NLCPR: Non-Lapsable Central Pool of Resources.
⁴ RWS: Rural Water Supply.

5.1.3 Audit objectives and coverage

The broad objectives of audit were to assess the performance of the Department on the following parameters:

- Financial Management
- Planning and Programme Management
- Stores Management
- Human Resources Management
- Internal Control mechanism
- Vulnerability to fraud and corruption

5.1.4. Scope of audit

Of the 15 auditable units, 8⁵ were selected for audit by ‘Stratified Monetary Unit’ method of sampling. In addition, store management in the two Divisions responsible for procurement and distribution of stores viz., (1) Rig Division (under PHED) and (2) Resource Division (under Water Resources of PWD) were also covered. The audit was conducted during June-August 2007 covering the period 2002-03 to 2006-07.

Audit Findings

5.1.5 Financial Management

The budgetary allocations for the PHE are made under Grant No. 51, and ranged from about Rs. 70 to 90 crore a year, as shown in the following table:

Table 5.1.1

(Rupees in crore)

Year	Original	Supple- mentary	Surren- ders	Total	Expen- diture	Saving (-) / Excess (+)	%age of saving
2002-03	66.84	6.92	0.68	73.08	49.69	(-) 23.39	47.07
2003-04	71.42	18.26	0.23	89.45	62.03	(-) 27.42	44.20
2004-05	57.59	13.12	0.08	70.63	48.15	(-) 22.48	46.68
2005-06	66.46	17.21	-	83.67	62.65	(-) 21.02	33.55
2006-07	61.43	11.23	2.78	69.88	55.69	(-)14.19	25.48

Source: Appropriation Accounts.

Audit revealed several deficiencies in financial management, including poor budgeting and expenditure control, as discussed below:

5.1.5.1 Poor Budgeting

The Secretary and the Chief Engineer (CE) are responsible for budgeting. The CE is assisted by a junior official (an Upper Division Clerk), making it difficult for him to adopt a comprehensive approach to budgeting and exercise effective budgetary control. A review of the budget provision and expenditure in the past five years showed that budgeting was unrealistic and lacked credibility in view of the persistent and substantial savings (see **Appendix 5.1 and charts 1 to 3**).

⁵ Chief Engineer’s office, 3 Superintending Engineers, (M&P, Circle-I, Circle –II),
4 Executive Engineers (Division-II, III, V, VI)

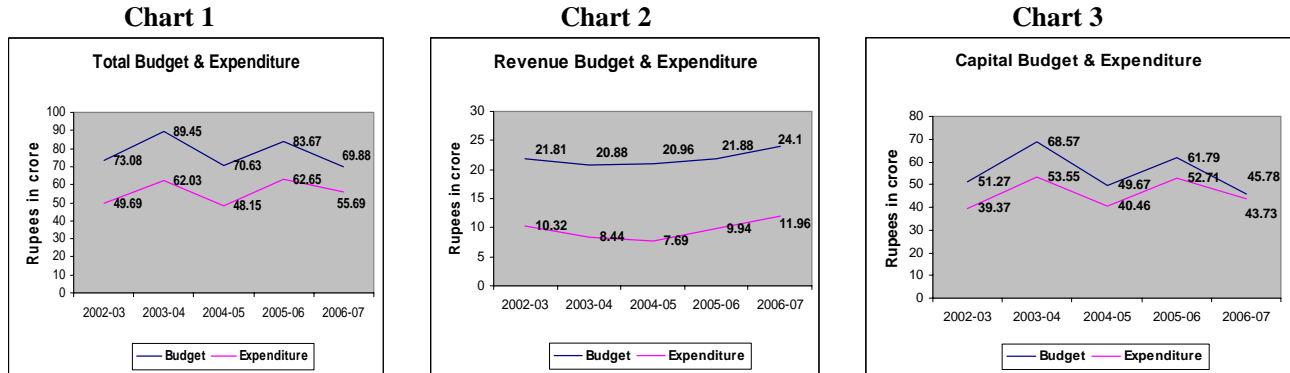


Table 5.1.1 and **Appendices 5.1 A to D** show that:

- During 2002-07 the savings ranged between 25 to 47 per cent, reflecting unrealistic preparation of budget estimates and the inability of the Department to implement its budgeted projects and programmes (also see paragraph 5.1.6.3).
- Each year supplementary provisions were obtained without justification, as, the savings at the end of the year were more than the supplementary provisions. No corrective action was taken. This indicated that the expenditure was not monitored or reviewed defeating the concept of budget.
- Savings occurred in both revenue and capital budgets. Though the savings in the revenue budget (over 50 to 63 per cent) generally exceeded the savings under the capital budget, it was indicative of the fact that budget estimates were not prepared with due care and execution of works was very slow as allocations were not fully consumed.
- Though savings were always more than the amounts surrendered no effort was made to increase the percentage of surrenders on realistic terms. This indicated that the budget was not monitored or reviewed during the year as prescribed. Due to lapse of funds these funds could not be used by other needy departments.
- Despite recurring savings under the revenue budget (over 50 per cent) the reasons were not investigated and excessive funds continued to be provided. This indicated absence of mechanism for monitoring and reviewing expenditure. An analysis in audit revealed that the savings occurred mainly under the suspense head (operated for purchase and issue of materials), direction and administration and urban water supply (**Appendix 5.1 D**).
- Savings under capital budget occurred in urban water supply, Rajiv Gandhi National Drinking Water Mission, ACA for drinking water projects etc., due to slow pace of work and delays in programme implementation as well as lack of monitoring and reviewing mechanism as discussed subsequently.

There was no evidence of the issue having been discussed at the level of the Chief Engineer or the Secretary, to look into the reasons and streamline the systems and procedures for budgeting indicating inadequate high level intervention resulting in lapse of funds which could not be used by other needy Departments.

5.1.5.2 Trends in expenditure

(i) Contraction of capital budget and expenditure:

- The overall budget provision and actual expenditure declined in 2006-07, mainly due to reduction in capital expenditure from Rs. 52.71 crore to Rs. 43.73 crore (**Appendix 5.1 C**), while the revenue expenditure went up from Rs. 9.94 crore to Rs. 11.96 crore (**Appendix 5.1 B**).
- A general trend of contraction of capital budget and expenditure was discernible, while the revenue budget (Rs. 21-24 crore) and expenditure (Rs.7.69-11.96 crore) showed a marginally increasing trend.

(ii) Funds for Centrally Sponsored Schemes (CSS) not fully utilised

There were considerable unspent balances in 2004-05 and 2006-07 (Table 5.1.2) due to PHE's inability to utilise the CSS funds released by the State Government.

Table 5.1.2

(Rupees in crore)

Year	Name of the CSS	Funds released by the State Government	Expenditure by the PHED	Unspent balances
2004-05	ARWSP	41.15	40.41	0.74
	NLCPR	6.50	5.05	1.45
2006-07	ARWSP	59.32	56.79	2.53

Source: Departmental figures.

The unspent balances can only be attributed to inadequacies in preparation of project proposals, slow progress of work as well as inadequate departmental monitoring and supervision.

5.1.5.3 Poor Expenditure Control

There was poor monitoring of expenditure and review indicating weak or no expenditure control, as manifested by demand for supplementary funds, the year end rush of expenditure, persistent savings and excess expenditure under various sub-heads. Fact is that there was no regular and timely flow of expenditure data from the field units to the CE's office, where the control registers were also not maintained in the prescribed form for proper expenditure control, as discussed below.

(i) Rush of expenditure

Financial Rules and discipline require that Government expenditure be evenly phased but 27 to 37 *per cent* of the total expenditure and 31 to 43 *per cent* of the capital expenditure during the last 3 years had taken place in March as against 11 to 19 *per cent* in the 1st quarter (Table 5.1.3).

Table 5.1.3

(Rupees in crore)

Year	Total Expenditure	Expenditure in 1 st quarter (April-June)	Expenditure in March (%)	Total capital expenditure	Total capital expenditure in March (%)
2004-05	48.15	5.50 (11)	17.59 (37)	40.46	17.55 (43)
2005-06	62.65	7.37 (12)	16.84 (27)	52.72	16.40 (31)
2006-07	55.68	10.32(19)	16.60 (30)	43.73	14.60 (33)

Source: Appropriation Accounts & VLC data.

Note: Figures in parenthesis indicate percentage.

Table 5.1.4 shows that around 25 to 40 *per cent* of the total expenditure was for administrative purposes while 21 to 49 *per cent* was on materials.

Table 5.1.4

(Rupees in crore)

Year	Total Expenditure	Expenditure on Administrative purposes (% of total expenditure)	Expenditure on Materials (% of total expenditure)
2002-03	49.69	15.68 (31.55%)	12.44 (25.04%)
2003-04	62.03	17.81(28.71%)	13.18 (21.25%)
2004-05	48.15	19.43(40.35%)	15.33 (31.84%)
2005-06	62.65	20.83(33.25%)	30.62 (48.87%)
2006-07	55.69	13.71(24.62%)	18.95 (34.03%)

Source: Appropriation Accounts & VLC data.

(ii) Deficiency in maintenance of expenditure control registers

The expenditure control register in the CE's office recorded the monthly expenditure sub-head wise, without mentioning the allocation of funds, making it difficult to monitor the excess / savings under a sub-head and exercise expenditure control. A few instances of expenditure in excess of provision under Grant No. 51 are given in **Appendix 5.2**; the reasons for excess expenditure were not made available to audit nor was any action taken to regularise the excess expenditure. The register was neither being updated regularly based on timely and regular information from the field offices; nor was it being reviewed at the level of CE or the CCO to monitor the pace of expenditure and the savings/ excesses. The Department needed a computerised monitoring system, which allows for online updating of the expenditure data, detailed head wise, by the primary units of expenditure (division/ sub-division), and which generates periodic reports to enable the CE / CO to review the expenditure from time to time and make necessary interventions. Thus, in the absence of regular monthly updates of expenditure it is obvious that the CE as well as the Secretary did not have the wherewithal for monitoring or controlling expenditure as well as place supplementary demands and prepare realistic budget estimates.

5.1.5.4 Poor control over departmental receipts and payments

Audit revealed several instances of poor control over departmental receipts and payments, which increased the vulnerability of the Department to malpractice and underscored the need for tightening the financial administration.

(i) Non- reconciliation with treasury of remittances and payments

Despite provision in the Accounts Code, the divisions were not regularly carrying out monthly reconciliation with the treasury in respect of the remittances into and withdrawals from the Government account, which is fraught with the risk of malpractice. For example:

- In Division-I, Rs. 72.60 lakh shown as remitted to treasury during September 2005 to March 2006 (24 cases) was not recorded in the treasury accounts of that Division.
- In Division-III, Udaipur, Rs.96,096⁶ shown as remitted to treasury were not recorded in the treasury accounts and there was no assurance that the amount had actually been credited to the Government account.
- In Division-V, Ambassa, 7 bills amounting to Rs. 2.46 lakh⁷ were drawn in June 2003 and March 2004, but the corresponding amounts were not found in the Divisional Cash Book. The possibility of fraudulent drawals cannot be ruled out.

According to the rules⁸ such reconciliation is the responsibility of the Divisional Officer, who has to certify each month that the reconciliation has been done. No such system was, however, in place, and the position was not being monitored at the SE/CE/CCO levels.

(ii) Lack of control in management of financial assets and liabilities

Audit revealed inadequate control and monitoring of the financial assets and liabilities, leading to non realisation of revenues and avoidable liabilities. Some instances noticed in test check were as follows:

(iii) Non- payment of bills leading to additional liability

- Delay in payment of electricity charges by Division-I led to avoidable surcharge of Rs. 64.29 lakh for the period January 1996 to December 2004 (May 2007). The Division had already paid surcharge of Rs. 4.21 lakh for the period May 2005 to February 2007 for delays in payment.
- Division-V had incurred additional liability (surcharge) of Rs. 0.62 lakh due to non-payment of electricity charges in time.

The Department attributed (October 2007) this to fund constraints and dispute on the billed amount; this is not tenable in view of the persistent savings and reflects on the lack of initiative by the Department to resolve the dispute.

⁶ Rs.3,583.00 on 12.11.2004; Rs.15, 421.00 on 18.1.2006; Rs.5,272.00 on 19.4.2006 and Rs.71,820.00 on 5.1.2007

⁷ Bill No. 32 dt.9.6.2003 :Rs. 41,819; No. 141 dt. 25.3.2004 : Rs. 1,43,700; No. 95 dt. 23.3.2004 : Rs. 12,177; No. 96 dt. 23.3.2004 : Rs. 12,032; No. 97 dt. 23.3.2004 : Rs. 12,515; No. 75 dt. 19.3.2004 : Rs. 11,938; No. 94 dt. 23.3.2004 : Rs. 11,777

⁸ paragraph 22.3.1 of the CPWA code

(iv) Non recovery of Government dues

- Sub-Division-I under Division –III had not realised water charges from the Nagar Panchayat in Udaipur. Against Rs. 17.48 lakh⁹ receivable during April 2004 to March 2007, only Rs. 9.09 lakh had been realised (July 2007).
- In Division-II, Rs. 5.60 lakh recoverable from the contractors in three cases had not been recovered (July 2007), though the works were completed long back. In Division-V Rs. 6.82 lakh recoverable from two contractors were not recovered till the date of audit.

There was no system in the offices of the CE/ Secretary to regularly review the position to ensure that the revenues are realised and the liabilities paid in time.

(v) Non adjustment of advances

Advances made to different entities are required to be adjusted within a given time to ensure that the money had been spent for the approved purpose and to book the expenditure to the proper head of account within the financial year. Test check revealed absence of controls and monitoring of the advances at all the levels, including the CE, resulting in the amounts remaining unadjusted for long periods. For example:

- Rs. 2.03 crore¹⁰ advanced to TSECL during March 1998 to February 2007, for electrification of water supply schemes, remained unadjusted and the position of expenditure and the status of work was not made available to Audit.
- In Division-III, Udaipur Rs.11.60 lakh advanced to the BDOs for payment of wages to the pump operators engaged by the panchayats were outstanding since October 2005.
- In Division-VI, Bishalgarh, 3 LTC advances amounting to Rs. 0.81 lakh had not been adjusted for 5 to 7 months, due to non-submission of bills by the incumbents though the LTC Rules require adjustment within 2 months failing which penal interest is to be charged.

Due to non settlement of advances for long periods the possibility of misappropriation or fraud cannot be ruled out.

5.1.5.5 Quarterly surprise check of cash balance not done

Finance Department instructions (December 1996) provide for surprise check of cash once in a quarter by an officer other than the head of office, in addition to monthly physical verification of cash by the head of office. In all the eight units checked, the prescribed quarterly surprise check was never conducted during 2004-07. Also, while conducting physical verification of cash, none of the test checked DDOs recorded the certificate in the cashbook in the prescribed format.

⁹ Calculated on 2,238 connections as of March 2004.

¹⁰ Rs.1.97 crore by Division-III, Udaipur, and Rs.5.80 lakh by Division-VI, Bishalgarh.

5.1.6 Planning and Programme Management

5.1.6.1 Magnitude of the challenge

The Department had a major challenge to provide adequate and safe drinking water to all the people of the State. According to the norms, the habitations with a supply of 40 litre per capita per day (lpcd) of water are categorised as Fully Covered (FC); those with 10 lpcd or more but less than 40 lpcd are categorised as Partially Covered (PC) and those below it are categorised as Not Covered (NC). Apart from this 'quantity' aspect, the quality of the water is also a major challenge due to high incidence of iron and reported occurrence of arsenic in some places in the State. The quality of water is determined with reference to the standards laid down by the Bureau of Indian Standards (BIS) or the WHO. The habitations which do not conform to the quality standards are categorised as NC, irrespective of the quantity of water available.

According to a 2003 census, only 246 of the 8132 habitations were FC. The progress thereafter was modest, raising the number to 591 as of March 2007 (Table 5.1.5).

Table 5.1.5

Item/category	As per 2003 status survey	As on 1.4.2007	As per 2003 status survey	As on 1.4.2007
	Quality		Quantity	
Not Covered (NC)	6994	6321	2653	1771
Partially Covered (PC)	892	1220	3503	1702
Fully Covered (FC)	246	591	1976	4659
Total	8132	8132	8132	8132

Note: The status includes coverage by both RDD and PHED

The Department did not prepare year-wise targets of PC and NC habitations to be covered (which could serve as an important performance measure); rather the annual plans indicated the number of works to be done, without specifically relating it to the improvement in the status of the habitations to PC or FC. As a result, a habitation-specific focus to the programme implementation was missing.

5.1.6.2 Future Plans

(i) Joint Action Plan 2006

The State Government had prepared (November 2006) a Joint Action Plan to cover all the NC and PC habitations by 2009, jointly by the PHED and the Rural Development Department (RDD), mainly by sinking tube-wells. The year-wise targets of works are shown in **Appendix 5.3**, which shows that PHE was responsible for 17.44 *per cent* of the targeted works. However, plans were afoot to make the PHE responsible for all the water supply schemes in the State, by transferring the relevant works from the RDD.

(ii) Achievement of the Joint Action Plan was doubtful

Appendix 5.3 shows that out of 307 new tube-wells allocated for it in 2006-07, the PHE took up 125 Deep Tube Wells (DTWs) and completed only 53

(17 per cent) upto 31 March 2007. This pace of progress cast doubts on the ability of PHE to achieve the planned coverage by 2009. The reasons for the shortfall were not reviewed for corrective action. The Department had not made a rigorous assessment of its implementation capacity *vis-a-vis* the quantum of work planned, showing the gap in the implementation capacity- a key input for future planning. The Department had also not developed a comprehensive strategy and plan, with the targets broken down into identifiable items of work (tube-wells, water treatment plants, IRPs, laboratories etc., and their locations), the financial and human resources required and their sourcing.

5.1.6.3 Slow progress of work and shortfall in achievement of targets

The progress of work in the past five years has been too slow to match the targets. Table 5.1.6 shows that only 38 to 66 per cent of the works were executed.

Table 5.1.6

Type of works	No. of works in 2002-03		No. of works in 2003-04		No. of works in 2004-05		No. of works in 2005-06		No. of works in 2006-07	
	T	A	T	A	T	A	T	A	T	A
Drilling of DTWs	75	67 (89%)	93	88 (95%)	151	60 (40 %)	125	66 (53%)	125	53 (42%)
DTWs commissioned	60	35 (58%)	65	41 (63%)	52	35 (67 %)	90	66 (73%)	81	58 (72%)
Construction of IRPs	30	7 (23%)	64	10 (16%)	66	8 (12%)	68	41 (60%)	169	55 (33%)
Total	165	109 (66%)	222	139 (63%)	269	103 (38%)	283	173 (61%)	375	166 (44%)

T= Target; A= Achievement;

Source: Annual Plans and reports of the department.

In 11 Surface Water Treatment Plants (STPs), taken up over the last three years, the delays in implementation ranged from 15 to 42 months (**Appendix 5.3**).

5.1.6.4 Issues in programme implementation

The programme implementation was adversely affected by several deficiencies including lack of sound planning, ad hoc implementation, delays in implementation, non enforcement of implementation schedules and deficient monitoring. These are discussed below.

(i) Lack of sound planning

- While annual action plans were prepared, they were not realistic as is evident from the persistent shortfall in achievements in the past. The plans also did not indicate any long term or short terms strategies. The detailed action plans were not prepared breaking down the targets into actionable areas, identifying the administrative, technical and financial resources, and prescribing implementation schedules. Fact is that a good plan is one which is successfully implemented. Infact in most works there were time and cost overruns.
- The preparation of project estimates needed to be standardised, with the help of computers and computer aided techniques. The Schedule of

Rates (SOR) for water supply works had not been revised since 1998 and those for civil works since 2002, which rendered the project and budget estimates unrealistic.

- The sustainability of the water supply schemes needed to be addressed, considering that the mainstay of the present and future strategy is based on tapping the ground water resources. A comprehensive strategy was required based on a thorough assessment of the ground water potential that can sustain the tube-wells drilled and the feasibility of using surface water bodies as an alternative source of supply that can also be used for harvesting rain water and recharging the ground water.

(ii) Administrative delays in award and execution of works

The Department did not adhere to codal provisions pertaining to time frame for execution of sanctioned works, which diluted the control and accountability mechanism and overall contributed to project delays. The following instances of delays in award/execution of work came to notice during test check:

- In Division-III, Udaipur, the contracts for 94 works executed during 2004-07, were awarded after one to 42 months from the date of administrative approval and expenditure sanction. In 18 cases, the delay was more than one year.
- In Division-VI, Bishalgarh, the works of 26 IRP were awarded during 2004-07 after one to 15 months from the date of administrative approval. In one case, the delay in award of work was more than a year.
- In Division-V, Ambassa, the time taken for award of 10 works varied from 4 to 21 months. In 4 cases, the delay was more than one year.
- In Division-II the construction of an IRP was delayed by eight months due to non-finalisation (without any recorded reason) of the tender in the first call; the work was awarded after the 2nd call to the same bidder who was L1 in the first bid.
- In Division-V, Ambassa, construction of overhead reservoir was delayed by over 20 months due to the failure of the Division to hand over to the contractor the site and the drawing. The Division had to pay cost escalation of Rs.81,248. The project, scheduled for completion in June 2003, was completed in March 2005.

The delays in finalisation of contracts and execution of works resulted in time and cost overruns and the purpose for which they were undertaken was defeated. Such delays in turn adversely affected proper budget preparation and efficient expenditure control.

(iii) Non enforcement of implementation schedules

There was no system of prescribing critical milestones of the projects and monitoring their achievements through a centralised monitoring system, which led to lack of accountability and urgency in the achievement of the targets. In

short, the monitoring and supervision system was very weak and there was no accountability for delays or time and cost overruns.

(iv) Inadequate investigation

Inadequate investigation in assessing the availability of ground water by using the geo-hydrological maps, resistivity tests etc, and lack of adequate facilities for testing the safe bearing capacity (SBC) of the soil (required for water bodies like surface treatment plants and overhead tanks) resulted in many unsuccessful drillings and wasteful expenditure. Of the 334 wells drilled during the period 2002-2007, 54 (16 *per cent*) were unsuccessful. Some cases noticed in the test check were as follows:

- The drilling of 17 DTWs¹¹ under the Rig Division had to be abandoned due to non- availability of water bearing strata. This led to wasteful expenditure of Rs.13.99 lakh.
- The drilling of 4 DTWs¹² under Division-II, Kumarghat, had to be abandoned due to non- availability of water bearing strata which led to wasteful expenditure of Rs.4.66 lakh.
- In Division-III, the work ‘Mini Surface Water Treatment Plant at Maharani’ in South Tripura was awarded (November 2003) without prior investigation of the soil conditions. The soil test conducted afterwards indicated hard soil forcing an increase in the drilling depth from 10 to 20 metres. This had resulted in extra payment of Rs. 10.37 lakh and time overrun of 2 years 10 months as of August 2007.

The following was noticed:

- The Department did not have an investigation wing nor did it collaborate adequately with expert organisations like the Central Ground Water Board (CGWB) to develop comprehensive hydro-geological maps of the State.
- The Department did not have a geologist to help in deciding the locations for the DTWs and other water bearing bodies.
- The State did not have sufficient number of reliable agencies for SBC testing of the soil, which limited the Department’s options.

Considering the large scale drillings required in the future, the Department should proactively take the help of the CGWB in preparing an updated ground water map of the State, incorporating the data of the DTWs drilled so far and in finalising the locations of the DTWs to reduce the number of and wastage on unsuccessful wells. Further, pooling the requirements of the PHE, Water Resources and Roads & Bridges wings (all under the same Secretary) for SBC testing, for engaging competent outside agencies through open tenders, may lead to benefit of the economy of scale, competitive bidding and better testing facilities. Most of the issues brought out are pre requisites which should have

¹¹ East Karamcherra, Shib Bari, Shib Bari-II, Mayachari, Manikpur, Kalamcherra-I, Kalamcherra-II, Raipasa, Raishyabari Growth Centre, Heyamara Growth Centre, Ramkini Sardar Para, Chamalia, Mohanpur, Ambassa TRTC, Dashamighat, South Anandanagar, Maheshpur.

¹² TSR camp at Kanchanpur, Sreepur, Kurti and Laxmipur

been taken into account before execution of work to ensure that works are completed efficiently and economically.

(v) Works scheduled in the action plan not taken up

Audit also came across several instances where the works planned were not taken up and unplanned works were taken up. For example:

- Out of 91 left out works (DTWs) in 2004-05 (Table 5.1.6), 8 works¹³ were not included in the target for 2005-06. Similarly, 14 works¹⁴ planned but not taken up in 2005-06 were not included in the target for 2006-07.
- Of the 66 DTWs executed in 2005-06 (Table 5.1.6), 10¹⁵ were not in the annual plan for that year.

Non-inclusion of left out works in the plan of the next year and execution of works not included in the annual plan illustrated unsound planning. The Department admitted (October 2007) that the annual plans were only tentative in nature.

(vi) Implementation not strictly in accordance with Administrative Approval (AA) and Expenditure Sanction (ES)

- Of the 10 DTWs taken up in 2005-06, 3¹⁶ were taken up without the AA & ES. An Iron Removal Plant (IRP) was taken up (April 2006) and completed at a cost of Rs.11.02 lakh at Amarendra Nagar (Division-VI), without the AA & ES.
- In Division-VI, Bishalgarh, 30 works, for which the AA & ES were accorded during 2002-03 to 2006-07, had not been taken up.

The above indicate that works were undertaken without provision of funds by diversion of funds and financial discipline was poor in the Department.

5.1.6.5 Departmental Contracts did not ensure employment of qualified staff by the contractor

The CPWD Manual¹⁷ requires a contractor to employ diploma holder with experience not less than five years where the tendered cost of the work is more than Rs. 50,000. Failure to do so makes him liable for payment of fine (Rs. 1,500 per month).

Scrutiny of records of 6 divisions (PHE-I, II, IV, V, VI and Rig Division) revealed that no such clause was included in the works agreements. While this

¹³ Krishnanagar, Bagamara, Mungiabari, Krishnapur, Bagabassa II, Laxmipur, Panchamnagar, Anandanagar.

¹⁴ Bartilla, Tainani-II, Masurai, Ramratanpara, South Padmabil, Purba Radhapur, Balicherra, Namasudrapara, Lyezkhowra, Noorpur, East Masuli, Anandabazar, Kangari, Bahadurpara.

¹⁵ Bishnupur, ;Ramgua, South Radhanagar, Sadhupara, Kamalacherra-II, Pancharatan, Raishyabari-II growth centre, Krishnapur, Panchamnagar, West Mausali.

¹⁶ (1) Ramgua under Satchand Block; (2) Sadhupara under Ompi Block; and (3) Kamalacherra under Ambassa Block.

¹⁷ Clause 36 of the agreement, prescribed in CPWD Manual Volume II.

led to loss of compensation of Rs. 29.96 lakh¹⁸ from the defaulting contractors, non-employment of qualified staff raises questions about the quality of work done. The Department admitted the fact and assured (October 2007) that the relevant condition will be enforced in future.

5.1.6.6 Closed/Utilised Measurement Books (MBs) not returned to the Divisional Offices

The CPWA Code provides for prompt return of the MBs issued to sub-divisions, after closure of the works. Test check in four sub-divisions revealed that, out of 102 MBs used between January 1987 and January 2007, only 13 were returned (by only one sub-division¹⁹) to the concerned divisional office after a delay of 3 to 23 months while 89²⁰ were not returned even after 4 months to 17 years (March 2007) of the closure of work. There was no monitoring mechanism in the divisions to ensure that the closed / unused MBs were promptly withdrawn. This is fraught with the risk of misuse of the MBs.

5.1.6.7 Execution of works without call of tender

The Public Works Department fixed (July 1993) the limit of Rs. 30 lakh per annum per division for awarding work without call of tenders. It was noticed that five divisions (I, II, III, IV & VI) continued to award works beyond the said ceiling. The excess over the prescribed limit varied from Rs.0.89 lakh to Rs.39.79 lakh during the last 5 years (**Appendix 5.4**). Approvals from the competent authorities had not been taken in this regard, as of the date of audit. There was no mechanism in the controlling offices (the CE/ SE) to monitor the award of works without tenders.

5.1.6.8 Constraints on implementation capacity

The major constraints of the Department in fulfilling its mandate are identified as under:

- Absence of a master plan with identifiable targets, assessment of the resources and the implementation capacity, and clearly identifiable implementation schedules
- Inadequate geo-hydrological data and testing facilities like Safe Bearing Capacity of the soil and resistivity testing
- Inaccessible habitations causing difficulty in movements of rigs
- Lack of adequate drilling rigs- the Department had only 8 rigs (5 to 28 years old) which were insufficient are to cater to future requirement.

5.1.7 Water Quality

The Department's preparedness to tackle the issues of quality control was seriously impaired by the lack of infrastructure, adequate planning, sub-

¹⁸ PHE-I: Rs. 3.92 lakh (29 works), PHE-II: Rs. 7.80 lakh (80 works), PHE-IV: Rs. 9.82 lakh (45 works), PHE-V: Rs. 5.55 lakh (36 works), PHE-VI: Rs.1.17 lakh (26 works) & Rig Division: Rs. 1.70 lakh (17 works)

¹⁹ PHE Sub-division III, Agartala

²⁰ Rig Sub-division-I : 35, PHE Sub-division, Jirania : 20 & PHE Sub-division, Kamalpur : 34

optimal utilisation of the existing facilities and deficient monitoring, as discussed in the following paragraphs.

5.1.7.1 Inadequate infrastructure for water testing

As of March 2007, 7541 (92.73 per cent) of the 8132 habitations were without assured quality of water (paragraph 5.1.6.1 and Table 5.1.5). The Department had nine Surface Water Treatment Plants (STPs) in urban areas and 3 STPs in rural areas (March 2007). There were only 6 running laboratories (including three District Level Laboratories) in the State. A project had been approved (May 2005) for strengthening the existing laboratories as well as creating 17 new Sub-divisional laboratories / Water Quality Testing Centres to be completed within six months i.e. within November 2005 at a cost of Rs. 1.88 crore, but the new laboratories had not become functional (September 2007).

The Department had not prepared a master plan clearly indicating the required number of laboratories and other testing infrastructure, their locations, equipment and testing material, technical manpower, the funding requirement and the funding sources. As a result, its efforts at providing quality drinking water to the State's population were haphazard and lacked direction.

5.1.7.2 No water testing facility in Dhalai District

Dhalai, one of the underdeveloped districts of the State, did not have any water testing facility. Despite receipt of equipment, chemicals and furniture valuing Rs. 5.32 lakh (August 2006 to December 2006) the district level and sub-divisional level water testing laboratories had not become functional (August 2007), as shown below:

Laboratory at Ambassa	Building incomplete
Laboratory at Kamalpur	Staff posted but building incomplete
Laboratory at Manu	Required staff yet to be posted
Laboratory at Gandacherra	Building construction is yet to be taken up

The lack of planning is evident from the fact that the staff was posted at Kamalpur where the building was incomplete but not at Manu where premises were available. Due to prolonged storage, the equipment and chemicals ran the risk of damage/expiry.

The Department stated (October 2007) that the building in Ambassa had since been completed and that the laboratories would soon be made functional.

5.1.7.3 Inadequate testing of water in other districts

In other districts where the testing facilities had been set up, regular collection of water and testing was not enforced. For example:

- In the District Laboratory at Milansangha, Agartala samples from different points of the distribution systems were not collected and tested during 2002-05.
- No water sample was collected/tested for Water Treatment Plants, Kamalpur and Kumarghat during 2005-07 and 2002-07 respectively.

- In case of Surface Water Treatment Plant, Jirania, only 17 samples were collected during 2003-07 against the minimum of 48 samples prescribed by the Manual of Water Supply and Treatment. Results of the tests and remedial action taken were not made available to Audit.

5.1.7.4 No facility for bacteriological analysis and arsenic testing

Facilities for bacteriological analysis and testing of arsenic, lead, mercury, nitrate, sulphate, fluoride etc were not available in any of the district laboratories. Testing for arsenic was of special concern, as its presence had been reported by the Pollution Control Board as well as the departmental tests conducted through AIIH&PH²¹, Kolkata, which showed the presence of arsenic in 266 out of 3,682 samples analysed (in 8 samples the amount was beyond the permissible limit of 0.05 mg/litre). The Department stated (October 2007) that a spectrophotometer for arsenic testing had since been acquired and efforts would be made to prepare an arsenic map of the State. There was an urgent need to address the crucial public health issue in a time bound manner.

5.1.7.5 Inadequate quality assurance of Iron Removal Plants

- During 2002-07, the Department installed 121 IRPs but the material (gravel, filter sand and anthracite etc.) was not tested to ensure that it conformed to the specifications²² (silica content, specific gravity etc) required for the IRPs as envisaged in the agreements.
- During 2005-07, Division-VI installed 26 IRPs (Rs.2.52 crore) but no records were maintained to show that the contractors had conducted the required two tests a week during the first year, as per the agreement. Test check of 11 IRPs revealed that on an average one test per month was done by the department but no test was done at Melaghar and Sovapur IRPs in 2006-07.

Thus, there was no assurance about the quality of IRPs and the water treated by them.

5.1.8 Operation and maintenance

5.1.8.1 Operation and maintenance schedules not maintained

The CPHEEO Manual prescribes that detailed operation and maintenance schedules for each component of the water supply system (DTWs, STPs etc.), should be established and enforced to preserve the capital investments made, optimize the related benefits and prevent emergencies. These include regular inspection at supervisory and management levels. However, such a system was not being followed in the Department. Maintenance schedules were not

²¹ All India Institute of Hygiene and Physical Health

²² The size of the coal: 3 mm to 6 mm, the silica content of filter sand: around 98 per cent and size 0.5 mm to 1 mm, the specific gravity of coal and silica sand 1.4 and 2.65 respectively, the size of the gravel from 3 mm to 25 mm, the filter vessel of IS 2825 and IS 4049 standard and material (mild steel) of IS 2062 grade 'A' are to be used while manufacturing the vessel.

prescribed and enforced through inspection by higher authorities or through a periodic reporting system.

5.1.8.2 Shutdowns due to inadequate maintenance

The CE's office did not maintain centralised records regarding the breakdowns and the response time to attend to the breakdowns but Audit noticed some cases where the breakdowns were not promptly attended to:

- the pump house at Pecharthal water treatment plant was not operational for 198 days intermittently during January 2005 to December 2006.
- the pump house at Regional Fish Breeding Farm was not operational for 33 days intermittently during January 2005 to October 2005.

Absence of adequate maintenance of machinery and equipment led to these breakdowns.

5.1.8.3 Handing over of operation and maintenance to Panchayats

As per Government decision (March 2000), the DTWs would be handed over to the panchayats, which would also be responsible for their operation and maintenance after the first year. As of March 2005, the Department had handed over only 287 (49.79 *per cent*) out of 577 DTWs to the panchayats but continued to meet the operation and maintenance cost of the handed over DTWs. This put an additional strain on the Department's financial capacity to take up new projects of water supply.

5.1.9 Stores Management

5.1.9.1 Purchases not well planned

During the last five years, the Department spent about 21 to 49 *per cent* of its budget (Table 5.1.4) on purchase of stores, routed through the Resource and the Rig Divisions. Rules require that working divisions should prepare a statement of annual requirement of stores by the 1st of April every year and send to the division responsible for centralised purchase. Audit scrutiny revealed that systematic year-wise and division-wise records of annual requirement were not maintained in the office of the CE or SE, Circle I, Agartala. As a result, it was difficult to ascertain whether the materials were purchased based on actual requirement. Test check revealed the following:

- Substantial stock of materials was lying idle surplus for more than 1–3 years (Rig Division: Rs. 14.29 lakh and Resource Division: Rs. 54.68 lakh), which indicates purchases without requirements.
- Division-V, Ambassa had (July 2007) in its stock 4,751 metres of DI pipes lying unutilised since March 2006 resulting in blocking of Rs.61.63 lakh.

5.1.9.2 Physical Verification of Stores not done as per norms

Scrutiny of test checked units revealed the following:

- Physical verification is not being conducted regularly²³ in both the Rig and Resource Divisions. While physical verification of stores was done in Resource Division twice (2003 and 2005), no verification was done in the Rig Division in the last five years ended March 2007.
- The verifications in Resource Division brought out shortage of materials worth Rs. 12.03 lakh and unserviceable/broken materials worth Rs.9.73 lakh; no steps were taken to investigate the matter, fix responsibility or dispose of the unserviceable stores (March 2007).
- In Division-III, Udaipur, physical verification of stores and site account was not conducted during 2005-07.
- None of the sub-divisions maintained Tools and Plants (T&P) register, in the absence of which, the position of T&P could not be examined.

Lack of physical verification rendered the stores vulnerable to malpractices.

5.1.9.3 Non –adjustment of inter-division transfers of stock

(i) Outstanding Cash Settlement Suspense Account (CSSA)

The CPWA Code requires outstanding transactions under CSSA to be settled by 31 March. However, at the end of March 2007, Rs. 10.28 crore was lying outstanding under this head against 8 PHE divisions (Rs. 8.97 crore) and Rig Division (Rs. 1.31 crore). This indicates weak financial control, as the balances in the CSSA represent material supplied but not paid for by the receiving (responding) divisions. The responding divisions (II, IV & V) did not maintain accounts of CSSA.

(ii) Cost of materials supplied to other divisions not realised/ claimed

Division-III, Udaipur, had not recovered the cost of material worth Rs.14 lakh issued to eight divisions more than 5 years back (exact dates not available from records). Similarly, it had not even raised claims (July 2007) for material worth Rs.22 lakh supplied to four divisions during June 2003 to March 2007.

5.1.10 Internal controls and vulnerability to fraud and corruption

The following major weaknesses existed in the internal control system of the Department giving scope to risk of malpractice, misappropriation, fraud, embezzlement etc.

- Non-reconciliation of withdrawals and remittances (paragraph 5.1.5.4 (i))
- Quarterly surprise check of cash balance not done (paragraph 5.1.5.5)
- Closed/ Utilised MBs not returned to the Divisions (paragraph 5.1.6.6)
- Execution of works without call of tender (paragraph 5.1.6.7)
- Absence of physical verification of stores (paragraph 5.1.9.2)

²³ At least once a year according to Rule 192 (1), (2) & (3) of GFR.

- **Irregularities in General Provident Fund (GPF) Accounts of Class IV staff:** Test check revealed that the advances and withdrawals had not been deducted from the GPF accounts in some cases and excess credits and interest allowed at the time of annual closing, as shown in **Appendix 5.5**. In all the cases the balances were not certified by the competent authority.
- **Internal Audit arrangement and vigilance mechanism:** The Department did not have internal audit wing and none of the test checked offices / divisions had been inspected by the State's Director of Internal Audit.
- **Non-maintenance of records:** Test check of records of 7 divisions²⁴ revealed that important records like register of works, works abstract; contractors' ledgers etc were not maintained (**Appendix-5.6**). As a result, the divisions were not in a position to know the actual expenditure on each work (sub-head wise), up-to-date payment to the contractors and project-wise revenue receipt of the division under the relevant head.
- **Lack of response to Audit:** None of the divisions test checked maintained the prescribed control register²⁵ to keep a watch on disposal of Inspection Reports (IR) issued by the Accountant General (Audit). As of March 2007, 102 paragraphs involving Rs. 4.40 crore relating to 19 IRs of PWD (PHE) containing major comments relating to amounts recoverable from and undue benefit to contractors, blocking of funds, avoidable/unfruitful/Infructuous expenditure were lying unsettled for want of replies (**Appendix-5.7**). The issues have still not been addressed by the Department. Non-response to audit observations and non-maintenance of prescribed control register may aggravate persistence of irregularities, invite serious financial irregularities and adversely affect the accountability mechanism.

5.1.11 Human Resource Management

5.1.11.1 Scientific assessment of manpower requirement not done

The Department had not carried out a scientific assessment of manpower requirements, category and position-wise, taking into account the present and future requirements and well defined work norms. The engineering and ministerial staff belongs to a common cadre with the Water Resources and Roads and Bridges wings; presently, 326 officers of Tripura Engineering Service and 219 ministerial staff were deployed in different divisions of the PHE (**Appendix 5.8**). The supporting technical staff and helpers are shared with Water Resources; against the sanctioned strength of 1806, there were 1353 persons in position, the vacancies being mainly in Group D.

²⁴ Division I,II, III, IV, V,VI and Rig

²⁵ Appendix 74 of CPWD Manual, Volume – II

5.1.11.2 Engagement of under-qualified staff

Test check in 3 divisions (II, III and VI) revealed that out of 127 pump operators 99 (78 per cent) did not have the required technical qualification (certificate course from ITI). No training was imparted to the under-qualified staff. None of the accounting staff was trained either departmentally or through any other agency. There was no training policy or programme based on assessment of training needs.

5.1.12 Monitoring

5.1.12.1 Absence of a centralised monitoring framework

There was no centralised database of the projects, with critical milestones, for monitoring. As a result, the monitoring at the CCO/CO level was ad hoc and unsystematic. There was no regular flow of progress reports from the divisions. There was no systematic record of the minutes of the review meetings taken by the Minister/Secretary/ CE, the decisions taken therein and the follow-up action required/ taken.

5.1.12.2 Delays in submission of monthly progress report (MPR)/ expenditure statement (ES)

The MPR/ES were not being submitted to the CE's office in time, which not only made the monitoring difficult but also delayed the submission of reports to other authorities. A few instances are given below:

- The monthly statement of Capital Expenditure was submitted to the Finance Department after delays of 18 to 217 days.
- The MPR (both physical and financial) on Rural Water Supply was submitted to the GOI after delays of 4 to 92 days.
- 18 MPRs on utilisation of funds under Tribal Sub-Plan (TSP) were sent to Government of Tripura after delays of 14 to 46 days.

5.1.12.3 Periodic inspection of divisions not conducted by SEs

As per CPWD Code, the SE is required to inspect the divisions at least once in a year. It was noticed that out of six divisions under the control of SE, Circle-I, only one division (Division I) was inspected in September 2005; the remaining five divisions were never inspected during the last five years (March 2007). Similarly, Division II and V were also not inspected regularly by the SE, Circle-II, Ambassa. This indicates inadequacy in the internal control and monitoring of the affairs of the Department.

5.1.13 Conclusion

The Department had not been able to provide adequate and safe drinking water facilities to a majority of the population of the State and the target of covering the entire state by 2009 appears doubtful in the light of the past performance and the level of preparedness of the Department. There were serious constraints in the capacity of the Department to implement the schemes. The internal control system was inadequate and ineffective; the project management was weak, leading to delays in execution of works and a large

number of projects remained incomplete; planning lacked purpose and direction. Quality control of the drinking water was poor for want of adequate laboratory facilities and regular testing. There is an acute need to strengthen the internal controls and enforce strict adherence to project / work schedules and ensure accountability for project implementation.

5.1.14 Recommendations

- Budgetary and financial controls should be improved so that the system of checks and balances is maintained to complement improvement in the delivery of Government services and provision of infrastructure. Budgeting support system should be strengthened by recruiting staff at appropriate levels and of appropriate competence and instituting an online budget monitoring system.
- A comprehensive plan should be prepared breaking down the targets into actionable items, indicating the details like locations of the DTWs, STPs, laboratories etc, the requirement of manpower and financial resources, and implementation schedules.
- Effective controls should be instituted for proper monitoring of the quality of drinking water.
- Project monitoring at the levels of CE/SE/EE should be streamlined and implementation schedules should be strictly enforced along with fixing accountability. A computerised database of projects with critical milestones should be maintained in the CE's office, with the facility of online updating.
- All projects to be executed during the year should be publicised, which will ensure accountability and public scrutiny.
- There should be active collaboration with CGWB to tap their expertise in the area of ground water investigation.
- Training needs of the technical and support staff should be assessed and addressed.

The matter was reported to the Government in September 2007; reply had not been received (October 2007).