

CHAPTER IV: WORKS EXPENDITURE

SECTION 'A' – REVIEWS

WATER RESOURCES DEPARTMENT

4.1 NABARD Assisted Major and Medium Irrigation Projects

Highlights

Completion of irrigation projects within the targeted time requires proper initial investigation, planning, effective execution and financial discipline including proper co-ordination and monitoring. There was all round non-adherence to these principles by the departmental officers and also by Government in the execution of NABARD assisted major and medium irrigation projects. This led to largescale irregularities, huge wasteful expenditure on works and purchases, avoidable extra cost, unintended benefit to contractors and unwarranted delay in execution of works. Consequently, no benefit flowed though Rs.537.54 crore was spent on six projects during thirty years. The monitoring committees paid no attention to the need of timely completion of projects and prevention of wasteful expenditure.

Projects started during 1971 to 1979 were yet to be completed though there was no lack of funds. Cost escalation in the projects since these were posed to NABARD in 1995-96 ranged from 99 to 380 per cent and the excess expenditure reduced the Benefit Cost Ratio to less than the minimum of 1.5 prescribed for irrigation projects.

(Paragraph 4.1.4.1)

In most of the projects, crucial components have not been executed and as a result, Rs.494.06 crore spent on five projects did not result in any irrigation in thirty years.

(Paragraph 4.1.4.2)

Increase made by the Chief Engineers in the height of the dam in Bennithora and Lower Mullamari Projects after construction of the embankments resulted in avoidable excess works causing wasteful expenditure of Rs.0.93 crore.

(Paragraph 4.1.5.1(b))

Direct entrustment of work of spillway in Chulkinala and Maskinala Projects to Karnataka State Construction Corporation Limited (KSCC) without inviting tenders resulted in extra expenditure of Rs.2.90 crore.

{Paragraph 4.1.5.1 (c)}

Various lapses and delays by the Department resulted in extension of the periods of contracts and payment of enhanced rates to the contractors resulted in an extra expenditure of Rs.7.18 crore.

{Paragraph 4.1.5.1 (d)}

Improper planning and defective execution of canals resulted in extensive damages to canals and Rs.5.54 crore was to be spent on their restoration.

(Paragraph 4.1.6)

Improper decision of the Chief Engineer to shift only a portion of one fully affected village of Chulkinala Project and later deciding to shift the entire village resulted in extra expenditure of Rs.88.23 lakh due to higher compensation and rendered the expenditure of Rs.2.71 crore on the Rehabilitation Centre unfruitful.

(Paragraph 4.1.7)

MS Gates worth Rs.71 lakh transferred from Bennithora Project (BTP) to Lower Mullamari Project (LMP) was not accounted for in the accounts of the Sub-divisional Officer of LMP.

{Paragraph 4.1.8.2 (d)}

Superintending Engineer of Vothole Project decided to use higher grade of concrete for lining works causing wasteful expenditure of Rs.1.04 crore.

(Paragraph 4.1.8.3)

The Divisional Officers of four projects unnecessarily purchased MS gates and other materials in violation of all rules and procedures and without routing them through SPD resulting in wasteful expenditure of Rs.12.94 crore and excess payment of Rs.8.05 crore.

(Paragraph 4.1.10)

Chief Engineers (CE), Superintending Engineers (SE) of concerned projects and CE/SE, Monitoring and Evaluation, Bangalore did not effectively supervise, monitor and evaluate the projects and on the other hand, facilitated unnecessary purchase of huge material and financial indiscipline. The High level Monitoring Committee engaged themselves in financing arrangements though the projects floundered and public funds were wasted.

(Paragraph 4.1.11)

4.1.1 Introduction

Irrigation plays a very important role in economic development by increasing and optimising the agricultural yield. With a view to augment the available water of small tributaries for irrigation, Government of Karnataka approved the following irrigation projects between 1971 and 1979:

Sl No.	Project	Year of commencement	Original estimated cost (Rs in crore)	Command area in hectares	District of command
1	Votehole (VHP)	1971	2.05	7487	Hassan
2	Chulkinala (CNP)	1976	3.86	4047	Bidar
3	Maskinala (MNP)	1976	3.11	3001	Raichur
4	Bennithora (BTP)	1976	12.27	20234	Gulbarga
5	Amarja	1978	5.70	8903	-do-
6	Lower Mullamari (LMP)	1979	3.70	8100	-do-

Initially, only labour component of these works were taken up as famine relief works, since these projects were located in scarcity affected areas. However, adequate funds were not released for speedy completion, which delayed the execution of these projects and resulted in huge escalation in the cost. Even after incurring an expenditure of Rs.171.66 crore as of March 1995, only a part of projects could be completed by 1995-96. For early completion of the projects, assistance from the National Bank for Agriculture and Rural Development (NABARD) was obtained in 1995-96 as loan under the Rural Infrastructure Development Fund (RIDF). The project-wise details are as follows:

(Rupees in crore)

Name of the Project	Votehole	Lower Mullamari	Amarja	Chulkinala	Maskinala	Bennithora	Total
Expenditure up to posing to NABARD as of 1995-96	26.73	34.40	32.40	18.60	6.58	52.95	171.66
Revised cost while posing to NABARD as of 1995-96	32.00	64.40	45.68	31.06	22.52	152.83	348.49
Balance cost to be incurred as of 1995-96	5.27	36.45	23.40	16.80	17.46	77.33	176.71
NABARD share	5.27	32.20	22.84	15.53	11.26	50.00	137.10
Government share	NIL	4.25	0.56	1.27	6.20	27.33	39.61
Agreed years of assistance	1995-97	1995-98	1995-98	1995-98	1995-98	1996-99	-

NABARD sanctioned loans for these projects based on the projections made by the Department, with the condition that the Government should release its share of expenditure within the stipulated period of completion.

Though, as per terms and conditions of NABARD assistance, all the projects were to be completed by March 1999, only two projects (Votehole and Chulkinala) have been completed (November 2001).

4.1.2 Organisational set-up

The Water Resources Department functions under the over all control of the Secretary, Water Resources Department in the Government of Karnataka. The six projects were managed under three Zones, each under the control of one Chief Engineer. Each zone had one Circle Office headed by a Superintending Engineer. There were seven Divisional Offices each headed by an Executive Engineer. The Chief Engineer, Monitoring and Evaluation, Bangalore, was the coordinating officer between the Department and NABARD.

4.1.3 Audit Coverage

The implementation of these projects were reviewed in Audit during January to May 2001 covering a period of 5 years from 1996-2001 with a view to:

Assessing efficiency and economy in the execution of these projects in compliance with the conditions laid down by NABARD.

Examining the deficiencies in the system and its adverse effects on the completion of projects and their economic viability including acquisition of materials of stores.

Expenditure relating to all the six projects was test checked in audit. The findings of the review are discussed below:

4.1.4.1 Escalation in cost of project

All these projects started during 1971 to 1979 under famine relief works are still under execution. Though Government released adequate funds as shown in the table below, the projects (except Votehole and Chulkinala) were still not complete.

(Rs. in crore)							
Year	Grant/Expenditure	Votehole	LMP	Amarja	CNP	MNP	Bennithora
1995-96	Budget Grant	2.90	6.12	5.31	1.65	2.69	1.85
	Expenditure	5.36	9.78	6.62	5.46	1.31	-
	Savings (-) / Excess (+)	(+) 2.46	(+) 3.66	(+) 1.31	(+) 3.81	(-) 1.38	(-) 1.85
1996-97	Budget Grant	3.43	28.25	19.99	10.00	9.00	6.50
	Expenditure	5.12	13.90	13.36	6.93	4.46	11.32
	Savings (-) / Excess (+)	(+) 1.69	(-) 14.35	(-) 6.63	(-) 3.07	(-) 4.54	(+) 4.82
1997-98	Budget Grant	1.00	15.00	8.00	6.00	8.00	33.00
	Expenditure	1.32	17.84	13.22	13.10	5.99	30.51
	Savings (-) / Excess (+)	(+) 0.32	(+) 2.84	(+) 5.22	(+) 7.10	(-) 2.01	(-) 2.49
1998-99	Budget Grant	4.99	10.00	10.00	8.00	5.00	50.00
	Expenditure	2.24	12.36	12.32	9.79	6.38	27.16
	Savings (-) / Excess (+)	(-) 2.75	(+) 2.36	(+) 2.32	(+) 1.79	(+) 1.38	(-) 22.84
1999-2000	Budget Grant	2.00	6.00	7.00	3.00	3.00	20.00
	Expenditure	2.71	13.25	12.59	5.15	7.43	36.66
	Savings (-) / Excess (+)	(+) 0.71	(+) 7.25	(+) 5.59	(+) 2.15	(+) 4.43	(+) 16.66
2000-01	Budget Grant	-	9.86	6.58	2.38	5.46	7.00
	Expenditure	-	8.65	4.28	3.77	4.33	31.21
	Savings (-) / Excess (+)	-	(-) 1.21	(-) 2.30	(+) 1.39	(-) 1.13	(+) 24.21

NABARD reimbursed Rs.144.18 crore till March 2001 as against claims of Rs.226.46 crore preferred for reimbursement till said date.

Requirement of funds incorrectly projected to NABARD

A comparison of costs projected before NABARD for these projects during 1995-96 and the actual costs projected in revised estimates (2000-01) indicated increase in cost varying from 99 to 380 per cent within a span of 5 to 6 years, as detailed below:

(Rupees in crore)

Sl. No. (1)	Project (2)	Balance cost at the time of posing to NABARD (in 1995-96) (3)	Expenditure after posing to NABARD as on March 2001 (4)	Estimated Balance cost (5)	Total (4+5) (6)	Increase (6-3) (7)	Percentage of increase (8)
1	Votehole	5.27	16.75	8.52	25.27	20.00	380
2	Lower Mullamari	36.45	75.78	4.82	80.60	44.15	121
3	Amarja	23.40	62.39	5.17	67.56	44.16	189
4	Chulkinala	16.80	44.20	2.90	47.10	30.30	180
5	Maskinala	17.46	29.90	4.82	34.72	17.26	99
6	Bennithora	77.33	136.86	31.19	168.05	90.72	117
Total		176.71	365.88	57.42	423.30	246.59	-

As a result of such huge increase, Rs.246.59 crore was required additionally for completion of six projects.

The Department attributed (March 2001) the increase in cost to the following:

- escalation during the period of execution.
- higher tender percentage quoted by contractors.
- increase in quantity of work in respect of various components.
- increase in Cross Drainage (CD) works.

However, these factors were not considered while projecting the requirement of funds to NABARD. Many items of work have increased enormously (up to 369 per cent in some cases) in some of the projects since these were posed to NABARD as detailed below:

(Quantity in cum)

Dam and appurtenant works	Lower Mullamari		Amarja		Maskinala		Bennithora	
	Quantity posed	Revised quantity	Quantity posed	Revised quantity	Quantity posed	Revised quantity	Quantity posed	Revised quantity
EWE	-	-	-	-	76,600	1,04,324	16,32,220	19,66,951
Embankment	8,91,508	13,07,778	1,60,121	4,94,254	1,09,500	5,13,936	6,96,132	10,28,268
Concrete	-	-	-	-	57,000	72,700	9,97,045	11,84,424
Canals and lining	-	-	-	-	5 kms	10 kms	-	-

Thus, quantum of execution of various items of work was not assessed properly before finalising the requirement of funds at the time of preparation of estimates and also while posing the balance work to NABARD.

The expenditure of Rs.537.54 crore incurred on these projects so far remained largely unfruitful. Due to such excessive expenditure, the benefit cost ratio of these projects was below 1.5, which is the minimum for such projects and for 2 projects (BTP and LMP) it was even less than 1, which made these projects financially non-viable.

4.1.4.2 Delay in completion

Though these projects were targeted for completion by 1998-99, several components of these projects necessary for commissioning and providing irrigation facilities to the command areas were yet to be completed as shown in Appendix – 4.1.

A review of Appendix-4.1 shows that field irrigation channels (FIC) essential for providing water to the command area had not been executed in these projects except for the Votehole project (VHP), where these had been partially executed. In respect of four projects¹, the Command Area Development Authority (CADA), which is responsible for execution of command area development and formation of FICs, had not executed these works. This was due to the delay in formation of the Office of the Project Director, CADA for IP Zone, Gulbarga, which was formally opened only in January 2001. In respect of Maskinala project, works were yet to be identified and executed. In respect of VHP, a large part of the command area was at a higher level with undulations and hence the potential has not been achieved. This indicated inadequate and improper investigation in the assessment of the command area. As a result, except for VHP where Rs.43.48 crore had been spent and irrigation potential of 2300 hectares had been created against the target of 7487 hectares, investment of Rs.494.06 crore in five projects did not result in any irrigation.

Audit scrutiny revealed that cost escalation was also attributable to improper planning in execution of dam, canal, rehabilitation centres, acquisition of land for the projects and indiscriminate purchase of materials by Divisional Officers with the knowledge of Controlling Officers. Consequently, the delay in completion of the project can be broadly attributed to the following:

Delay in identifying the priority works,

Non-synchronisation of works due to improper planning in execution of work,

Non-implementation of contract conditions due to various delays by the Department,

Failure of contractors in timely completion of works and

Delay in formation of CADA, which delayed development of command areas.

4.1.5 Irregularities in execution of different components of the projects

Defective initial investigation, inept decisions, irregular execution and unwarranted delays resulted in wasteful and avoidable expenditure of Government funds as detailed below:

¹ BTP, Amarja, LMP and CNP

4.1.5.1 Dam and appurtenant works

(a) Provision of excessive slope leading to wasteful expenditure of Rs.1.72 crore

The slopes of the embankment of the dam are required to be fixed after conducting relevant initial investigations prior to commencement of work so that no alterations are required at a later date. Audit scrutiny revealed that in two schemes, the slopes fixed by the Chief Engineers in the initial stages were revised or proved to be excessive at a later date, resulting in provision of excess thickness of embankment and execution of flatter slopes leading to wasteful expenditure of Rs.1.72 crore as indicated below:

Project	Slopes Required		Slopes Provided		Excess embankment (in cum)	Wasteful expenditure (Rs. in lakh)
	Down stream	Up stream	Down stream	Up stream		
Bennithora	2 : 1	2.5:1	2.5 : 1	3:1 & 4 : 1	186460	144.72
Chulkinala	2 : 1	2.5 : 1	2.5 : 1	3 : 1	62985	27.20
Total						171.92

(b) Delay in deciding the height of the dams - wasteful and extra expenditure of Rs.93 lakh

Avoidable expenditure due to delay in deciding the height of the dams

Before commencement of the dam work of a project, the height of the dam has to be decided based on technical requirements after proper investigation. Audit scrutiny revealed that in respect of BTP and LMP, the Chief Engineers revised the height of the dam, after execution of the embankment. This required stripping of the embankment and refilling for formation of additional height of dam. This also led to burial of the rock toe already executed in respect of BTP and providing excessive berms² for LMP although it was not required. Such avoidable excess works led to wasteful and avoidable extra expenditure of Rs.93.00 lakh as indicated below:

(Rupees in lakh)

Project	Original height in RL mtrs	Revised height in RL mtrs	Year of execution of embankment	Year of revision of height of dam	Extra/wasteful expenditure
Bennithora	439.8	441.7	1980-1999	1992	53.16
LMP	498	494	1973-1985	1986	39.84
Total					93.00

(c) Entrustment of work to Karnataka State Construction Corporation Limited (KSCC) – Extra cost of Rs.2.90 crore

The spillway and end connection works of Chulkinala and Maskinala were directly entrusted to KSCC at 10 per cent premium over the prevailing Schedule of Rates without limitation of period of execution by Government in January 1989 and November 1989, respectively without inviting tenders. KSCC sublet these works to other contractors at much lower rates. Later, these works were withdrawn (December 1994) from KSCC as per directions of Government and were entrusted (1995-96) to other contractors on tender

² A horizontal strip or shelf built into an embankment to break the continuity of an otherwise long slope

basis at 1 per cent and 16.27 per cent below the Schedule of Rates of 1995-96 respectively. A comparative analysis of the rates obtained on tender basis and those paid to KSCC revealed that the Government had to incur an extra expenditure of Rs.2.90 crore on these two projects due to direct entrustment of work to KSCC without inviting tenders.

(d) Departmental delays and lapses – time overrun and cost overrun of Rs.7.18 crore

Departmental delays led to extra cost

The work of spillway of Bennithora Project was entrusted (1985) to a private contractor. In respect of Maskinala Project, the work was entrusted (1996) to a private contractor after withdrawing the same from KSCC as per directions of Government (1994). After entrustment of these two works to contractors, various lapses and delays by the Department like handing over of site, issue of blasting materials and delay in deciding designs resulted in extending the period of contract. However, Government enhanced the rates of execution for some portion of work during the extended period. Thus, delays by the Department significantly delayed the completion of the projects and saddled the Government with avoidable extra expenditure of Rs.7.18 crore as shown below:

Name of Project	Component entrusted	Original period of execution as per contract	Extended period	Date of GO revising the rates	Extra expenditure due to revision (Rs. in crore)	Present position
BTP	Spillway works up to crest level	22 March 1985 to 21 December 1988	Up to June 1997	2 July 1992 and 14 November 1996	4.77	Incomplete
MNP	Spillway works	9 September 1996 to 30 January 1998	Up to December 2000	6 October 1999	2.41	Incomplete
Total					7.18	

4.1.6. Canal – Improper planning in execution leading to wasteful and extra expenditure of Rs.5.54 crore

Wasteful expenditure - protective works to canals were not provided

Spillway works of BTP and Amarja Projects were entrusted to various agencies during 1985 and 1995 respectively. Canals of length 35 kms and 46.8 kms respectively in these two projects were completed prior to 1985. The command area and canal distribution systems of these two projects were situated in valleys sloping towards the *nalas*. This leads to forceful flow of rainwater into the command area thereby damaging the canal. Hence it became necessary to execute certain protective works like catch water drain, protection wall and super passages for draining the rainwater. Scrutiny revealed that these works were not carried out during the execution of the canal. This led to damaging the Service Road (SR), Inspection Path (IP) and also disturbing the Shahabad slab lining, scouring of the canal in various chainages and silting even before water was allowed into the canal. The restoration of these reaches was executed by silt removal, repairs and replacement of Shahabad lining, pocket filling of scoured portions, improvements to SR and IP in damaged reaches and breach filling of flood

damages during 1997-2000 through 624 piecework at a cost of Rs.1.41 crore in respect of Bennithora project and through 628 piecework at a cost of Rs.1.97 crore in respect of Amarja project (1996-99). A further amount of Rs.1.67 crore is required for restoration of the balance 20 kms of Amarja project as per the Project Report.

During excavation of the canal, the excavated material was dumped on either side of the canal without adequate space for the SR and IP. This problem had to be rectified by removing the dumped material and by lowering and leveling the SR and IP during 1996-1999 in Amarja Project at a cost of Rs.37.30 lakh through 142 piecework and during 1997-2000 in Bennithora Project at a cost of Rs.12.40 lakh through 54 piecework.

Improper planning and execution of canals of these projects by the Divisional Officers far in advance or without lining resulted in burdening the Government with avoidable extra expenditure of Rs.5.55 crore.

4.1.7 Delay in rehabilitation of affected families

Rehabilitation of families of the affected villages was an important component of the project and had to be completed in full before water was impounded in the reservoir. Scrutiny revealed that the process of rehabilitation of affected families was yet to be completed in respect of three projects due to:

- (i) non-execution of required components of work in the rehabilitation centres,
- (ii) non-acquisition of required lands for formation of such centres,
- (iii) delay in finalisation of claims of compensation of the affected families.

The projects are nearing completion as of March 2001 and water is to be impounded for irrigation. A review of the position of rehabilitation in different projects (Appendix-4.2) revealed that 1516 families of BTP, 198 of Amarja Project and 276 of CNP were yet to be shifted to the Rehabilitation Centers (RCs) out of 2128, 408 and 332 families affected, respectively. Out of 16 RCs to be completed in respect of 3 projects (BTP, Amarja and CNP), 13 RCs had been completed and the remaining 3 were under progress. Though 13 RCs have been completed, 4 had been occupied fully, 6 had been partially occupied and in respect of the remaining 3, no family had been shifted. Irrigation potential of these projects are adversely affected till all the families are shifted from the affected villages. Speedy settlement of villages to the RCs was the immediate requirement of these projects.

In respect of Chulkinala Project, out of 2 RCs, one was completed and villagers had been shifted. In respect of the other village (Dhannur) (K) where 276 families were affected by the project, the RC constructed under the instructions (March 1997) of the Chief Engineer, IP Zone was capable of accommodating only 112 families affected by submergence. As the remaining families were also affected by the waterlogging, it was proposed to shift all the

families duly compensating them for their properties. The centre has now to be remodeled to accommodate the remaining 164 families. None of the 112 families had shifted to the rehabilitation centre and hence, the expenditure of Rs.2.71 crore incurred on the centre remained unproductive till today. The delay in shifting the affected families resulted in partial storage of water in the reservoir and also avoidable extra expenditure of Rs.88.23 lakh due to higher compensation payable at current rates.

4.1.8 Other important points

4.1.8.1 Maskinala Project – huge extra expenditure due to defects in the cut off

Extra expenditure and risk to the safety of the dam due to non-execution of cut-off trench below embankment

(a) The cut off below the embankment is executed in irrigation projects to arrest seepage or movement of water below the embankment from upstream to downstream for safety of the dam and to avoid loss of stored water. The embankment of the project was completed up to Top Bund Level (TBL) on either flank of the spillway by 1990. The presence of sandy gravelly strata just below the cut off was noticed on the right side of the spillway during excavation for foundation (1996). The matter was referred to the Central Water & Power Research Station (CWPRS), Pune (1996) and the report of CWPRS (1999) indicated that the cut off had not intercepted completely the pervious strata and was found to be resting on 2 mtrs thick sandy gravelly strata and not on impervious rock as required and hence it did not function as a positive cut off. As per technical requirement, the cut off has to be extended up to half the height of the dam. This had not been executed up to the required depth in any of the reaches as observed from the bore hole results provided by CWPRS indicating inadequate supervision and improper direction/guidance from the departmental officers (Section Officer/ AEE/ EE) at the time of the execution of the cut off. Further, the graph of longitudinal soil profile along the axis of the dam prepared by CWPRS, Pune indicates the execution of cut off below the ordinary soil and reaching the gravelly and sandy strata from Ch 175 mtrs to 720 mtrs, thereby proving that the Department was well aware of the presence of such strata during execution of cut off. However, this aspect was ignored and the cut off was completed. This resulted in excessive seepage below the dam, thereby endangering the dam. As per the guidance of CWPRS, a flexible diaphragm wall estimated at Rs.5.30 crore is to be constructed on the upstream side of the dam and a proposal for this has been approved (2000) by the Technical Advisory Committee. It is to be executed before impounding water in the reservoir, since it is essential to arrest seepage of water. Lack of care by the Divisional Officer resulted in unwarranted delay and risk to the safety of the dam with a cost impact of Rs.5.30 crore.

(b) Providing a proper flood gap during execution of spillway is essential for safety of ongoing work and of the embankment already constructed. The Divisional Officer had raised the embankment up to Top Bund Level (TBL) on either flank of the spillway without allowing the required flood gap. Since there was no space for diverting *nala* for excavation of foundation for the

spillway, only the left side was tackled by diverting the *nala* to the right (1990-96) and concrete was also laid on the left side before excavating the foundation for the right side for want of working space. Audit scrutiny revealed that during right side excavation, controlled blasting at higher rates became necessary since normal blasting operations disturbed the concrete already laid. This resulted in extra expenditure of Rs.21.38 lakh. It was also seen that the gap present between the spillway and embankment already constructed was further reduced after right side spillway was taken up (1996) and this restriction in the area increased the water pressure during floods, thereby scouring large quantities of right side embankment. The topsoil of the remaining portion also proved to be weak and had to be stripped to provide proper continuation for laying new embankment. The extra expenditure amounted to Rs.1.33 crore. The total avoidable expenditure worked out to Rs.1.54 crore.

(c) The rates quoted by the contractor for the works included formation of diversion wall and coffer dam wherever necessary for proper execution of work. However, the contractor was given an extra contractual benefit of Rs.6 lakh towards formation of diversion wall, contrary to the terms of contract.

(d) The work of right side sluice and portion of earthen embankment were entrusted (1981) to an agency at a cost of Rs.21.11 lakh. The contractor abandoned (1983) the work after executing portion of work valued at Rs.9.87 lakh and the contract was rescinded (1986) at the risk and cost of the contractor. Audit scrutiny revealed that the concrete work of sluice was defective. Repairs to the sluice and balance work of embankment were not executed immediately after rescinding the contract so as to facilitate recovery of extra cost incurred from the original contractor. The same was executed (1996-98) after a lapse of ten years at a cost of Rs.87.24 lakh. The extra expenditure of Rs.76 lakh could not be recovered from the contractor due to inordinate delay in executing the balance/defective work. The contractor was reported to be no longer alive (1997).

4.1.8.2 Lower Mullamari Project

Extra cost due to delay in finalisation of designs

(a) The estimated cost of spillway was Rs.4.79 crore, which required Government approval for sanction of estimate and design. Audit scrutiny revealed that the estimate of the spillway was bifurcated into two estimates viz., up to crest level (Rs.2.30 crore) and above crest level (Rs.2.49 crore) so as to fall within the financial powers of CE. This led to invitation of tenders separately with a gap of 8 months (July 1995 and March 1996). Though both portions were entrusted to the same agency, the rates received against tender for March 1996 were higher for the same items (M-10 and M-15 concrete) when compared to July 1995 tenders and extra expenditure amounted to Rs.30.99 lakh. The work was under progress (March 2001).

(b) An aqueduct under execution at km 41 of the canal of the project was awarded (November 1996) on tender basis for Rs.1.05 crore. The length of the trough was 375 mtrs as per sanctioned estimate. The length was reduced by CE on the request (1999) of the contractor, which increased the embankment quantities and decreased the concrete work. It was noticed in

Audit that CE approved the design of aqueduct in May 1997 after award of work. The increase in quantity relating to embankment portion was paid at higher rates. Thus, changing the design of the aqueduct by reducing the difficult concrete portion and increasing the easy embankment, without any advantage to Government in technical terms only to facilitate the contractor, resulted in avoidable extra cost of Rs.41.12 lakh.

(c) Loss of Rs.1.04 crore due to non-accounting and non-utilisation of excavated hard rock

Doubtful non-utilisation of excavated hard rock

During excavation for canals and foundation of dam, 171301 cum of hard rock was excavated (1990-2000) in respect of 28 works. The same was neither accounted for in the MAS accounts by the Section Officers nor utilised on works of dam and canal by the Divisional Officer. Instead of using the excavated material, the metal required for concrete and riprap³ works was reportedly obtained by the contractors from far off quarries and lead charges were paid accordingly. The total loss due to non-utilisation of this excavated hard rock in addition to payment of lead charges amounted to Rs.1.04 crore at Rs.70.33 per cum for 98047 cum and Rs.71 per cum for 17326 cum used in concrete and at Rs.40 per cum for 55928 cum used in riprap. As non-use of excavated material is not free from doubt, the matter calls for investigation.

Due to negligence of the Section Officers, excess excavation beyond the approved sections were allowed in hard rock reaches and the expenditure of Rs.49.94 lakh incurred on refilling the same. Cost of such works, though recoverable from the original contractor was not recovered from him in violation of the contractual provisions, resulting in loss of Rs.49.94 lakh.

(d) Non accounting of gates valued at Rs.71 lakh

Non-accountal of gates valued Rs 71 lakh

During January 2000, 400 gates of size 450 x 600 mm and 400 gates of size 350 x 350 mm valued at Rs.71 lakh were transferred from Bennithora Project (IPC Division No.4, Hebbal) to LMP. Scrutiny revealed that these gates were not accounted for in the accounts of the receiving division/sub-division. These transactions were made by LMP Division without the approval of higher authorities. The originating division had not raised claims for settlement in respect of the above transaction (March 2001), though the same was to be raised within ten days after transfer of material. No action had been taken to investigate the matter and fix responsibility.

4.1.8.3 Votehole Project

Use of higher-grade concrete – wasteful expenditure of Rs.1.04 crore

As per the estimates of lining works approved and executed from 1996-97 onwards, M-100 concrete was approved for lining of canal of small discharges of the Votehole Project. However, during 1995-96 the Superintending

³ Broken stones (usually without dressing) placed on earth surfaces for their protection against the action of water or weather.

Engineer accorded approval for use of M-150 concrete requiring higher percentage of cement and accordingly the divisional officers executed the lining works in respect of 78 reaches of canal involving 26918 cum of concrete. Wasteful expenditure on such unnecessary high grade concrete amounted to Rs.1.04 crore at the differential cost of Rs.388 per cum between M-150 and M-100 concrete.

4.1.9 Cement variation clause

Conditions of contract provide for a cement variation clause stipulating payment/recovery of cost of cement excess/less required when compared to those indicated in the tender document. Scrutiny revealed that the design mix fixed for works for two projects indicated lower requirement of cement than that indicated in the tender document. But the differential cost of cement less consumed by the contractors was not recovered resulting in loss of Rs.32.78 lakh as detailed below:

Project	No. of contractors	Year of execution	Quantity of concrete in cum	Cement required as per design mix in bags	Cement shown as used in bags	Excess cement in number of bags	Value of excess consumption of cement (Rs in lakh)
Votehole	130	1996-2000	38189	194472	206477	12005	16.33
Amarja	2	1994-2000	194105	407063	433671	26608	16.45
Total			232294	601535	640148	38613	32.78

Scrutiny revealed that the design mix was not changed in respect of various works of two projects from 1995-96 onwards though the grade of cement was changed from 33 to 43, the consumption of which is less than the 33 grade. Cement was issued with reference to use of 33 grade resulting in excess use of 28414 bags of cement, leading to wasteful expenditure of Rs.33.42 lakh as follows:

(Rupees in lakh)

Name of the project	Year	No. of bags required	No. of bags consumed	Excess consumed	Value of cement excess consumed
Amarja	1995-2000	120922	134358	13436	15.45
LMP	1995-2000	232329	247307	14978	17.97
Total		353251	381665	28414	33.42

4.1.10 Injudicious purchase of materials

Violation of codal provisions resulted in financial irregularities

Codal provisions stipulate that the requirement of materials has to be assessed for each quarter and that materials should not be purchased in advance or in excess of requirement. The type, size and specification of materials including designs and drawings should be decided as per technical requirement and as approved by the competent authority. Circle level purchase committees were to be formed as per Government instructions (1983) and the divisional requirements were to be placed before the committee to assess and regulate the

need for purchases. Open tenders were required to be invited for huge purchases with wide publicity so as to obtain competitive rates after ascertaining from SPD or Karnataka Small Industries Marketing Corporation Limited (KSMIC) that they are not in a position to provide rate contract for material required. However, no Circle Level Purchase Committee were formed till 1999.

Though these purchases required Government approval as per delegation of financial powers, the purchases were conveniently split up so as to fall within the powers of the EE/SE/CE thereby not only violating financial powers but also keeping such huge purchases out of Government notice.

Serious irregularities in purchase –total value of irregularities – Rs.21 crore

Scrutiny revealed that the Divisional Officers at Bennithora, Amarja, Chulkinala and Lower Mullamari Project purchased different types of materials during 1997-2000 in huge quantities through splitting purchase values, disregarding the prescribed procedure and thus committing serious financial irregularities and wasteful expenditure of Rs.7.62 crore, excess payment and extra cost of Rs.8.05 crore and locking up of Rs.5.32 crore as detailed below. The matter calls for investigation to fix accountability for such huge loss and serious breach of financial rules.

(i) Excess purchase of MS Gates - Rs.6.20 crore

As per the Irrigation Manual, one outlet should cover a minimum area of 17.5 hectares of land at a minimum of 0.010 cumec discharge capacity for allowing water through Field Irrigation Channels (FICs). Audit scrutiny revealed that 4 Divisional Officers with a jurisdiction over three projects purchased 12187 gates during 1997-2000 while only 2032 gates were required. Unnecessary purchase of 10155 gates led to wasteful expenditure of Rs.6.20 crore as indicated below:

Sl No	Name of the Project	No. of divisions	Command areas in hectares	Gates required		Gates Purchased		Excess gates purchased		Cost of excess gates (Rs. in lakh)	
				DG	OG	DG	OG	DG	OG	DG	OG
1	Bennithora	2	20,234	78	1158	2502	5268	2424	4110	363.36	103.42
2	Amarja	1	8,903	-	508	-	1798	-	1290	-	31.62
3	Chulkinala	1	4,047	56	232	509	2110	453	1878	67.90	53.68
Total		4	33,184	134	1898	3011	9176	2877	7278	431.26	188.72

NOTE: DG – Diversion Gates; OG – Outlet Gates.

These gates had not been utilised during the last 3–4 years since the FICs had not been executed (March 2001).

(ii) Unnecessary purchase of materials – Rs.1.42 crore

Purchase of materials not required for any of the works

Micro polythene sheets, sponge rubber, flooring carpet, water proof compound and powder were purchased by three Divisional Officers (1997-2000) though these were not required either as per technical sanction or as per specifications of the sanctioned estimates of different components of work. The wasteful expenditure on such unwarranted purchases amounted to Rs.1.42 crore in respect of three projects as detailed below:

Sl. No	Materials purchased during 1997 to 2000	Name of the Project	Quantity	Cost (Rs. in lakh)
1	Water proof compound	BTP	33636 kg	41.61
2	Sponge Rubber	BTP (2 divisions)	9268 mtrs	49.59
		CNP	2744 mtrs	14.68
3	Micropolythene sheets	BTP (2 divisions)	18110 mtrs	14.49
		CNP	9180 mtrs	7.34
4	Flooring carpet	BTP	3928 sqm	13.84
			Total	141.55

These materials were not required in the projects for the following reasons:

Water proofing is required only in respect of works where water seepage affects the structure or its functioning. In Irrigation projects, the seepage is essential in the spillway. In respect of canal and CD works, seepage does not affect the structure or its functioning. Hence, waterproofing compound was not required.

Sponge rubber, although used in some CD works, was not provided for in any of the sanctioned estimates.

The Research wing of the Government (KERS), after detailed investigation, banned (1995) the use of Micropolythene sheets in canal lining and hence these sheets were of no utility.

(iii) Excess payment / extra cost on purchase of material - Rs.8.05 crore

Materials purchased at exorbitant rates- extra cost: Rs.8.05 crore

Four Divisional Officers of three projects totally disregarded the prescribed procedure for purchase (1997-2000). They did not refer their requirements of materials to the SPD for availing of the rate contract and also did not invite open tender to ensure wide publicity before purchasing the materials. They purchased materials at locally quoted rates, which were exorbitant compared to SPD rate contracts or open market rates leading to excess payment of Rs.8.05 crore as detailed in Appendix – 4.3. The materials were purchased at a cost of Rs.10.47 crore and the cost at the SPD / market rate amounted to Rs.2.42 crore.

(iv) Purchase of materials far in advance of requirement - Rs.5.32 crore

Five Divisional Officers of four projects purchased various materials during 1997-2000 although these were not required for immediate use. The materials were lying idle for 1 to 4 years and thus Rs.5.32 crore were locked up as detailed in Appendix – 4.4.

(v) Role of Controlling Officers in injudicious purchases

CEs/SEs were responsible for monitoring the purchase activities of Divisions under their control and ensuring that the Divisions follow proper procedure in procuring stores for immediate requirements at appropriate rates. They were also responsible for formation of zonal level / circle level purchase committees and for proper functioning of the committees so as to exercise strict control over the physical and financial aspects of purchase proposals of the Divisions. They were also required to sanction reserve stock limits for each Division at

the beginning of each year according to the activities of the Divisions to restrain injudicious/ unwarranted purchases. The release of funds towards purchases was required to be monitored and controlled.

Audit scrutiny revealed that CEs/SEs did not exercise these controls, thereby allowing injudicious purchase of huge quantity of unnecessary materials and facilitated such purchases by release of funds for clearance of purchase pending bills till Government restrained (2000) such payments. They also abetted such irregularities by sanctioning many purchases without following the prescribed procedure, violating their financial powers.

In view of such serious and large-scale financial irregularities and wastage of public funds, the matter requires enquiry by the Vigilance Department.

4.1.11 Total lack of monitoring and evaluation

**Ineffective
monitoring
facilitated serious
irregularities**

Monitoring Committee did not review progress of these projects at any point of time during 1996-2001. The High Power Committee was constituted during January 1996 with the Development Commissioner as Chairman and 7 other Members consisting of Principal Secretary to Government, Finance Department; Secretaries to Government, Irrigation Department, Agriculture Department and Forest Department, Director of Agriculture, Chief General Manager, NABARD and Chief Engineer (Monitoring and Evaluation). This Committee held 11 meetings up to March 2001 but discussed mainly financial arrangement, revision of estimates and extension of time with NABARD. They did not look into technical deficiencies and poor progress in the execution of these projects and lack of financial discipline and control. They paid little attention to issues of timely completion of projects or suggest measures for that purpose as per the terms and conditions of NABARD. Consequently, the projects meandered with serious financial irregularities at various levels, delay in execution and wastage of public funds.

The Chief Engineer, Monitoring and Evaluation, Bangalore, who was the Co-ordination Officer for these projects neither evaluated proper utilisation of funds nor monitored the projects.

The Water Users' Association to be formed to involve farmers in irrigation management as per terms of the loan had not been formed in any of these projects as of March 2001, except in VHP, since none of these projects provided irrigation to its command areas till date. For proper success of these projects, the formation and functioning of these associations was essential since effective water management could be ensured only with the involvement of farmers.

The SEs of the concerned circles responsible for proper execution of projects, were required to co-ordinate the progress of the projects. They evidently did not do so and instead facilitated unwarranted items of work and unnecessary purchase of huge quantities of materials and thus effectively contributed to

diversion of funds, wasteful expenditure and non-synchronisation of different components of the projects.

The Chief Engineer of the projects allotted funds without linking the progress of works and thus encouraged financial in-discipline and brazen waste of public funds.

Thus, the senior management and supervisory officers mismanaged the projects and failed to create the targeted potential, although adequate funds were provided to them by Government. There is little evidence to suggest that even now adequate action is under way to complete the projects and control costs.

4.1.12 The matter was referred to the Secretary to Government in August 2001. However, no reply had been received (September 2001).

WATER RESOURCES DEPARTMENT

4.2 Working of Water Resources Department

Highlights

The Water Resources Department is entrusted with execution of major and medium irrigation projects in the State of Karnataka. The Department has serious weakness in the financial and programme management and control areas. Budgeting and cash management through the letter of credit system was ineffective. Large number of major and medium projects were taken up without adequate financial support or monitoring. These projects are languishing for several years while huge investments remained unproductive. Similarly, lift irrigation schemes taken up at substantial cost are also lying incomplete in large numbers. Financial indiscipline, irregularities in execution of the works, unsatisfactory human resource management, inefficiency and wastage in stores purchase and management of stores affected the working of the Department. Though 32 major and 77 medium irrigation projects were taken up to create 29.62 lakh hectares of irrigation potential, only 59 per cent of the targeted irrigation potential could be created till now.

As against the planned irrigation potential of 29.62 lakh hectares, the actual irrigation potential created was 17.42 lakh hectares (59 per cent) as at the end of March 2000.

(Paragraph 4.2.1 & 4.2.5.1)

There was excess expenditure ranging from Rs 1.65 crore to Rs.59.57 crore under “2701-Non-Plan” during 1996-2001. Letters of credit issued for approved works were diverted for other ongoing works, as the approved works were not taken up.

(Paragraph 4.2.4.1)

Budget provision made for new schemes during 2000-2001 did not include modernisation of Vijayanagar channels, for which Letter of Credit (LoC) was released and an expenditure of Rs.1.40 crore was incurred.

(Paragraph 4.2.4.2(iii))

As at the end of March 2001, bills to an extent of Rs.131.30 crore remained unpaid to various contractors and suppliers.

(Paragraph 4.2.4.3)

Expenditure amounting to Rs.710.70 crore were incurred in excess of the original sanctioned estimates, contrary to the instructions issued by Government.

(Paragraph 4.2.4.4(a)(i))

Out of the letter of credit issued by the Finance Department, Secretary, Water Resources Department and Chief Engineers reserved 3 per cent and 2 per cent respectively for urgent payments to contractors. Chief Engineers further reserved a part of the letter of credit as quota of Members of Parliament and the District Minister for payments to contractors of their choice. This system was vulnerable to misuse and would encourage malpractice.

(Paragraph 4.2.4.4(b))

Rs.1.30 crore was released to Ambligola Project through LoC, even though no provision was made in the Budget grant.

(Paragraph 4.2.4.4(d))

Three out of thirteen controlling officers did not reconcile the expenditure incurred by the Divisional Officers under their control for 4 to 12 months during 1999-2001.

(Paragraph 4.2.4.4(g))

Taking up of new projects for execution when the old projects were lingering resulted in distribution of the available resources thinly on too many projects. This led to delay in completion of projects, escalation in cost and postponement of benefits.

(Paragraph 4.2.5.1)

The construction of pick up dam across Varahi River was not taken up till date, despite expenditure of Rs. 7.64 crore on survey and other works.

(Paragraph 4.2.5.2(ii))

Ten on-going Lift Irrigation Schemes taken up between 1987 and 1997 by the Department to create irrigation potential of 78701 acres, remain incomplete even after incurring an expenditure of Rs.67.69 crore. Delay in completion of these schemes was up to 13 years in some cases.

(Paragraph 4.2.5.3(i))

Improper planning led to overlapping of command area by two projects and an outlay of Rs.1.38 crore incurred up to December 1994 remained unfruitful.

(Paragraph 4.2.5.3(ii))

Shortfall in collection of water rate of Rs.81.03 crore rendered the working of eight irrigation projects uneconomical.

(Paragraph 4.2.5.3(iii) (a))

Water charges valued at Rs.32.29 crore for the period from 1975 to 2001 due from ten industries/municipal bodies were not recovered by the Department.

(Paragraph 4.2.5.3(iii) (b))

Non-stacking of 549872 cum of excavated hard rock valued Rs.4.05 crore in three divisions resulted in loss of revenue to Government.

(Paragraph 4.2.6 (iii) (a))

Rs.8.30 crore being pro-rata expenditure incurred on Rajolibanda diversion scheme by the Government of Karnataka between 1956 and 1997 remained unrecovered from Government of Andhra Pradesh.

(Paragraph 4.2.6 (vi))

In Hemavathy Project Zone, 943 persons were working on supernumerary non-technical cadre as against the requirement of 399. The Chief Engineer did not take action for transferring the surplus staff to whom pay and allowances of Rs.4.87 crore were paid during 1998-2001.

(Paragraph 4.2.8(iv))

4.2.1 Introduction

The geographical area of Karnataka extends to 190.50 lakh hectares (ha). The cultivable land in the State is 138.92 lakh ha out of which, irrigable land is 55 lakh ha comprising of 35 lakh ha under major and medium irrigation projects and 20 lakh ha under minor irrigation projects.

There are Seven River Systems in the State with an estimated average annual yield of 3438 thousand million cubic feet (tmc). According to the Master Plan prepared by the Water Resources Department, the utilisation of water has been estimated at 1690.30 tmc. The Department planned to utilise 1036 tmc of water during 1999-2000, against which the actual utilisation was only 654 tmc (63 per cent).

The duties of the Water Resources Department include survey, investigation, estimation, construction and maintenance of projects, water management, prevention of irrigation offences/unauthorised cultivation and collection of statistics.

Irrigation plays a significant role in increasing agricultural yield from the land. To increase the irrigation potential, various irrigation projects were taken up by the Water Resources Department. The project work involves construction of Dams, Lift Irrigation Schemes for inaccessible areas, Canals, Distributaries and Field Channels. The execution of projects involves preparation of project reports, feasibility reports, survey and investigation, preparation of plans and estimates, acquisition of land and provision of funds.

Till March 2000, the Department planned to create irrigation potential of 29.62 lakh ha through 32 major and 77 medium irrigation projects and achieved 17.42 lakh ha through 40 completed and 40 ongoing projects.

4.2.2 Organisational set up

The Irrigation work in Karnataka are entrusted to two Departments viz., Major and Medium Irrigation Department (re-designated as 'Water Resources Department' with effect from April 2001) and Minor Irrigation Department each headed by a Secretary. Under the Water Resources Department there are 6 Zones, 13 Circles and 54 Divisions headed by Chief Engineers (CE), Superintending Engineers (SE) and Executive Engineers (EE) respectively. The Engineer-in-Chief, Water Resources Development Organisation, Bangalore and the Director, Karnataka Engineering Research Station at Krishnarajasagar cater to the needs of initial investigation of projects, research and training for both the Departments.

Apart from the above, the State Government constituted two companies viz., Krishna Bhagya Jala Nigam Limited (KBJNL) in August 1994 and Karnataka Neeravari Nigam Limited (KNNL) in November 1998, to expedite the execution of the Upper Krishna Project and ten other projects under the Krishna Basin.

4.2.3 Audit Coverage

Key areas such as financial management, implementation of irrigation projects and works, stores management, manpower utilization etc. of the Water Resources Department i.e., Major & Medium Irrigation, were reviewed during January to May 2001 covering a period of 5 years from 1996 to 2001. Records maintained at the Water Resources Secretariat and the Finance Department along with 30 offices in five zones¹ were scrutinised.

4.2.4 Financial Management

4.2.4.1 General

The budget of the Water Resources Department is required to be prepared by the Finance Department after obtaining material from the CEs. This provision guarantees the estimates to be accurate and on the basis of the latest estimate of costs. The Review indicated that Finance Department received estimates for provision of funds in time from CEs of various zones, the same were not being considered while making budget proposals.

The provision made was only an ad-hoc increase over the previous years Budget Estimates. Due to such a procedure, the provisions were unrealistic vis-à-vis the funds sought for by the Department as detailed below:

¹ Zonal Offices at Gorur, Munirabad, Mysore, Shimoga and Tumkur

HEAD OF ACCOUNT: 4701 (Capital Outlay)

(Rupees in crore)

Sl. No.	Name of the Zone	1998-99			1999-2000			2000-01		
		Budget Proposals (BP)	Budget Allotment (BA)	% of BA to BP	Budget Proposals (BP)	Budget Allotment (BA)	% of BA to BP	Budget Proposals (BP)	Budget Allotment (BA)	% of BA to BP
1	Irrigation (South), Mysore	299.65	156.50	52	288.32	153.36	53	313.43	149.30	48
2	Hemavathi Project, Gorur	194.83	71.24	37	259.00	69.85	27	215.65	79.25	37
3	Upper Tunga Project, Shimoga	56.46	6.90	12	119.99	17.42	15	72.25	9.51	13
4	Irrigation Central Zone, Munirabad	231.04	29.70	13	292.94	24.94	9	229.45	20.46	9
5	Hemavathi Canal Zone, Tumkur	258.15	90.00	35	188.62	53.25	28	241.12	55.00	23

HEAD OF ACCOUNT: 2701 (Revenue)

(Rupees in crore)

Sl. No.	Name of the Zone	1998-99			1999-2000			2000-01		
		Budget Proposals (BP)	Budget Allotment (BA)	% of BA to BP	Budget Proposals (BP)	Budget Allotment (BA)	% of BA to BP	Budget Proposals (BP)	Budget Allotment (BA)	% of BA to BP
1	Irrigation (South), Mysore	17.30	7.90	46	19.64	10.45	53	23.55	10.45	44
2	Hemavathi Project, Gorur	5.25	3.73	71	6.40	4.77	75	7.58	5.03	66
3	Upper Tunga Project, Shimoga	9.37	4.07	43	7.23	4.83	67	15.01	4.87	32
4	Irrigation Central Zone, Munirabad	16.15	6.90	43	17.17	9.02	53	20.46	9.47	46
5	Hemavathi Canal Zone, Tumkur (Teetha Project)	0.30	0.03	10	0.39	0.04	10	0.49	0.04	8

The above table shows that during 1998-99 to 2000-01, the budget provision ranged from 9 per cent to 53 per cent and 8 per cent to 71 per cent of the provision sought for by the Chief Engineers under Major Heads of Account '4701' and '2701' respectively.

The details of Budget provision and expenditure during 1996 to 2001 under Plan and Non-Plan were as follows:

(Rupees in crore)

Year	4701 – Plan			4701 Non-Plan		
	Budget Provision	Expenditure	Excess (+)/ Savings (-)	Budget Provision	Expenditure	Excess (+)/ Savings (-)
1996-97	466.60	558.15	(+) 91.55	300.00	288.73	(-) 11.27
1997-98	308.60	495.10	(+) 186.50	305.00	296.23	(-) 8.77
1998-99	675.62	621.64	(-) 53.98	330.00	288.70	(-) 41.30
1999-2000	754.21	747.58	(-) 6.63	280.00	249.83	(-) 30.17
2000-01	966.66	864.62	(-) 102.04	300.00	235.01	(-) 64.99

Year	2701 – Plan			2701 Non-Plan		
	Budget Provision	Expenditure	Excess (+)/ Savings (-)	Budget Provision	Expenditure	Excess (+)/ Savings (-)
1996-97	68.42	2.75	(-) 65.67	392.22	416.93	(+) 24.71
1997-98	161.42	3.61	(-) 157.81	448.43	472.88	(+) 24.45
1998-99	6.08	6.08	--	481.21	482.86	(+) 1.65
1999-2000	11.79	7.59	(-) 4.20	531.01	586.07	(+) 55.06
2000-01	7.93	6.90	(-) 1.03	584.14	643.71	(+) 59.57

There was excess expenditure under "2701-Non Plan" every year, which ranged from Rs.1.65 crore to Rs.59.57 crore. LoC released in respect of

approved works were diverted for other on-going works, as the approved works were not taken up. This resulted in excess expenditure on on-going works.

The reasons for excesses / savings in the respective years budget were not furnished by Government.

4.2.4.2 Plan Budget

According to the Budget Manual, provisions made under Plan Head of Account should provide funds for State Schemes and Centrally sponsored Schemes. Scrutiny of Planning Department's annual Plan Schemes revealed the following deficiencies:

Though the Planning Commission desired to close four projects viz., Bhadra, Taraka, Tungabhadra Left Bank Canal, Tungabhadra Right Bank High Level Canal by March 2000 as they related to Pre-V Plan period, Rs.10.32 crore was provided for these projects under "4701 – Plan" on the ground that the bills of contractors were pending for payment. The State Government did not, however, make the position of pending bills in respect of these projects known to the Planning Commission. These projects are still considered as ongoing projects. Keeping the Project accounts open enables the Department to debit other expenditure, which would inflate the project cost.

During 2000-01, a provision of Rs.1.27 crore made under 4701-800-other expenditure – 12 – State Scheme (Plan) did not include Modernisation of Vijayanagar Channel. However, Rs.1.40 crore was spent towards the said channel during the year. Release of LoC and incurring expenditure thereon was irregular, as the works were not included in the Budget estimates.

4.2.4.3 Provision for pending bills not included in Budget

The amount of pending bills of contractors till March 2001 accumulated to Rs.131.30 crore, which amounted to 8.29 per cent and 4.48 per cent of the total provision of the years under 4701 and 2701 respectively. The year-wise break up and the number of bills for the outstanding amount was not furnished by Water Resources Department. The Head-wise details of pending bills was as follows:

Inadequate release of LoC resulted in accumulation of pending bills amounting to Rs.131.30 crore

(Rupees in crore)			
Head of Account	Plan	Non Plan	Total
2701-Major & Medium Irrigation Projects	-	26.23	26.23
4701- Major & Medium Irrigation Projects	40.43	64.64	105.07
Total	40.43	90.87	131.30

The pendency of bills relates to works and supplies. Department attributed pendency of bills mainly to short release of funds by Finance Department through LoC to the extent of provisions made against the Capital and Revenue Heads of Account. Finance Department did not consider the position of pending bills before deciding the provisions.

4.2.4.4 Expenditure control systems

The authority administering a grant is responsible for watching the progress of expenditure and keeping it within the sanctioned grant or appropriation. To ensure the effectiveness of control over expenditure, the Chief Engineer is to exercise control through the Controlling Officer subordinate to him. To facilitate control of expenditure, the Departmental Accounts are maintained by Controlling Officers and the progressive actuals month by month are verified with those entered in the books of the Accountant General (Accounts & Entitlement). If the Chief Engineer finds at any stage that the expenditure is progressing too rapidly, he should promptly take such steps, as he may consider necessary to restrict further expenditure so that the sanctioned grant is not exceeded.

A review of records maintained in the test checked Divisions revealed that every month grant and outlay statements indicating the physical and financial progress of works were being sent by the Executive Engineers to the concerned Superintending Engineers who are the controlling authorities and also to Chief Engineers of the Zones. The Controlling Officer was required to check the statements with reference to the details furnished with regard to irregular expenditure and to keep a watch over them. However, the control over expenditure was not effective because the expenditure incurred was in excess of the sanctioned estimates, funds were diverted for unnecessary purchase of stationery articles, expenditure was incurred without budget provision and huge amounts were drawn through self-cheques. Cases where effective control and monitoring of expenditure did not exist are detailed below:

(a) *Sanction to Estimates / Revised Estimates*

(i) *Expenditure incurred without sanction of revised estimates*

Expenditure incurred in excess of sanctioned estimates amounted to Rs. 710.70 crore

During 1996-2001, the expenditure on 9 projects under the control of CE, Irrigation (south), Mysore and another 13 works in Hemavathy Project persistently exceeded the estimated cost by Rs.710.70 crore (Appendix 4.5) as of March 2001. The excess expenditure ranged from 23 to 388 per cent of the estimated cost. Although revised estimates for these projects/works were not sanctioned, the budget estimates included provision for the excess expenditure year after year. Finance department failed to insist on sanction to revised estimates either at the time of framing the budget estimate or while releasing the LoC. This lapse facilitated widespread and unauthorised excess expenditure.

(ii) *Works executed without sanctioned estimates*

No work is to be taken up without sanction of detailed estimates and drawings. In Sirwar Division, 23 annual maintenance works of Tungabhadra Left Bank Canal and its distributories costing Rs.58.66 lakh were taken up by the Divisional Officer irregularly during the year 2000-01 without sanctions from the Superintending Engineer. The funds provided for other works were diverted to these works. The Divisional Officer stated (March 2001) that

action would be taken to obtain sanctions after the works are completed. Such unauthorised expenditure without sanction from competent authority requires investigation by Government.

(b) *Ineffective Letter of Credit system*

Under the system of Letter of Credit (LoC) introduced in November 1972, funds are released by the Finance Department through Secretary, Water Resources Department and Chief Engineers, to the Divisional Officers for payments for the works and supplies. Under this system, budgetary releases are made in monthly instalments by the Finance Department to Chief Engineers. On receipt of LoC from the Finance Department, the Chief Engineers authorise the Banks to honour the cheques issued by the Divisional Officers to the extent of amount specified in the authorisation letter. The role of the Bank is to honour the cheques presented by the Divisional Officer and also to watch the limit set out in the LoC. The system of LoC contemplates that the Divisional Officer should keep a progressive account of the cheques drawn during a month and limit the total drawal of cheques to the amount authorised in the LoC for the month. The Finance Department also has to watch the limit by obtaining Cheque Drawn Statement from the Divisional Officer and Treasury Officer regularly by 15th of every month. The LoC system also provides for maintaining suitable records so that the payments made on cheques are taken against the amounts indicated in LoC for the month to which the cheque relates in order to have control over the overdrawal of funds and excess expenditure. These provisions were neglected which rendered the LoC system ineffective as detailed below:

From 1999-2000, the Secretary to Government, Water Resources Department reserved 3 per cent of the amount of LoC as “discretionary quota” without the concurrence of Finance Department. The Department also issued directions to the Chief Engineers to reserve 2 per cent of the amount of LoC to facilitate urgent payments to contractors. The purpose was to make payment to selected contractors overlooking the sequence of the pending bills on the grounds of emergencies. However, any formal amendment to the system of LoC was not furnished by the Department.

No control register was maintained by the Secretary, Water Resources Department, to watch the LoC released under discretionary quota. Such release of funds ranged up to 10 per cent of LoC in April 2001 in Hemavathy Project. No norms were laid down for release of funds out of discretionary quota. This system was thus vulnerable to misuse and would encourage malpractice.

In Hemavathy project, part of LoC was even reserved by Chief Engineer for payments to contractors recommended by MPs and District Minister. The system of LoC does not contemplate release of LoC for distribution of payments to contractors preferred by MPs/District Minister. Contrary to the prescribed procedure, LoC of Rs.19.30 lakh was released by the Chief Engineer during January 2000 for payment to contractors as selected by the MPs/District Minister in Hemavathy Project.

The Divisional Officers as well as Treasury Officers did not regularly send Cheque Drawn Statements to the Finance Department by 15 of every month. Thus, this control was not operational.

In Sirwar Division during 1997-98 and 1999-2000 cheques were drawn to the extent of Rs.6.67 crore as against the amount of Rs.6.57 crore released through LoC resulting in excess drawal over LoC to the extent of Rs.0.10 crore. Reason for excess drawal was not communicated. However, the Divisional Officer replied (March 2001) that reconciliation with the Bank records would be done.

(c) Diversion of works funds

In Munirabad Division and Dam Division, Gorur Rs.38.66 lakh released through LoC for payment to contractors were diverted by Divisional Officers for purchase of stationery articles, uniform, gum boots, printing of contract forms, TA acquittance forms etc., between February 1998 and January 2000. These payments were irregularly charged to works expenditure under the Capital Head of Account (4701).

(d) Release of LoC without budget provision

An amount of Rs.1.30 crore was released (July 1999) by Finance Department under 4701- Plan in respect of Ambligola Project even though no provision was made either in the original budget or in the supplementary estimates. No reasons for release of LoC were furnished by Government. The Chief Engineer in turn released Rs.1.00 crore to Ambligola Project and diverted Rs.30.00 lakh to Bhadra Project (July 1999).

(e) Huge amounts drawn through self-cheques

Account Code prescribes that payments to contractors for an amount exceeding Rs.10 should be made by cheque. However, the departmental officers may draw small amounts of cash through self-cheque to meet urgent and petty expenditure or for making payments to labour engaged by the Department. In gross violation of this provision, Divisional Officers of Yermarus, Sirwar and Odderahatti Divisions drew Rs.3.73 crore (May 1998 to October 2000) through 214 self cheques for amounts ranging from Rs.699 to Rs.9,89,535 and made cash payments to contractors for works as detailed below :

Division	No. of Cheques	Amount drawn (Rs. in crore)
Yermarus	92	1.27
Sirwar	75	1.64
Odderahatti	47	0.82
TOTAL	214	3.73

The CE/SE did not prevent the above irregularities despite annual inspection of the Divisions when they were expected to notice such irregularities.

(f) Avoidable payment of interest

Due to insufficient / non-receipt of LoC for making the payment of electricity charges and Central Excise Duty within the prescribed dates initially, interest charges of Rs.48.85 lakh and Rs.4.02 lakh towards belated payments of electricity charges and of Central Excise Duty was paid by Munirabad Division to Karnataka Power Transmission Corporation Limited (KPTCL) and by Yermarus Division to Central Excise Department respectively during the period from December 1997 to January 2001.

(g) Reconciliation of expenditure figure

According to Budget Manual, every Controlling Officer should reconcile the monthly expenditure figures recorded in their books of account with the figures recorded in the books of the Accountant General (Accounts & Entitlement) to have proper control over expenditure. Out of thirteen Controlling Officers functioning in the State, three Controlling Officers² did not reconcile the expenditure incurred by the Divisional Officers under their control from March 2000, May 2000 and December 2000, respectively.

4.2.5 Programme Management

4.2.5.1 Planning

Monitoring of the implementation of the projects is done at Government/Chief Engineer/ Superintending Engineer level and also through Multilevel Monthly Review meetings at Government level. Government had not devised any plan to complete the projects within a stipulated period. This resulted in large number of projects lingering for a long time. Taking up of new projects for execution when the old projects were lingering resulted in distribution of available resources thinly on too many projects. This led to delay in completion of on-going projects, escalation in cost and postponement of benefits.

Government prepared a Master Plan for the utilisation of surface water of 1690.30 tmc available. To utilise the available water, 109 major and medium irrigation projects were undertaken by the State Government over different periods of time upto 1998.

Department planned to create 29.62 lakh ha of irrigation potential by March 2000 through 32 Major and 77 Medium Irrigation Projects by utilising 1036 tmc of water at an administratively approved cost of Rs.7174.71 crore. Out of these, 40 projects with an irrigation potential of 4.53 lakh ha had been achieved at a cost of Rs.137.66 crore as of March 2000. The position as of March 2000 in respect of remaining incomplete 69 projects, which were taken up between 1945 and 1998, is as follows:

² Superintending Engineers at Bhadra Circle, Kabini Circle and IP Circle, Gulbarga

Status of Projects	Number of projects	Administratively approved cost (Rs. in crore)	Present cost (Rs. in crore)	Expenditure up to March 2000 (Rs. in crore)	Irrigation Potential (in Hectares)	
					Planned	Created
On-going	40	6734.65	19200.83	10830.41	2297671	1288605
New	29	302.40	1356.71	64.30	211754	--
Total	69	7037.05	20557.54	10894.71	2509425	1288605

The balance cost for completion of these 69 projects was estimated at Rs.9662.83 crore. It is evident from the above table that the expenditure on on-going projects had already exceeded the administratively approved cost by Rs.4095.76 crore. There is likelihood of further escalation in project cost if time-bound plan to complete these projects is not drawn up by Government.

Out of the 40 ongoing projects, the financial and physical progress to end of March 2000 in respect of 10 projects taken up between 1959 and 1993 are detailed below:

Sl No	Name of the project (Zone)	Year of commencement	Financial (Rupees in crore)			Irrigation Potential (in Hectares)			
			Admn approved cost	Expr up to March 2000	Percentage of Expr to approved cost	Planned	Created up to March 2000	Balance	Percentage of balance to planned
1.	Bennithora (Gulbarga)	1973	72.23	164.15	227.3	20236	8302	11934	58.9
2	Gandhorinala (Gulbarga)	1993	94.17	26.16	-	8094	--	8094	100.0
3	Hirehalla (Munirabad)	1977	6.35	112.90	1778.0	8013	--	8013	100.0
4	DD Urs canal (Mysore)	1979	18.50	230.28	1245.0	32376	395	31981	98.8
5	Hemavathy (Gorur/Tumkur)	1968	588.00	1431.48	243.4	283596	189194	94402	33.3
6	Kabini (Mysore)	1959	24.80	356.23	1436.4	87900	41083	46817	53.3
7	KRS Modernisation (Mysore)	1979	14.80	248.14	1676.6	2125	--	2125	100.0
8	Yagachi (Gorur)	1983	35.38	115.42	326.2	21450	1995	19455	90.7
9	Arkavathy (Mysore)	1975	22.60	57.26	253.3	6232	--	6232	100.0
10	Uduthorehalla (Mysore)	1977	32.30	102.55	317.4	6273	--	6273	100.0

Projects taken up twenty-five years ago still remain incomplete

None of the 10 projects were completed within the targeted period of completion and projects taken up more than 25 years ago are still under execution. Escalation in cost of these lingering projects ranged between 227 to 1778 per cent over the administratively approved cost. The reasons for abnormal increase in expenditure were attributed to escalation in cost of labour, material, increase in cost of land acquisition, increase in quantities of works other than originally estimated, increase in number of cross drainage works and contractors quoting higher tender percentage.

No irrigation potential was created in five projects on which Rs.547.01 crore was spent

In 5 of the 10 projects no irrigation potential could be created though Rs.547.01 crore had been spent on them while work on 4 of the projects commenced prior to 1980. The main reasons for not creating any irrigation potential were that the Dam / Canals proper were not completed due to non acquisition of land, untimely release of funds and cases pending in the court. Government has not furnished reasons for this (September 2001).

4.2.5.2 Formulation of scheme

Failure to acquire land before commencement of work resulted in infructuous expenditure of Rs. 41.73 lakh.

Meaningful, effective and successful implementation of schemes/projects mainly depend upon proper planning, identification of beneficiary and provision of funds. Accordingly, land required for project work was to be acquired before commencement of work. Non acquisition of land would result in delay in execution of project and denial of irrigation facility. Test check of records in two Divisions revealed the following deficiencies in formulation of schemes.

(i) Improper planning leading to infructuous outlay

The Hodorayanahalla Diversion Scheme was proposed to augment water supply to the Jambadahalla Reservoir constructed during 1968 with a view to create irrigation potential for 1538 ha. The project, which was estimated to cost Rs.2.48 crore, was approved by Government (August 1987). The proposed diversion canal passes through two blocks of State Forest and required acquisition of 16.07 ha of forestland. The proposal for acquisition of land was sent to Government of India in August 1989. However, Government of India did not agree (March 1997) to part with forestland as it formed part of Bhadra Wild Life Sanctuary. An expenditure of Rs.41.73 lakh was incurred up to end of May 1998 towards improvement of existing approach roads and construction of cross drainage works. The Department did not take any action to work out an alternative alignment for the diversion canal. Improper planning in scheme formulation resulted in infructuous expenditure of Rs.41.73 lakh and the objective of providing irrigation facility to 1538 ha could not be achieved.

(ii) Varahi Irrigation Project

Delay of ten years in taking decision to have a power project or not resulted in cost escalation of Rs.113.07 crore

The Varahi Irrigation Project was proposed to be taken up across Varahi River at Horiabbe near Siddapura village to create irrigation potential of 38,800 acres of land in Kundapura and Udupi taluk. The project was administratively approved by Government for Rs.9.43 crore (March 1979). To ascertain the possibility of producing power from this project, several discussions were held by the Technical Advisory Committee at the State level between 1981 and 1991 and finally the project was cleared by the Committee in July 1992 to construct a pick-up dam at RL 49.50 mtrs without power generation. The updated Project Report costing Rs.122.50 crore (based on Schedule of Rates of 1990-91) which was sent to Central Water Commission in January 1993 was returned to State Government in June 1993 to examine yield series, design flood aspects, environmental, ecological aspects and cropping pattern. After attending to the observations, the State Government re-submitted the Project to Central Water Commission in July 1997 for which approval was received in October 1998.

Till March 2001, an expenditure of Rs.7.64 crore had been incurred towards preliminary survey, construction of colony and land acquisition. The project, which was conceived and approved in 1979, is still to be taken up.

The system of planning was not efficient in as much as the possibility of producing power from the project was not examined before the proposal could be taken up by Government. Results of yield series, environment and ecological aspects were not examined and report from Forest Department and approval from Central Water Commission were not obtained. The inordinate delay of 10 years in taking a decision at State level whether to have a Power Project or not and delay in preparing the report and getting clearance from Ministry of Environment and Forest also contributed to escalation of cost to the extent of Rs.113.07 crore.

4.2.5.3 Implementation of Schemes

(i) Lift Irrigation Schemes lying incomplete

Ten LIS taken up between 1987 and 1997 to irrigate 78701 acres of land are lingering though Rs.67.69 crore were spent

Lift Irrigation Schemes (LIS) are taken up by the Department in order to provide water to an area whose level is too high to allow irrigation by flow from water source but which can be economically irrigated by water raised by pumps or other lifting devices to the necessary level at some point in the supply system. The efficiency of implementation of LIS by the Department was reviewed in audit.

10 LIS taken up between 1987 and 1997 to irrigate 78,701 acres are still lingering and no irrigation potential has been created even though Rs.67.69 crore were spent as of January 2001. The Schemes were to be generally completed within a period of 1 to 3 years. They are still lingering and the delay ranged from 1 year to 13 years. The details are as under:

Name of the LIS	Estimated Cost (Rs in crore)	Expr. Incurred to end of January 2001 (Rs. in crore)	Date of commencement	Stipulated date of completion	Area to be irrigated (in acres)	Balance work to be done
Kamasamudra (I & II Stage)	6.30	2.14 (Up to Mar.2001)	1987 (under MI Dn)	Aug 1988 & March 1991	7670	Erection and commissioning, Canal works
Itagi-Sasalwad	12.16	0.36	1992-93	Dec 2000	4900	Acquisition of land, Jackwell, Pumphouse, Canal works and Electrification work
Basapur	14.02	1.02	1996-97	Dec 2000	5600	- do -
Varahi	59.00	16.62	Nov. 1994	June 1995	6729	Electrification work and canal works.
Halli Mysore	32.50	18.69	Nov. 1992	Jan 1995	16000	Electrification work
Bagur-Navile Tunnel Approach	20.50	10.56	Nov. 1992	Nov 1993	5000	Canal and Distributaries
Vontigudda	2.70	2.37	Mar.1997	March 1998	1000	I Stage works to be completed and canal works
Anjenayapura	26.54	1.38	NA	1998	14900	Water planning yet to be decided by Government.
Kachenahalli	30.60	2.55	NA	1998	8601	- do -
Hutchana-koppalu	27.50	12.00	Mar.1993	Sep 1994	8301	Erection and commissioning of Machinery.
TOTAL	231.82	67.69	--	--	78701	--

A review of records of the following four major Lift Irrigation Schemes revealed the failure in system:

(a) Bagur-Navile Tunnel Approach Lift Irrigation Scheme (BNTA – LIS)

The work of supply, erection and commissioning of a centrifugal pump for a LIS at the approach of Bagur-Navile Tunnel at Bagur was to be completed by November 1993. The contractor executed the work to the extent of Rs.48.48 lakh up to this date due to departmental failure such as non handing over the site in time, non payment of mobilisation advance and delay in providing approved designs and drawings. The head-works, pumphouse and raising main were completed in December 1999 but the execution of canals and distributories were still under progress due to delay in acquisition of land. The LIS was energised in January 2000 and the power consumption charges of Rs.4.25 lakh were also paid to KPTCL. The water was being lifted with Lift Irrigation Pump and was being allowed to be used for irrigation for the areas coming under the atchkat of Minor Irrigation Tanks, since execution of canal under this scheme had not been completed.

Failure to supply designs and drawings, delay in payment of mobilisation advance resulted in delay in implementation of the scheme and the consequential escalation in cost to the extent of Rs.37.15 lakh. The non-acquisition of land before starting the execution of canals resulted in non-synchronisation of canal system with head works and the expenditure of Rs.10.56 crore as of March 2000 was rendered largely unfruitful besides failure to achieve the objective of providing irrigation to 5000 acres.

(b) Halli Mysore Lift Irrigation Scheme

The supply, erection and commissioning of electrically driven pumps and motor including the design and civil works of Halli Mysore Lift Irrigation Scheme was to be completed by January 1995. The agreement provided for payment of mobilisation advance of Rs.72.73 lakh within 30 days from the date of agreement, payment of Rs.105.69 lakh at 15 per cent of the contract value within 30 days after approval of designs and drawings. The Department delayed payment of mobilisation advance by 6 to 20 months and hence extension of time had to be granted to the end of December 1998 and proposal for further extension up to December 2000 was pending. In spite of granting extension for nearly six years and incurring expenditure of Rs.18.69 crore, the work was still to be completed (June 2001) and delay in completion of the scheme resulted in postponement of the irrigation facility to the beneficiaries.

Failure to ascertain market rate before accepting tender resulted in avoidable extra cost of Rs.1.43 crore

As per the agreement, the firm had to procure 6300 meters of pre-stressed concrete pipes for completion of work. The quoted rate was Rs.5000 per meter and the entire quantity was procured by the firm between December 1994 and September 1998. As seen from the invoices produced by the firm in respect of purchases of pipes, the firm procured at Rs.2725 per meter up to August 1998 and at Rs.2806.75 per meter thereafter. Failure of the Division to ascertain the market rate for the pipes before evaluating the tender resulted in avoidable extra cost of Rs.1.43 crore to Government on the total quantity of pipes supplied by the firm.

(c) Varahi Lift Irrigation Scheme

A Lift Irrigation Scheme at the 38 km from Varahi Pick up Dam site was approved in October 1992 at a cost of Rs.13.55 crore to create an immediate irrigation potential of 2723 ha. Head works and other work was entrusted to an agency on turnkey basis (November 1994) at a cost of Rs.6.28 crore for completion by June 1995.

Though the firm supplied electrical and mechanical components costing Rs.5.04 crore by March 1996 and the Division deposited Rs.58.95 lakh with KPTCL by April 1999 for providing power supply the work remained incomplete as the site for construction of pump house was not handed over (June 2001) due to non acquisition of land.

The canal portion of work was completed from 0-3 kms and the balance reaches and four aqueducts are still lingering due to non acquisition of lands and rescission of contract due to stoppage of work in 4th km by the contractor on his own. In two other reaches, the work was entrusted to Karnataka State Construction Corporation who had in turn sublet the work to various contractors. Subsequently, the work was withdrawn from KSCC by Government in June 1998. The balance work was entrusted to different contractors. Due to not entrusting the work to the same contractors, who were executing earlier under KSCC, filed civil suit against the Department.

The expenditure of Rs.16.62 crore incurred (March 2001) on the LIS remained unfruitful and object of providing early irrigation benefit for 2723 ha was defeated even after 6 years.

(d) Kamasamudra Lift Irrigation Scheme

The execution of a Lift Irrigation Scheme at Kamasamudra in Holenarasipur taluk was taken up during 1987 by Minor Irrigation Division, Hassan. The work was to be completed in two stages. The work in two stages were entrusted to two different agencies (December 1987 and 1990-91) with stipulated date of completion as August 1988 and March 1991 respectively. The two agencies procured machinery valued Rs.1.69 crore between June 1990 and May 1993 for mechanical portion of work to be executed. The machinery could not be erected and commissioned due to absence of power supply and non-completion of civil works due to not handing over of site to the agency.

The work was transferred to Major and Medium Water Resources Department (Holenarasipur Division) in September 1995 and during the course of inspection of the work by the Engineer-in-Chief (January 1996) it was observed that the machinery procured at a cost of Rs.1.69 crore had not been stored properly and was thus not in working condition. A fresh estimate for balance work (civil portion: Rs.34.32 lakh and mechanical portion: Rs.1.87 crore) was sanctioned by Government (October 1996). The estimate for the mechanical portion of work included an amount of Rs.38.02 lakh towards overhauling of machinery already procured prior to transfer of the LIS. An amount of Rs.37.03 lakh towards overhauling of machinery was paid

(February 2001) to an agency to which the balance work was entrusted (November 1996).

Lack of effective and proper planning in synchronising the civil and mechanical portion of the work and improper storing of machinery led to delayed implementation of scheme and also resulted in overhauling charges of Rs.37.03 lakh, which could have been avoided. The work was reportedly still in progress (May 2001).

(ii) Overlapping of cultivable command area

Expenditure of Rs.1.38 crore on command areas of two projects was unfruitful due to improper planning and overlapping

The work of Lift Irrigation Scheme at Anjaneyapura in Hassan District was taken up to provide relief to submerged Kattepara village and was to irrigate 14904 acres. The administrative approval and technical sanction was accorded by the Government and the Chief Engineer, Hemavathy project, Gorur respectively in December 1991 and September 1993 for Rs.10.05 crore which was revised to Rs.26.54 crore in 1995-96.

The work was taken up departmentally in 1993 and an expenditure of Rs.1.38 crore was incurred as of December 1994 on earthwork excavation and other preliminary expenses. The work was stopped (December 1994) on the ground that atchkat of Left Bank Canal of Yagachi project was overlapping with the atchkat of the scheme.

Improper planning led to overlapping of command area by two projects and the expenditure of Rs.1.38 crore incurred was rendered unfruitful. The scheme had been abandoned for the time being as a decision on water planning was yet to be taken by Government as per the reply of the Executive Engineer (April 2001).

(iii) Demand and Revenue realisation

(a) Shortfall in collection of water rate

The demand for Water rates payable for water utilised for irrigation purposes is to be raised by the Water Resources Department every year and the Revenue Officers are to collect the charges from the farmers and remit it to Government account. Verification of water rate demands amounting to Rs.104.29 crore as raised by four Chief Engineers covering the period from 1996-97 to 1999-2000 in respect of eight irrigation projects, vis-à-vis those collected by the revenue authorities revealed a shortfall of Rs.81.03 crore (78 per cent) in realisation of water charges. The details are indicated in Appendix- 4.6.

Shortfall in collection of water rates from farmers rendered the working of the irrigation projects uneconomical.

(b) Non-recovery of water charges

As per Rule 9 of Chapter VI of the Karnataka Irrigation Manual, Government had prescribed water rates for water drawn for industrial use and for drinking purposes by Town Municipalities from time to time.

In six Divisions, water charges amounting to Rs.32.29 crore remained unrealised from the following 10 Industries/Town Municipal Councils during the period from 1975 to 2001:

(Rupees in crore)	
Name of the Industry/Town Municipal Council	Amount
Tungabhadra Pulp Board Ltd., Munirabad	0.01
Town Municipal Council, Gangavathi	0.07
Generating Station, Odderahatti	3.75
Town Municipality, Arakalgud	0.01
Town Municipality, Arasikere and Tiptur	0.15
Town Municipality, Tumkur	0.28
Raichur Thermal Power Station, KPC, Raichur	0.54
Bangalore Water Supply and Sewerage Board	3.38
City Municipal Council, Hassan	0.26
Shivasamudra and Shimshapura Power Generating Stations	23.84
Total	32.29

As of May 2001, no action was taken by the respective Divisions to realise the water charges. No provision also exists in the Manual for levy of penalty or interest from defaulters.

(iv) Operation of consultancy contract***Avoidable expenditure on quality control test***

The inner strengthening works of Tungabhadra Left Bank Canal were taken up in three Divisions³ during closure period from April 2000 to July 2000. The approval was accorded by Government in May 2000. The soil tests required for the execution of work were conducted by the Quality Control Sub-Division, Munirabad and the results were sent to Chief Engineer in May 2000. In spite of it, Government entrusted the same work of soil test to Tor Steel Research Foundation of India (TRFI) during May 2000 at a total cost of Rs.39.64 lakh and payments aggregating to Rs.35.18 lakh were made between June 2000 and February 2001. The specific reason for direct entrustment of this work to the said agency was not forthcoming from the Secretariat.

Since the tests had already been conducted by the QC Sub Division (May 2000), entrusting the same work to another agency was unwarranted and also resulted in avoidable expenditure of Rs.35.18 lakh.

³ Odderahatti, Sindhanoor and Sirwar Divisions

4.2.6 Other Topics of Interest

(i) Avoidable expenditure due to rejection of offer of first agency

In Yedyur Division, the earthwork excavation in the 46 km of T Mariyappa canal (estimated cost: Rs.81 lakh) was entrusted (December 1989) to a contractor at a tender cost of Rs.57.38 lakh (25.12 per cent below SR 88-89) with stipulated date of completion as September 1991. The contractor stopped (January 1991) the work after executing the work valued Rs.86.11 lakh and sought payment towards (i) extra lead for dumping of excavated muck at an alternative site as the place provided presently was found inadequate (ii) formation of ramp as the canal has to be executed in deep cut (iii) 20 per cent over the tendered rate for items of work exceeding 125 per cent of the tendered quantity. The Chief Engineer rescinded (January 1995) the contract without risk and cost. The decision to rescind the contract was injudicious due to following reasons:

- (a) Clause 13 of the contract provided for rates to be regulated in cases where quantities are executed beyond 125 per cent of the tendered quantity.
- (b) The offer of the contractor to execute the additional quantities at 20 per cent above tendered rates were not evaluated with reference to rates payable as per clause 13 of the agreement or with reference to the then prevailing rates before taking a decision.
- (c) No reasons were on record for rescinding the contract after a delay of nearly four years.

The balance work estimated to cost Rs.82.13 lakh (based on Schedule of Rates of 1999-2000) was entrusted to another contractor at a tender cost of Rs.90.86 lakh and was in progress. The delay at the level of Executive Engineer, Superintending Engineer and Chief Engineer in taking the decision to rescind the contract and calling for fresh tender after a lapse of nearly four years had resulted in escalation in cost to the extent of Rs.34 lakh.

(ii) Irregularities in execution of piece works

As per Government instructions of May 1993, not more than two works were to be entrusted to a single piecework contractor. Further, Government in their circular (December 1999) clarified that any original work under Major Head of Account 4701 Plan / Non Plan should not be entrusted to any contractor on piece work basis by splitting the works valued at Rs.25,000 or less.

A scrutiny of records of two Divisions revealed that 78 works of original nature under 4701 – Capital Outlay on Major and Medium Irrigation were entrusted to several contractors on piece work basis at a cost of Rs.33.77 lakh between April 1997 and November 2000 as detailed below in violation of Government instructions.

Sl. No.	Name of the Division	No. of pieceworks entrusted	Period of entrustment	Expenditure incurred (Rupees in lakh)	Nature of works	Remarks
1.	HRBC Division, Holenarasipur	35	1999-2000	18.67	Canal works – Kamasamudra Rangenahalli LIS	---
2.	No.1, TR Division, Munirabad	43	1997-98	15.10	Providing impervious soil for construction of embankment of CD approach in Km 3.4 of LBC of Hirehalla Project	All the 43 works were entrusted to a single contractor

The Divisional Officers made huge payments without observing the existing controls. The SE/CE took no action for such flouting of Government Orders. The entrustment of work on piecework basis deprived Government the benefit of competitive rates. Further, the possibility of fictitious work and fraudulent payment could not be ruled out.

(iii). Excavation in Hard Rock

(a) Loss of revenue due to non-stacking

As per specifications given in Schedule B (Agreement Form PWG 65) for the item of work 'Earthwork Excavation (EWE) in all kinds of Hard Rock', the excavated hard rock should be neatly stacked by the contractor and payments for such excavation should be regulated on the basis of stack measurements after deducting forty per cent of the quantity towards voids. The excavated hard rock should be accounted for in the Material-at-Site (MAS) Accounts of the Section Officers in-charge of the work so that the same can be used for other works or can be disposed off to the best advantage of the Government.

In three Divisions, scrutiny of records revealed that a total quantity of 549872 cubic metres (cum) of hard rock reportedly excavated between 1992-93 and 2000-01 were neither stacked nor taken to MAS Accounts by the concerned Section Officers. This resulted in loss of revenue to Government to the tune of Rs.4.05 crore as detailed below:

Sl No.	Name of the Division	No. of works	Year of execution	Quantity of Hard Rock excavated (in cum.)	Value of Hard Rock as per DSR (Per cum.)	Amount (Rs. in crore)
1.	Hemavathy Canal Division, Yediyur	4	1992-93 to 1995-96	2,13,438	Rs.50 (SR of 93-94 of Turuvekere Circle)	1.07
2.	- do -	25	1996-97 to 2000-01	2,32,102	Rs.95 (SR of 96-97 of Turuvekere Circle)	2.20
3.	Hemavathy Right Bank Canal Division, Holenarasipur	1	3/1996 to 7/1998	44,797	Rs.95 (SR of 99-00 of Gorur Circle)	0.42
4.	No.2, Varuna Canal Construction Division, Mysore	21	1996-97 to 1998-99	59535	Rs.60 (SR of 96-97 of Mysore Circle)	0.36
	TOTAL	51	--	5,49,872	--	4.05

This requires investigation by Government.

(b) Fictitious excavation

Usage of lesser quantity of gelatin raises doubt about excavation of 36143 cum of hardrock

In respect of the work of 'Earthwork Excavation and Providing Cement Concrete lining in 39th km of Hemavathy Left Bank Canal' (Holenarasipur Division), the quantity of Hard Rock excavated worked out to 44,797 cum for which payment at the rate of Rs.128.73 per cum was made. As per data rates approved for the work, 0.26 kg of gelatin was required to excavate one cum of hard rock. Audit scrutiny revealed that 2250 kg of gelatin was consumed on the work. The possibility of excavation of hard rock by using this quantity of gelatin would be only 8,654 cum as against 44,797 cum of hard rock stated to have been excavated. Payment of Rs.46.53 lakh made for the doubtful quantity of hard rock also appears to be fictitious.

(c) Non-recovery of stacking charges

In the Hemavathy Canal Division, Yedyur, the contractors did not stack hard rock excavated to the extent of 2,84,256 cum in respect of 21 works. The division did not recover the stacking charges of Rs.16.26 lakh from the contractor, calculated at Rs.5.72 per cum

(iv) Non-recovery of cost of Ring Bunds from contractors

Construction of ring bunds at Government cost requires recovery of Rs. 33.22 lakh from the contractors

As per clause 1.6 of General Specifications and Conditions of Contract, the contractor had to make his own arrangements for procuring water required for execution of works.

In four Divisions, the Divisional Officers entrusted three works on piecework basis and one work on tender basis to contractors between March 1997 and April 2000 as detailed in Appendix-4.7. The Department irregularly provided ring bunds and cofferdams, at a cost of Rs. 33.22 lakh, so as to enable the contractors to draw water by siphoning from these bunds. Since providing the water for execution by the department was against the terms of contract, the expenditure incurred in this regard requires to be recovered from the contractors. No action was initiated to recover this amount from the contractors.

(v) Non renewal of Bank Guarantees

A review of the Register of Bank Guarantees maintained in Hemavathy Canal Division, Yedyur and No.2, Varuna Canal Construction Division, Mysore, revealed that Bank Guarantees obtained for an amount of Rs.27.52 lakh in respect of fourteen contractors were allowed to lapse between 1998-99 and 2000-01. As Bank Guarantees were obtained as securities for the successful performance of the contractors, non-renewal of bank guarantees constituted a serious lapse, which may lead to potential loss to Government in the case of breach of contract.

(vi) Non-collection of dues towards pro-rata expenditure on works from Andhra Pradesh

No efforts were made to recover Rs.8.30 crore towards share of expenditure incurred on irrigation projects.

A Medium Irrigation Project, Rajolibanda Scheme, which was to irrigate 5879 acres, was originally being executed by the Andhra Pradesh Government. Consequent upon re-organisation of States (1956), the scheme was handed over to the Karnataka Government. As per agreement, the expenditure incurred was to be shared by both the Governments at the ratio of 1:13.78 for head-works, 1:9.63 for canals and 1:11.70 towards establishment. The amount recoverable from the AP Government worked out to Rs.8.30 crore relating to the period from November 1956 to March 1997. The matter was reported to Government in September 1997 by the Chief Engineer to address the Andhra Pradesh Government. No action was taken by the Government to recover the amount and also to assess the demand from March 1997 onwards.

4.2.7 Stores Management

Government in their Circular issued in November 1983, issued instructions for constitution of circle level Purchase Committee headed by Superintending Engineer and other Divisional Officers as members to conduct meetings once a month. The Committee has to review the needs, availability on stock and necessities of procuring stock articles, spares and tools and plants. The Divisional Officers shall make purchases only after it is agreed to by the Purchase Committee subject to approval of competent authority as per standing rules in force.

(i) Sanctions to purchase in violation of delegated Financial Powers

Purchase of vehicles requires prior sanction of Government. The Chief Engineer, Munirabad Zone, accorded sanction (June 1998) for purchase of two vehicles costing Rs.12.82 lakh in violation of the said procedure. On this being pointed out (February 2001), the Chief Engineer stated (February 2001) that Government had been requested (September 1998) to accord post-facto sanction. The same was awaited (June 2001).

(ii) Injudicious purchase of materials

Paras 47 and 48 of the Stores Manual prohibits direct purchase of material without reference to the Stores Purchase Department (SPD) and Officers making purchases should not split up the purchases for evading the rules relating to large purchases.

A scrutiny of records of two Zonal Offices⁴, three Circle Offices⁵ and one Division⁶ revealed that the requirements of materials for each Division were not assessed on a quarterly basis. Chief Engineer/Superintending Engineer/

⁴ Gorur and Munirabad

⁵ Channarayapatna, Gorur and Yermarus

⁶ Odderahatti

Executive Engineer (CE/SE/EE) accorded 553 sanctions for purchase of materials valued Rs.3.40 crore between March 1997 and March 2001 as detailed in Appendix -4.8. Though these purchases required sanction of Government, they were conveniently split up into bits of Rs.25,000 and less in the case of Superintending Engineer and Rs.1,00,000 and less in the case of Chief Engineer so as to bring them within the ambit of the financial powers delegated to them.

In 5 divisions, blasting materials and expansion joints were purchased during 1995-2001 (as of September 2000) at a cost of Rs.51.51 lakh. The material was lying unused in stock since their procurement. The details are shown in Appendix- 4.9.

(iii) Non-accountal of PCC slabs

(a) In Sirwar Division, Inner Strengthening (IS) work of Tungabhadra Left Bank Canal (TLBC) was entrusted on tender basis during the closure period of 1999 and 2000. The tender schedule included an item for removing and stacking PCC slabs released from the lining. Such released PCC slabs were to be accounted for either in MAS accounts of the concerned Section Officer or in the Sub-divisional Stock.

The number of PCC slabs removed and to be stacked as per Measurement Book was 1,74,460 in respect of 17 Inner Strengthening Works. This was reduced by 34,892 towards wastage and damaged PCC slabs. Of the 1,39,568 slabs in balance, slabs numbering 1,04,158 were not accounted for either in the MAS accounts or in the Sub-Divisional stock. This resulted in non-accountal of PCC slabs to the extent of Rs.29.69 lakh.

(b) A scrutiny of records at Head-works Sub-Division, Munirabad revealed that during July 1998, a total quantity of 1,00,253 PCC slabs were manufactured and transported (February 1999 to September 1999) to Kinnala Sub-Division through Departmental vehicles and private vehicles. However, the records of Kinnala Sub-Division did not contain the receipt of these slabs, which resulted in loss of PCC slabs valued Rs.38.85 lakh. The above cases require investigation by Government.

4.2.8 Human Resources Management

Water Resources Development Organisation is an investigation organisation in respect of planning and preparation of all Major and Medium Irrigation Projects in the State. The establishment matter of Irrigation Zones with regard to service matters, postings and transfers of staff is also attended to by this zone. The main category of staff working on the technical side in the Department are Chief Engineers, Superintending Engineers, Executive Engineers, Assistant Executive Engineers, Junior Engineers, Draftsman, Tracers etc. On the non-technical side, there are Registrar, Accounts Officers, Accounts Superintendents, Accounts Assistants and other Ministerial staff.

For purpose of water management the staff working are Work Inspectors, Gauge Readers, Sluicemen, Sowdies, Gangmen etc.

The position of technical and non-technical staff working in the Department as of December 2000 as furnished by EIC, Water Resources Development Organisation was as follows:

Category of post	Sanctioned strength	Working strength	Vacancies
Technical	3984	2905	1079
Non technical	6446	5752	694
Total	10430	8657	1773

A Committee has been constituted to assess the workload of each Division and Sub Division so that the Division / Sub Division can be wound up or kept dormant after assessing the requirement.

(i) Deployment of surplus staff

The Irrigation Manual envisaged deployment of sowdies for water management at the rate of one sowdy up to 250 ha. As sufficient number of posts were not sanctioned for water management in each division, the sowdies were deployed through contractors on daily payment basis.

Engagement of excess labourers through contractors resulted in avoidable payment of Rs.2.01 crore

A scrutiny of records of eight Divisions⁷ revealed that, as per norms the number of sowdies required for a command area of 3,69,759 ha was 3424. Since 601 sowdies were already working against sanctioned/supernumerary posts, the actual number of sowdies thus to be deployed through contractors worked out to 2823. As against this the services of 4058 sowdies were utilised during the period from April 1996 to November 2000 for a total of 4641 days resulting in excess deployment of 1235 sowdies and consequential avoidable payment of Rs.2.01 crore on their engagement.

(ii) Deployment of staff through contractors to work in the sub-division office

In three Divisions (Munirabad, Tumkur and Yermarus), personnel like Assistant Engineers, Sweepers, Scavengers, Literate Assistants and Drivers were engaged through contractors to work in the Sub-Division offices. The Assistant Engineers were engaged in preparation of estimates, copying of estimates and drawings, the Literate Assistants in assisting the supervision of works, Drivers for vehicles, sweepers and scavengers for cleaning purpose in the office and camp area. There was no basis for engaging them and no prior approval of higher authorities was obtained. The expenditure incurred was debited to the ongoing works as well as Annual Maintenance Estimates of vehicles and canals. As regular staff was already deployed in these offices, providing such personnel by the contractors and the expenditure of Rs.25.92 lakh incurred on them by the Divisions between April 1996 and March 2001 on such staff was irregular. This requires investigation.

⁷ Bellary, Bhadravathi, Davanagere, Holenarsipura, K.R.Pet, Malebennur, Odderahatti & Sirwar

(iii) Non-utilisation of services

(a) The activities relating to the Cauvery and Krishna-Godavari Water Dispute were being dealt with by the Engineer-in-Chief, Water Resources Development Organisation (WRDO), Bangalore. The scrutiny of the bills relating to expenditure of these disputes and connected payments were attended to by two Sub-Divisions viz., No.3, Gauging Sub-Division and No.4, Irrigation Investigation Sub-Division located in the premises of the Office of the Engineer-in-Chief, WRDO, which came under the control of Irrigation Investigation Division, Mysore.

The main functions of the Gauging Sub-Division were gauging works to be carried out in Bangalore, Kolar, Tumkur and Mandya districts and recording, scrutinising and passing of bills relating to the Cauvery Water Dispute. Similarly, the main functions of the Irrigation Investigation Sub-Division are to record, scrutinise and pass the bills relating to the Krishna-Godavari Water Dispute and to maintain vehicles purchased by WRDO for use by Advocates, Secretariat Staff and Ministers.

In each of the Sub-Divisions, there were seven technical staff who were mainly deployed for works relating to water dispute activities instead of for gauging works. On the other hand, the Irrigation Investigation Sub-Division did not have any work relating to Survey and Investigation and was mainly engaged in settlement of bills and vehicle maintenance. Hence, the justification for continuing the Investigation Sub-Division needs examination by Government.

(b) An Assistant Horticulture Officer (AHO) who was posted to the Circle Office at Gorur (July 1998) was sent on deputation to the Sub-Division Office for maintenance of Garden at Gorur. The AHO was accommodated against the sanctioned post of a Head Draftsman in the Circle Office. The post of head draftsman was abolished in May 1999 and besides the Sub-Division did not have any sanctioned post of AHO. As seen from the diary submitted, the officer had on an average attended to the work relating to Horticulture for only ten days in a month, and his services were mainly utilised for attending court cases in relation with disputes of daily wage employees. As there was no sanctioned post, drawal of pay and allowances of Rs.3.19 lakh between August 1993 and February 2001 for the AHO was irregular.

(iv) Staff in excess of requirement

**Avoidable
expenditure of
Rs.4.87 crore
on surplus
staff**

In respect of labourers who were appointed on daily wages up to the end of June 1984, the Supreme Court passed a judgement that services of all daily wage labourers who were continuously engaged for 10 years or more were to be regularised. Accordingly, the Government regularised (August 1990) their services from 1 January 1990. While regularising their service, Government also ordered for creation of supernumerary posts for these regularised labourers as well as absorption against sanctioned vacant posts.

In Hemavathy Project Zone, Gorur, the number of persons working on supernumerary non-technical cadre was 943 (March 2001). The actual

requirement for the zone as worked out by the Chief Engineer came to 399 persons in various categories. A proposal was sent to Government (November 2000) for creation of these 399 posts. No action was taken by the Chief Engineer to address the Deputy Commissioner to transfer surplus staff. The Department also did not give any information on the deployment of this surplus staff. The pay and allowances between April 1998 and March 2001 relating to said staff amounted to Rs.4.87 crore.

(v) Redundant Post

As per Paras 19 and 20 (a) of KPWA Code, the function of the Divisional Accountant (Accounts Superintendent) is to assist the Divisional Officer, to compile the accounts of the Division, act as an internal auditor to check the initial accounts and be a financial assistant to the Divisional Officer in all matters relating to accounts and budget estimates.

One post of Accounts Superintendent was sanctioned for the office of the Superintending Engineer, Hemavathy Canal Circle, Turuvekere. However, such nature of works were not required to be done in that office. Thus, the creation of such a post was not justified.

4.2.9 Monitoring and Evaluation

The Department has a Monitoring Unit headed by a Chief Engineer (CE) since 1987. This Unit mainly monitored externally aided projects. The monitoring of major and medium irrigation projects was not being done by them except sending statistical reports on various projects to Government. The SE replied (June 2001) that this Unit had no direct control over the Project authorities. Thus, there was no effective monitoring of projects at State level, except the multilevel monthly review meetings at Secretariat level. Due to ineffective monitoring, apart from other reasons, large number of projects, some of which were commenced as early as 20 years back, still remained incomplete.

4.2.10 The matter was referred to Government in August 2001. However, no reply had been received (September 2001).
