

FIFTEENTH KERALA LEGISLATIVE ASSEMBLY

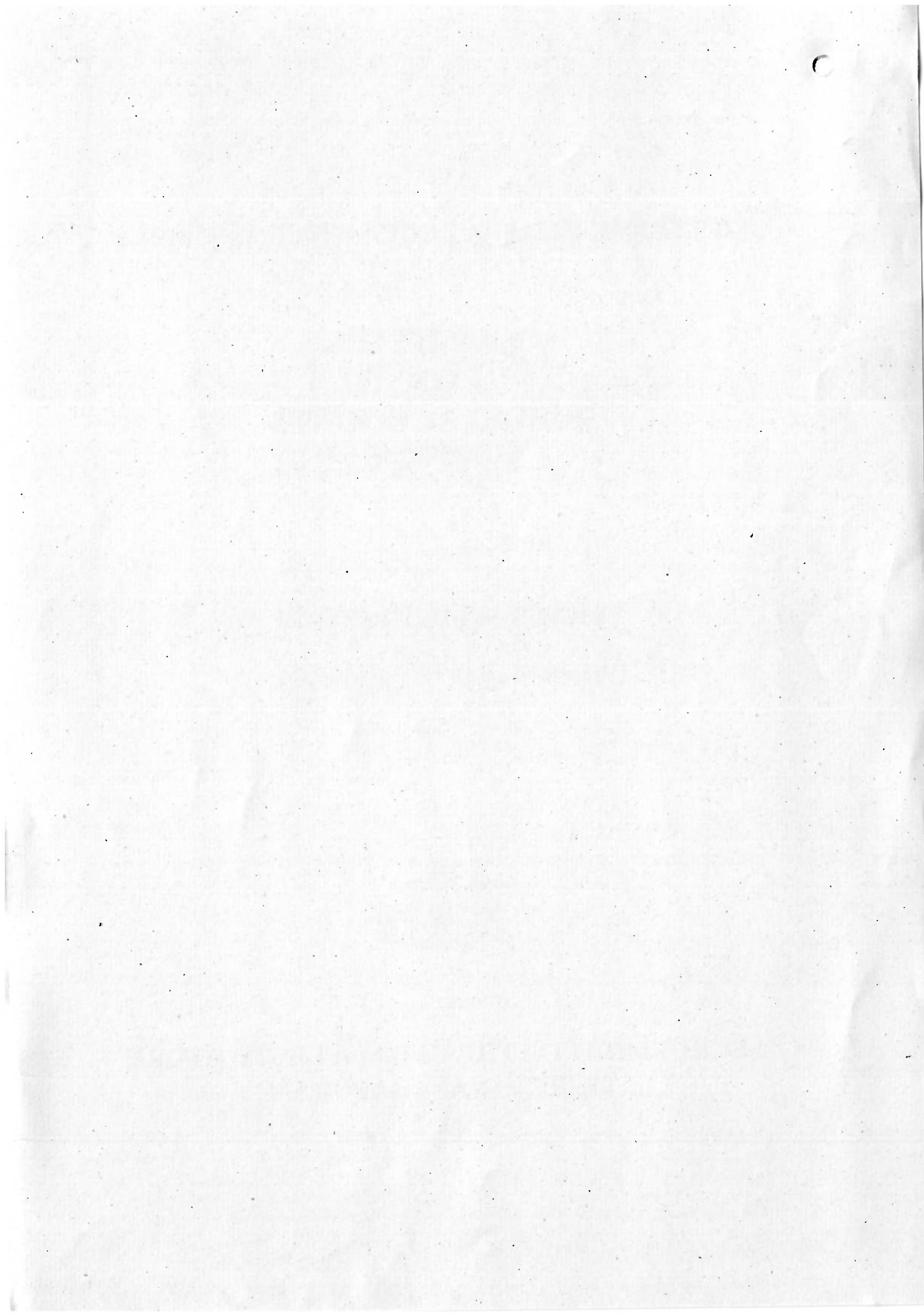
**COMMITTEE
ON
PUBLIC ACCOUNTS
(2023-2026)**

EIGHTY SEVENTH REPORT

(Presented on 18th September, 2025)



**SECRETARIAT OF THE KERALA LEGISLATURE
THIRUVANANTHAPURAM
2025**



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**COMMITTEE
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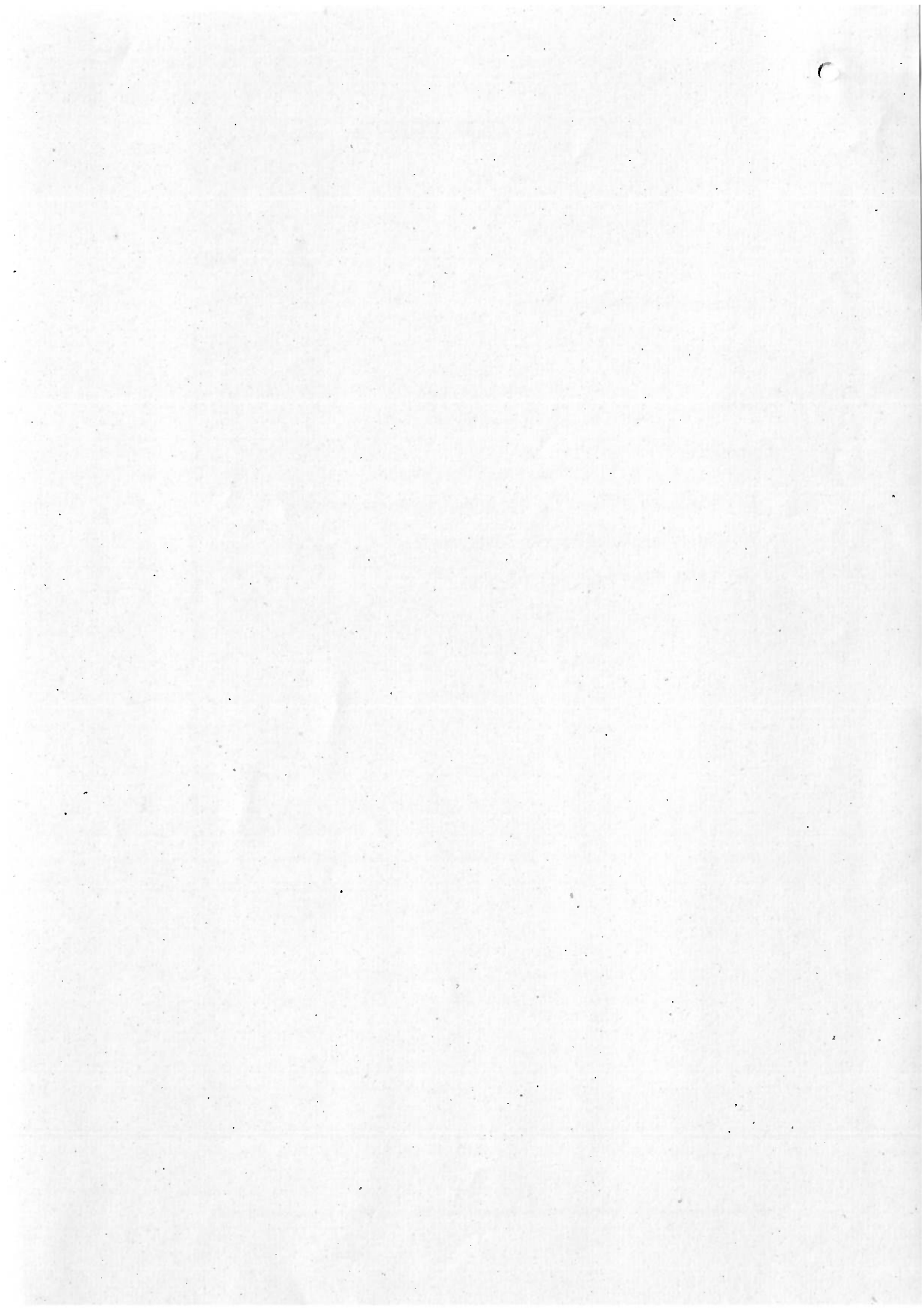
EIGHTY SEVENTH REPORT

on

**Paragraphs relating to Water Resources Department contained
in the Reports of the Comptroller and Auditor General of India
for the years ended 31st March, 2013 and
31st March, 2015
(Economic Sector)**

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COMMITTEE ON PUBLIC ACCOUNTS
(2023-2026)
COMPOSITION

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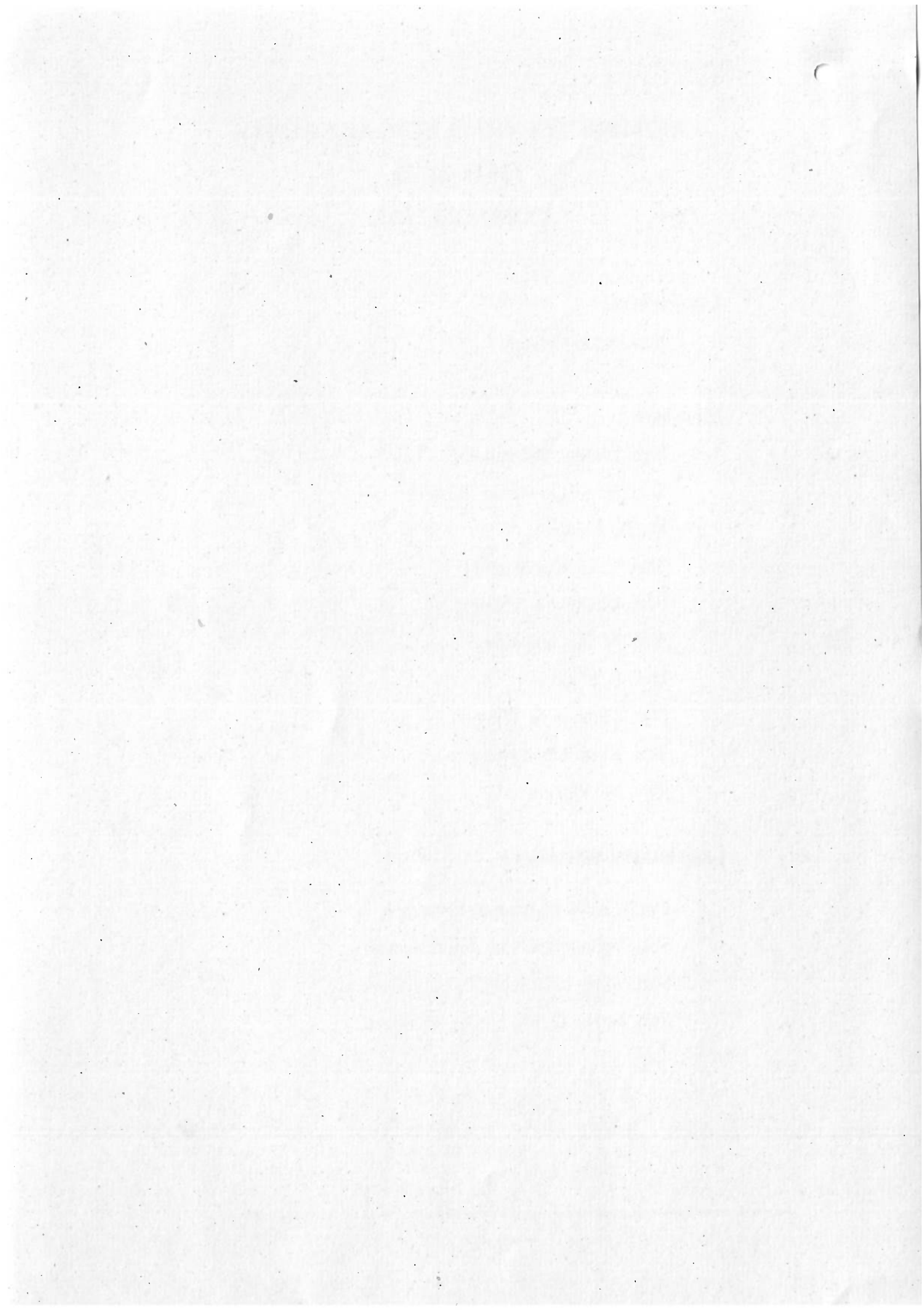
Legislature Secretariat :

Dr. N. Krishna Kumar, Secretary.

Shri. Selvarajan P. S., Joint Secretary.

Shri. Jomy K. Joseph, Deputy Secretary

Smt. Beena O. M., Under Secretary.



INTRODUCTION

I, the Chairperson, Committee on Public Accounts, having been authorised by the Committee to present this Report, on their behalf present the Eighty Seventh Report on paragraphs relating to Water Resources Department contained in the Report of the Comptroller and Auditor General of India for the years ended 31st March, 2013 and 31st March, 2015 (Economic Sector).

The Reports of the Comptroller and Auditor General of India for the years ended 31st March, 2013 (Economic Sector) and 31st March, 2015 (Economic Sector) were laid on the Table of the House on 8th July, 2014 and 28th June, 2016 respectively.

The Committee considered and finalised this Report at the meeting held on 20th August, 2025.

The Committee place on records our appreciation of the assistance rendered to us by the Accountant General in the examination of the Audit Report.

Thiruvananthapuram,
18th September, 2025.

SUNNY JOSEPH,
Chairperson,
Committee on Public Accounts.

REPORT

WATER RESOURCES DEPARTMENT

3.10 Idle investment on incomplete irrigation projects

3.10.1 Introduction

Irrigation department¹ has taken up 25 major and medium irrigation projects to divert water for irrigating the ayacut² area. These projects consist of

- Water storage structures like dams/barrages/regulators
- Canal system consisting of main canals taking off from the reservoir, branch canals for taking water from main canals to distributaries which would feed water to the ayacut.

Of the 25 Projects, five major/medium irrigation projects viz. Muvattupuzha Valley Irrigation Project (MVIP), Idamalayar Irrigation Project (IIP), Karappuzha Irrigation project (KRP), Banasura Sagar Irrigation Project (BSP) and Attappilly kadavu Regulator cum Bridge (ARCB) are lying incomplete. Total cost of these projects originally envisaged was ₹89.19 crore. The same was revised several times, the latest cost estimate being ₹2,270.30 crore (25 times). Total expenditure so far (March 2013) incurred was ₹1,568.10 crore.

Audit reviewed implementation of three of the five projects during previous years as detailed below.

Name of the Project	Year of Audit Report	Paragraph Number of Audit Report (Civil)
MVIP	1983-84	4.1
	1993-94	4.1
IIP	1994-95	4.1
KRP	1984-85	4.1.5
	1996-97	4.1

¹ The field department under water resources department of Government.

² Cultivable land that could be irrigated by the waters of a project.

The scope of present audit includes all the above five incomplete projects.

Audit verified the records pertaining to the period from 2008-09 to 2012-13 relating to construction and maintenance of the projects kept in seven divisions and the controlling offices like Office of the SEs and CE's to look into various reasons for failure to complete the projects and cost escalation.

3.10.2 Physical and Financial Status

3.10.2.1 Physical Status

The canal system comprised main canals taking off from the reservoir, branch canals for taking water from main canals to distributaries which would feed water to the ayacut. The canals had not been completed resulting in time over run. Project details at a glance are depicted in table below:

Table 3.16:-Status of projects as on 31 March 2013

Particulars	MVIP	IIP	KRP	BSP	ARCB	Total
Name of the River	Thodupuzha River	Periyar	Karappuzha	Karumanthodu at Padinjarathara	Kurumali River	
Nature of Water storage structures	Dam	Barrage	Dam	Dam of KSEB	Regulator	
Districts irrigated	Kottayam Emakulam and Idukki	Emakulam and Thrissur	Wayanad	Wayanad	Thrissur	
Project commenced	1975	1981	1978	1999	2008	
Period of completion originally fixed (in years)	10	10	5	4	2	
Proposed year of completion	1985	1991	1983	2003	2010	
Original project cost (₹ in crore)	20.86	17.85	7.60	37.88	5.00	89.19
Revised project cost (₹ in crore)	939	694	441.50	185.50	10.30	2270.3
Expenditure (₹ in crore)	851.23	378.74	291.04	42.85	4.24	1568.10

Particulars	MVIP	IIP	KRP	BSP	ARCB	Total
External assistance received for the project	154.964 \$	nil	48.32 @	nil	4.24 ^	207.524
Proposed length of canals (in km)	363.473	204.458*	128.93	73.395	No canal	770.256
Length of canal constructed (in km)	301.783	92.666*	47.67	2.905	No canal	445.024
Percentage completed	83.03	45.30	36.97	3.96	Not applicable	57.78 ³
Length of canal on which water distribution commenced for irrigation (in km)	247.345	0 #	10.82	nil	No canal	258.165
Ayacut originally envisaged (Ha)	17400	20200	4650	2800	1490	46540
Revised ayacut envisaged (Ha)	19237	14394	5600	2800	2250	44281
Ayacut irrigable (Ha)	15202	0 #	601.09	0	0	15803.09
Ayacut percentage achieved	87.36	0	12.92	0	0	33.96

Particulars	MVIP	IIP	KRP	BSP	ARCB	Total
Overall status	Dam and main canals completed. Major portion of other canals completed.	Barrage already completed. Main canal to be completed.	Dam completed. Main canals completed.	Dam completed. Main canal to be completed.	Water storage structure to be completed.	

Source: Departmental figures, finance accounts, \$ AIBP assistance,*including modification of existing CRBC and CLBC: #trial run alone conducted in March 2013 upto 23rd km; @ NABARD loan ₹ 45.60 crore and AIBP ₹ 2.72 crore: ^NABARD loan ₹ 4.24 crore.

The department was able to complete only 58 per cent of the proposed length of canal that could possibly irrigate only 34 per cent of the ayacut area planned despite huge cost and time overruns.

3 The figure represents percentage of length of canal constructed (445.024 kms) over the proposed length of canals (770.256 kms)

3.10.2.2 Financial status

The project is funded from the own resources of State Government, funds received from Gol as Accelerated Irrigation Benefit Programme (AIBP) and NABARD. All the assistance from Gol are included in the Consolidated Fund of State and budgeted under Grant "XXXVIII-Irrigation". The total expenditure for the projects as on 31 March 2013 was ₹ 1,568.10 crore.

Funds provided in Revised Budget⁴ and fund utilised as of March 2013 in respect of the selected five projects is furnished in table below.

Table 3.17: Fund allocation and expenditure – project wise details (₹ in crore)

Particulars	Expenditure upto 31 March 2008	2008-09	2009-10	2010-11	2011-12	2012-13	Total	Up to date Expenditure
MVIP								
Budget		14.83	11.40	31.62	16.31	25.13	99.29	
Expenditure	711.70	30.55	12.29	30.58	27.59	38.52	139.53	851.23
IIP								
Budget		31.47	14.36	13.62	10.00	15.63	85.08	
Expenditure	280.33	36.34	20.83	15.79	12.19	13.26	98.41	378.74
KRP								
Budget		16.87	20.90	13.65	6.02	5.24	62.68	
Expenditure	259.99	12.40	4.04	5.20	4.92	4.49	31.05	291.04
BSP								
Budget		8.90	5.59	5.79	7.50	6.08	33.86	
Expenditure	21.42	9.27	4.16	2.18	2.71	3.11	21.43	42.85
ARCB								
Budget		0	0	1.00	1.52	0	2.52	
Expenditure		0	0.61	1.72	1.91	0	4.24	4.24
Total								
Budget		72.07	52.25	65.68	41.35	52.08	283.43	
Expenditure	1273.44	88.56	41.93	55.47	49.32	59.38	294.66	1568.10

Project wise audit findings are given in succeeding paragraphs:

⁴ There are separate minor heads of projects under major heads 4700 for MVIP, IIP and BSP and 4701 for KRP and ARCB.

3.10.3 Muvattupuzha Valley Irrigation Project (MVIP)

3.10.3.1 Profile of MVIP

The project is intended to provide irrigation to an area of 17,400 ha. for three harvests of crops of paddy a year in Idukki, Emakulam and Kottayam districts by utilising the tail race waters⁵ from Moolamattam power house of Idukki Hydro Electric Project released to Thodupuzha River. The Irrigation department constructed (1994) Malankara dam across Thodupuzha River for storing water to irrigate 17,400 ha. area. To take the water to ayacut on both left and right banks of the Thodupuzha River, two main canals taking off from the dam for a length of 65.437 km was constructed completely (2007). From the main canal the water is diverted to the ayacut through six branch canals having a length 57.154 km and 58 distributaries taking off from the branch canals for a length of 240.882 km. However, as on 31 March 2013, 61.668 km length of canal is yet to be completed even after lapse of 37 years of commencement of the project.

3.10.3.2 Time and cost overrun

The project MVIP commenced in 1975, was scheduled to be completed in 1985; but the construction of canals was still going on as of 31 March 2013 with a time overrun of 27 years. Time lag of 27 years on project resulted in revision of project cost on six occasions. In the latest revision in 2011, it was raised to ₹939 crore. When compared to the original cost of ₹20.86 crore the cost had escalated by ₹918.14 crore; cost escalation being 4,401 *per cent*. Cost escalation during the audit period was ₹98 crore.

3.10.3.3 Planning of physical features

Designing the physical features of the projects is the first step in planning. For designing the physical features, an investigation is necessary. Based on the investigation, design is carried out, hydraulic particular⁶ fixed and design drawing

⁵ Water pumped out of the hydro power plant after power generation.

⁶ The parameters used to design various aspects of canals like width, depth, slope, lined or unlined beds and sides, types of structures, etc.

prepared. Individual works are estimated based on the design drawing. Any laxity in this regard would definitely result in delay in implementation of the projects. A test check of work files revealed that these steps were often overlooked in planning the projects as narrated below:

a) In MVIP, the structures of canals were designed without considering the hydraulic particulars of branch canals. In Karikode distributary, the upstream was narrower than the down stream. Resultantly, the cross section and bed slope for major portion of Karikode distributary was of a higher water discharge than what was available from the parent canal. The discharge of parent canal (Peruva) was 3.752 cum per second whereas the discharge of Karikode distributary was five cum per second. This has resulted in re designing the canal which in tum resulted in non execution / completion of works.

b) The contract for Mammalassery distributary of MVIP work was awarded (1999) without finalising the design of aqueduct⁷ (chainage 1460 m to 1770 m). But on finalising the design (2001) contractor was not willing to do the work with the existing rates in the contracts. During execution of the retendered works it was found that the design was not suitable to the soil condition and hence it was revised in 2009. The work is going on (June 2013) based on the revised design.

3.10.3.4 Implementation

The implementation of a project starts after proper completion of planning at the initial stage of the projects. Any lapse in planning would result in defective implementation of the project. The defects in implementation as noticed in Audit are discussed in the ongoing paragraphs.

a) Delay in land acquisition

The land acquisition for the projects should have been completed prior to the awarding of the works. Since the project MVIP was scheduled to be

⁷ An artificial channel for conveying water, typically in the form of a bridge supported by tall columns across a valley.

completed in 1985 land acquisition should have been completed well in advance for the timely completion of work. The extent of land to be acquired at the end of March 2008 was 25.672 ha. Audit found that the extent of land acquired during the period 2008-09 to 2012-13 was only 18.370 ha. leaving a balance extent of 7.302 ha. of land still to be acquired.

The delay in land acquisition resulted in prolonging the completion of the project.

b) Slow progress in awarding the canal works

The status of completion of branch canals and distributaries are tabulated below.

Table 3.18: Status of canal system (Branches and distributaries)

	Total length of canal to be completed as on 31 March 2008	Canal formation works completed in each year					(in km)	
		2008-09	2009-10	2010-11	2011-12	2012-13	Length of canal completed within five years	Total length to be completed as on 31 March 2013
Branch canal	9.875	0	4	1.178	0.664	1.114	6.956	2.919
Distributaries	72.491	1.2	5.507	2.7	2.787	1.523	13.717	58.774
Total	82.366	1.2	9.507	3.878	3.451	2.637	20.673	61.693

Total length of canal left incomplete in MVIP as on 31 March, 2008 was 82.363 km. The project authorities were able to award works for a length of 26.683 km (32.40 per cent) to the contractors who were able to complete 20.673 km (25.10 per cent) canal formation work during the last five years. The department could not award the balance 55.680 km canal work for execution till 31 March, 2013. The slow progress in awarding resulted in non completion of canal construction works.

Despite stipulation of 10 year period for completion of the project in the first DPR the project was incomplete (March 2013). Audit found that the delay was due to non-availability of land, non finalisation of estimate/revised estimate and other reasons as highlighted in table below:

Sl No.	Name of canal / work with chainage	Details of works	Reason for delay in award / completion of work	Present status (31 March 2013)	Audit observation
Delay due to non-availability of land					
1	Anicadu east minor distributary ch 0 m to 1855 m	Agreement for the formation of the distributary was awarded in July 2004 for a contract amount (1999 SoR) of ₹2.48 crore. But due to non availability of land the site was not handed over to the contractor. The land was fully received in December 2009 only.	Contractor was not willing to execute the work at the agreed rate due to non-revision of rates. The estimates were revised based on 2009 SoR and the SE recommended (December 2011) to entrust the work to the original contractor at 2009 SoR.	In June 2012 contractor expressed his unwillingness to execute the work at 2009 SoR. Hence SE directed (August 2012) the EE to revise the estimate as per 2012 SoR. The estimate was not revised so far.	Defective planning resulted in non-acquisition of land which in turn resulted in non-completion of canal and non-achievement of ayacut of 100 ha.
2	Edayar distributary chainage 0 m to 4.215 m	Work was awarded in 2004 for an amount of ₹six crore without getting land.	Department was unable to hand over the land due to non availability of land. Land was received in January 2010 only.	The contractor had expressed his willingness to execute the work at 2009 SoR and the fact communicated to Government in June 2011. Now Department is trying to get the work executed through the sme agency at 2010 SoR.	The work remained incomplete and hence ayacut of 265 ha. Left un-irrigated.
Delay due to non finalisation of estimate / revised estimate					
3	Piravam Branch Canal (PBC) from chainage 4150 m to 6604 m (Expenditure ₹1.49cr.)	The work awarded (June 1995) for an amount of ₹1.35 crore at 54 percent above on 1992 SoR. This was held up from 1996 due to vigilance enquiry against the award of work. Later, the work was entrusted (January 2007) based on Government orders at 45 percent above 1999 SoR; scheduled month of completion was January 2008.	Contractor did not complete the work in time. SE did not extend the contract duration as the contractor was not willing to execute supplemental agreement with the condition that no enhancement rate would be asked for the works to be executed during the extended period. The contract was terminated only in July 2012.	Estimate the balance work amounting to ₹80.38 lakh had been submitted to CE. P II (February 2013) for getting sanction which is yet to be obtained.	There was inordinate delay of four years for termination and hence the work could not be rearranged at risk and cost liability of the contractor. SE replied that if the work had been terminated, the balance work required rate revision and much delay might have occurred on rearrangement. Reply of SE is not tenable for the reason that had the work been terminated and the balance work arranged on time, excess cost could have been recovered from the original contractor by invoking risk and cost clause in the agreement.
4	Manjoor distributary chainage 782 m to 981 m	The work was awarded in 2007.	Works involved siphon for crossing Railway for which two types of pipes having a diameter of 1300 mm and 800 mm were required as outer and inner pipes of siphon of which inner pipe was not included in the estimate. Revision of estimate subsequently to include the necessary items led to termination of work without risk and cost of the contractor (May 2009)	Balance work amounting to ₹34 lakh could not be rearranged so far due to non finalisation of estimate of balance work.	An amount of ₹46.44 lakh spent on partially completed structures remained unfruitful. The failure to incorporate the item for "inner pipe" in the estimate resulted in delay of six years.

Sl No.	Name of canal / work with chainage	Details of works	Reason for delay in award / completion of work	Present status (31 March 2013)	Audit observation
5	Kidangoor distributary – aqueduct ch 3770 m to 3970 m	The construction of canal from ch 3200 m to ch 4900 m was awarded in October 2007. Open foundation was proposed in the sanctioned estimate.	While excavating (2009) for foundation hard soil strata was not met with as the strata was loose clayey soil. The contract was terminated in March 2011 as the contractor asked for rate enhancement and as the design was not finalised.	Design was finalised and estimate of balance work forwarded to CE in January 2013 for sanction for CE. An amount of ₹1.61 crore already incurred for the work.	Defective investigation led to the non-arrangement of work which in turn resulted in non-achievement of entire ayacut of 360 ha.
6	Elanji distributary ch 0 to 3415 m (Expdr: ₹3.89cr.)	Work awarded in December 1998. Work was standstill from March 2008. Later due to delay in completion of work contract was terminated in June 2010	SE was not able to obtain the fresh estimate from EE.	Balance work was not tendered yet.	The work remained incomplete and hence ayacut of 152 ha. Left unirrigated.
Delay on account of other reasons					
7	Ezhuthonipadom aqueduct at over railway line of Ettumanoor Branch Canal ch 18220 m to 18275.5 m	The Railway agreed to undertake the staging, shuttering and signaling work for concreting over rail portion by railway itself. For the purpose, irrigation department had remitted an amount of ₹90.76 lakh (₹52.49 in March 2008 and ₹38.27 in October 2008) to Railways.	The work for the concrete work of the aqueduct tendered thrice (March 2011, March 2013 and April 2013). But tenders were not finalised so far due to non availability of offer /favourable offers and hence Railway terminated the staging work awarded by them.	Railways requested (March 2013) the irrigation department to arrange the staging work along with concrete work as it was not feasible to synchronize both works if they were arranged separately. But, Irrigation department proposed (June 2013) to arrange the work separately again.	Audit observed that an amount of ₹90.76 lakh was blocked up with Railways from the last five years due to non-arrangement of work. It is also felt that arranging staging and shuttering work and concrete work separately was most unscientific and possibility of getting favourable offer is remote due to the difficulty of synchronizing both the works.

3.10.3.5 Idling of expenditure

As the water is brought to the ayacut through canals on the system of gravitational flow, the canal work should have been arranged in such a manner that the works in upstream completed first. Failure to arrange the work in order of priority right from feeder has resulted in construction of canals of 43.037 km at a cost of ₹35.53 crore (Appendix III(1)) without connectivity.

Resultantly, water could not be distributed to an ayacut of 1695 ha. of land where the construction of canal works were idling. Hence, an amount of ₹35.53 crore is blocked without serving intended purpose.

[Audit Paragraphs 3.10 to 3.10.3.5 contained in the Report of the Comptroller and Auditor General of India for the year ended 31st March, 2013. (Economic Sector)]

[Notes furnished by the Government on the above audit paragraphs are included as Appendix II]

(Excerpts from the discussion of Committee with officials concerned on 02.06.2022)

- 1) The Committee enquired about the audit observations regarding Muvattupuzha valley Irrigation Project. The Superintending Engineer, Project Circle, Muvattupuzha informed that the Muvattupuzha Valley Irrigation Project was partially commissioned in 10.07.2020 and the delay in Commissioning the project was due to several factors such as delay in acquisition of land, delay in construction of canal and cost escalation. Out of the 11 km of Edamalayar canal, construction work of 4.2 km is in progress and it would be completed at the earliest. Apart from that 7 km of Karikode Distributary Canal is also to be constructed.
- 2) While enquiring about the current status of the Construction work of Karikode Distributary canal, the Superintending Engineer, Project Circle, Muvattupuzha informed that 1st and 4th reaches of Karikode Distributary canal designed as 6 reaches, had been completed and the remaining 4 reaches had partially been completed.
- 3) The Committee observed that the reply furnished by the Department stated that the work of MVIP was targeted for completion by March 2020 and enquired as to the reason for the non-commissioning of the project even after a lapse of two years and also enquired about the current status of the project. The Superintending Engineer, Project Circle, Muvattupuzha replied that the said project was commissioned on 10.07.2020 except for two canals. She added that delay in commissioning was mainly due to certain local issues and the main difficulty was in connection with Karikode Distributary where blasting was not possible. The Committee expressed its displeasure over the indistinct reply furnished by the Department.

4) To a query of the Committee regarding the estimated cost of the project, the Superintending Engineer, Project Circle, Muvattupuzha replied that the work of the MVIP was commenced in 1974 with an estimated cost of ₹20.86 crore. But due to delay in completing the project, the cost had been escalated to ₹853.5 crore. When the Committee wanted to know the reason for the non-commissioning of the project, the Secretary, Water Resources Department informed that an unprecedented delay had occurred in that project, which resulted in a 4000 per cent cost escalation.

5) The Committee pointed out that the project was started in 1975 and was scheduled to be completed in 1985. The Committee expressed its displeasure on the reply furnished by the Department that the delay in completion of the project was mainly due to local issues, which has not been substantiated. The Committee viewed the inordinate delay in completing the project as a serious issue. The Committee observed that responsibility could be ascertained only after examining a detailed report on the matter.

6) The Committee enquired whether any vigilance or Departmental enquiry had been conducted regarding the delay in completion and the cost escalation of the Muvattupuzha Valley Irrigation Project. The Secretary, Water Resources Department replied in the negative. The Committee further pointed out that proper maintenance works were not being carried out by the Irrigation Department. The Joint Secretary, Finance Department informed the Committee that irrigation projects came under the head of Long term projects and initially Administrative Sanctions were given for long term projects, later in addition to that, separate Administrative Sanctions were granted for respective years.

7) The Committee directed the Department to furnish a detailed report regarding the cost escalation at each stages of implementation of the project and the delay occurred in each phase of the project within one month. The Secretary, Water Resources Department agreed to do so.

Conclusion/Recommendation

8) **The Committee views with serious concern that the Muvattupuzha Valley Irrigation Project, started in 1975 and scheduled to be completed in**

1985 is not fully commissioned yet. The Committee expresses its displeasure that the Department failed to substantiate the reasons for the inordinate delay occurred in completing the project. The Committee directs the Department to furnish a detailed report on the delay occurred in each phase of the project implementation from the date of commencement of the project and the reason for the huge escalation in the cost of the project, within one month.

3.10.4 Idamalayar Irrigation Project (IIP)

3.10.4.1 Profile of IIP

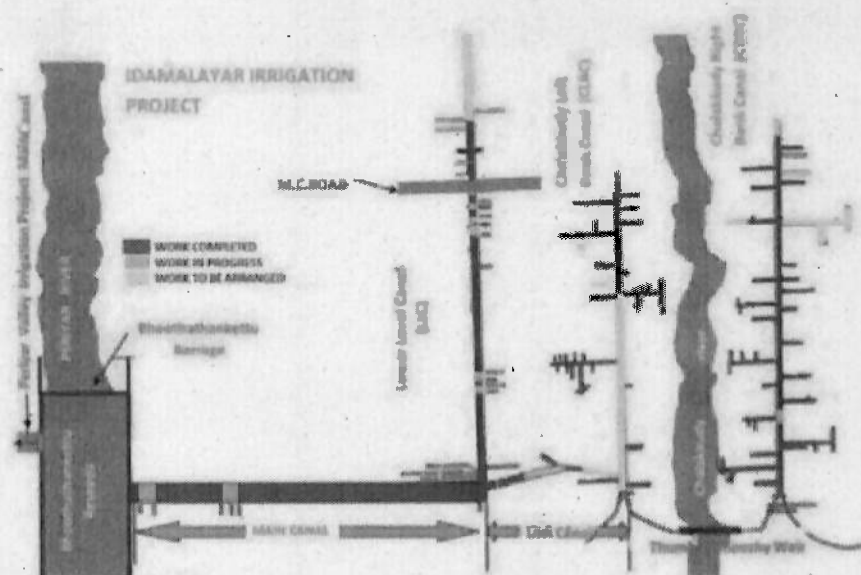
The IIP has two features.

- Utilising tail race water of Idamalayar Hydro Electric Project for irrigating the agriculture fields of right bank of Periyar River.
- Diverting water to the left bank canals (LBC) of the existing Chalakudy River Diversion Scheme (CRDS) and delink the LBC from CRDS which was being fed from Thumboormoozhi reservoir of the CRDS.

For the above purpose, the water is collected first in Bhoothathankettu Barrage of Periyar Valley Irrigation Project (PVIP). On delinking LBC of CRDS more water would be available in Thumboormoozhi reservoir of existing CRDS which would be released solely to ayacut of right bank canals (RBC). Hence the works involved in the projects are the construction of:

- Main canal (MC) of 32.28 km length taking off from the right bank of the Bhoothathankettu Barrage
- Low level canal (27.30 km) for drawing water from the MC
- Link canal (7.58 km) for drawing water from the MC and

Re-modeling of the existing left and right bank canals of the CRDS, including construction of additional branches and distributaries to carry the augmented flow to serve additional areas, renovation of the existing canal systems under LBC and RBC of CRDS.



The low level canal (LLC) feeds an ayacut of 4,672 ha. in the right bank of the Periyar River. The MC having a direct ayacut of 999 ha. would be joined with the existing LBC of CRDS through link canal to create an additional ayacut of 209 ha. on the left bank of Chalakudy River. The entire water now available under CRDS would be diverted to the RBC of the CRDS, thereby creating an additional ayacut of 8,514 ha. on the right bank of the Chalakudy River. Thus the total additional ayacut envisaged under the IIP is 14,394 ha.

3.10.4.2 Delay in implementation and resultant cost overrun

The project IIP was commenced in 1981 and scheduled to be completed within a period of 10 years. But the project is still under progress. Time lag of 21 years on project resulted in revision of project cost on four times taking the cost from ₹17.85 crore to ₹694 crore with a cost escalation by ₹676.15 crore (3,788 per cent). The cost enhancement between 2007 (₹539.50 crore) and 2012 (₹694 crore) was ₹154.50 crore. Audit observed that department had not formulated proper planning to the effect that the projects were completed in a phased manner within the time frame and at the cost proposed which led to time and cost overrun as explained in succeeding paragraph.

3.10.4.3 *Delay in finalisation of design of canals due to non completion of investigation*

Investigation is the first step to design a project. Only after investigation the detailed design could be prepared. But the project authorities failed to conduct investigation for finalising the alignment of some stretches of new canals LLC and new canals CRBC of CRDS. The absence of investigation hampered further progress in the execution of the formation of canals.

3.10.4.4 *Slow progress of land acquisition*

The assessment of exact area of land required for the purpose of construction of canals can be done only after the finalisation of alignment and design of canals. Owing to delay in finalisation of alignment the land acquisition process also was not started for formation of new branches LLC and new branches CRBC of CRDS. Besides, delay in various process of land acquisition also contributed non-completion of land acquisition in time.

The extent of land to be acquired at the end of March 2008 was not assessed so far due to non finalisation of alignment of new canals of RBC of CRDS. Audit found that land was not acquired during the period 2008-09 to 2012-13 for new branches LLC and new branches CRBC of CRDS.

3.10.4.5 *Slow progress in works*

During the period the department could award only 2.165 km of canal works. As on 31 March 2013 length of canal works to be completed was 111.792 km. The slow progress in awarding the work resulted in non-completion of canals.

Table 3.19: Status of formation and re-modelling of canal system

	Total length of canals completed as on 31 March 2008	Total length of canals to be completed as on 31 March 2008	Canal formation works completed in each year					Length of canal completed within five years	Balance length to be completed as on 31 March 2013	Percentage
			2008-09	2009-10	2010-11	2011-12	2012-13			
Main canal	15.107	17.171	0.7	5.626	2.135	4.478	2.958	15.897	1.274	7.42
Link canal	2.2	5.380	0	0.461	0	0.132	0	0.593	4.787	8.90

(length in km)

Low level canal (LLC)	10.086	17.214	1.1	1.072	0.011	0	0	2.183	15.031	87.32
Branches of LLC	0	26	0	0	0	0	0	0	26	100
Modification of CLBC	1	3.1	0	0	0	0	0	0	3.1	100
Modification of CRBC	45.6	2.6	0	0	0	0	0	0	2.6	100
Branches of CRBC and CLBC	0	59	0	0	0	0	0	0	59	100
Total	73.993	130.465	1.8	7.159	2.146	4.610	2.958	18.673	111.792	85.69

The department was able to award only 2.165 km of canal works and constructed 18.67 km of canals during five year period after incurring an expenditure of ₹98.41 crore.

Reason for slow progress of arranging work were due to non-availability of land, non finalisation of estimate/revised estimate and other reasons as given in the table below:

Sl No.	Name of canal / work with chainage	Details of works	Reason for delay in award / completion of work	Present status (31 March 2013)	Audit observation
Due to delay in land acquisition and non-finalisation of estimate					
1	Link canal 2000 m-7575 m	Construction of 4.787 km link canal to be arranged.	Land not acquired to the extent of 11 ha.	Revised proposal forwarded to Government (November 2011) for getting sanction for taking land under urgency clause in respect of chainage from ch 2000 m to 3000 m.	Delay in finalisation of land acquisition resulted in non-completion of the work.
2	Low level canal	Work for construction of LLC from chainage 10,490 m to 12000 m was arranged in June 2004.	Later work was terminated (March 2009) due to non availability of land for crossing Main Central road. Estimate for the reach of road crossing was not finalised.	Work is standstill.	Audit observed that delay in finalisation of estimate and land acquisition led to the non-completion of the canal.
Due to Other reasons					
1	Low level canal chainage 80 m to 715 m.	The work was arranged in April 2000.	The work was terminated in November 2009 without risk and cost due to non-shifting of high tension line by KSEB. Later, work was re-tendered thrice (October 2010, November 2010, and March 2011). In last tender the lowest offer was 87 percent above estimate rate. But Government approved 40.10 per cent only which was not acceptable to the contractor. Hence the work was not started.	Estimate for ₹79.6 lakh submitted to CE (January 2013) for getting Technical sanction.	Lack of co-ordination between Irrigation department and KSEB led to the non re-arrangement of work of 635m in the opening portion of LLC resulting in idling the construction of downstream portion of the LLC.

3.10.4.6 Idle expenditure on the project

The expenditure incurred so far was ₹378.74 crore in 31 years. The expenditure incurred was mainly for construction of canal system comprising MC, LLC, LC and re-modeling of CLBC and CRBC. But the construction work of MC was not completed so far. Though CC lining⁸ of works in some reaches within 23 km are still to be completed, a trial run was carried out (March 2013). It was revealed in audit that a trial run of partially completed structures alone would not contribute for serving the ayacut due to the following reasons.

- Reaches between 0.625 to 1.350 km and 7.400 to 8.000 km of the MC were not completed
- There were incomplete portion in the initial chainage link canal and Low Level Canal.
- Construction of link canal was not completed yet due to failure to acquire 11 ha. land.

As water distribution could not be effected for irrigation under the project, an amount of ₹378.74 crore incurred for the project remained unfruitful.

[Audit Paragraphs 3.10.4 to 3.10.4.6 contained in the Report of the Comptroller and Auditor General of India for the year ended 31st March, 2013. (Economic Sector)]

[Notes furnished by the Government on the above audit paragraphs are included as Appendix II]

(Excerpts from the discussion of Committee with officials concerned on 02.06.2022)

9) The Committee enquired about the audit observation regarding the Idamalyar Irrigation Project. The Superintending Engineer, Project Circle, Piravom informed that the Idamalyar Irrigation Project was started in 1981. The purpose of the Idamalyar Irrigation Project was to irrigate a vast area of

8 Cement concrete lining works done through earthen canal.

cultivable land laying in Periyar Basin on right side of Periyar river in Aluva and Paravur Taluks in Ernakulam District. The main source of water is from BhoothathanKettu barrage through the 32 km long main canal to the 15 km long low level canal through the right bank canal and then to the Chalakkudy left bank canal through the 7.5 km long link canal. The 7.5 km link canal has to be completed for commissioning the project.

10) He also added that as per the report of 2013, the length of the original canal was 183 km, later the Technical Committee of the Planning Board had assessed the same and submitted a report on 07.06.2019 stating that out of the six branch canals, only one branch canal would be sufficient, i.e., the Kanjoor south branch canal of low level canal. The total length of the canal was reduced to 59.19 km. The Idamalayar Irrigation Project could be commissioned as soon as the completion of 4.5 km Kanjoor south branch canal and 7.5 km Link canal.

11) The Committee enquired whether the construction works were progressing as per the recommendations of the Planning Board. The Superintending Engineer, Project Circle, Piravom replied in the affirmative and gave a brief description about the works conducted. According to him, 2 km of the main canal is to be completed in 2013. After the recommendation of the technical committee IIP (Idamalayar Irrigation Project) main canal had been completed. The pending works in connection with the push through work related to MC Road crossing portion had been completed and commissioned in 2019. Out of 15 km of Low level canal, 12.5 km had been completed and water distribution had been done through 32 km main canal and 12.5 km low level canal since 2013.

12) He added that out of the total length of 59 km, 49.1 km of the canal, i.e., 83% of the work had been completed and 2 km out of 7.5 km long link canal for inter basin transfer to Chalakkudy had also been completed. As Kanjoor south branch canal is an inter-basin transfer from Periyar to Chalakkudy basin, the Planning Board had directed to prepare a DPR based feasibility study of the check dam and link canal. The feasibility study was mainly being proposed for ensuring water availability in Periyar and Chalakkudy. A feasibility study had been conducted on the basis of the

recommendation of Planning Board and a report was submitted to the Government in January 2021. After that, review meetings were conducted at Secretary level. It was directed to verify whether the ayacut area was marked in the DPR and to prepare a command area map. Following that, command area map was prepared and the entire area of the link canal had been surveyed. The witness added that Department had consulted with former Planning Board member on that matter and he advised that it would be better to conduct an environmental impact assessment study before diverting water from Periyar as it could cause pollution in the lower reaches of Periyar and necessary steps had been initiated.

13) The Superintending Engineer, Project Circle, Piravom informed that the most important factor was the land acquisition process. A 7.5 km link canal with a width of 40 metres was proposed earlier and later when a second survey was conducted to reduce the cost, the minimum land width was reduced to 15 – 23 m in many reaches. A total amount of ₹85 crore including ₹7 crore for land acquisition would be required for the completion of the project. Kanjoor south branch Canal is remained to be constructed which passes through Angamali and Kaladi villages. At the time of conception of the project, the area of ayacut was 1370 hectars and later the Planning Board had reduced its length from 7 km to 4.5 km and at present Ayacut area had reduced to 566 hectars. When the Committee enquired whether the elected representatives and beneficiaries were called for meetings, the Superintending Engineer, Project Circle, Piravom, replied that a discussion had been held with Honb'le MLA in the case of Kanjoor south canal. He further informed that land acquisition cost is high as that area is in Nedumbassery circle. Boundary stone had been laid there for land acquisition at a distance of 1.3 km length and 15 metres of width and Government notification had also been issued, he added. He further informed that as there were many irrigation schemes from Periyar, some area of that projects were seemed to be overlapping with Kanjur Canal Project. Hence there would be a reduction in the ayacut area. So it would not be ideal to construct the canal as a large one as it was envisaged.

14) The Committee enquired whether the objective would achieve if there

was reduction of the Ayacut area. The Secretary, Water Resources Department replied that the decision was taken after proper study. The Superintending Engineer, Project Circle, Piravom informed the Committee that in order to complete the remaining work of the link canal, it was included in the action plan for the year 2018-19. The Committee directed the Department to take necessary steps in consultation with the officials of the Departments concerned for the time bound completion of the Idamalayar Irrigation Project (IIP) and the action taken in that regard should be reported to the Committee urgently.

Conclusion/Recommendation

15) The Committee expresses its displeasure in implementing the Idamalayar Irrigation Project without any proper planning and observes that if each phase had been carefully planned with the objective of completing it within a certain time frame, it could have been completed earlier. The Committee comments that delay in land acquisition and non-finalisation of estimate/revised estimate resulted in time and cost overrun. Hence, the Committee directs the Department to take necessary steps to complete the project in a time bound manner and to furnish a detailed action taken report in that regard, within two months.

3.10.5 Karappuzha Irrigation Project (KRP)

3.10.5.1 Profile of KRP

Karappuzha Irrigation Project in Wayanad district was taken up in 1978 for increasing production of rice by 22,550 MT. The project envisaged construction of a dam across Karappuzha river at Vazhavatta along with canal system. The construction of the dam was completed. However, the department neither completed nor arranged any canal formation work during the last five years.

3.10.5.2 Delay in implementation and resultant cost overrun in KRP

The project KRP was commenced in 1978 and scheduled to be completed within a span of five years.

Time lag of 29 years on project resulted in revision of project on five times and cost enhanced from ₹7.60 crore to ₹441.50 crore with a cost escalation of ₹433.90 crore (5,709 *per cent*). During the period between 2009 and 2012 the cost enhancement was ₹49 crore. Audit observed that department had not formulated proper planning to the effect that the projects could be completed in a phased manner within the time frame and at the cost proposed which led to time and cost overrun.

3.10.5.3 *Slow progress of land acquisition in KRP*

The project area required was 1481 ha. of land. Though the project was to be completed within five years in 1983, the land acquisition was not completed even by 2013. As on 31 March 2013, the department acquired 1,378.762 ha. of land leaving 102.238 ha. of land. The extent of land acquired during the period from 2008-09 to 2012-13 was only 14.9766 ha. which represented only 12.78 *per cent* of total 117.2146 ha. of land to be acquired as on 31 March 2008. The department stated that the progress in the work was hampered following a public demand and that the work may be resumed only after ascertaining the necessity of future acquisition of land. In this connection, the SE's office informed that the minutes of the meeting directing to acquire land only after public survey was not received from the Collectorate so far (August 2013).

3.10.5.4 *Slow progress in arranging works in KRP*

Total length of canal left incomplete in KRP as on 31 March 2008 was 81.26 km. The project authorities failed to arrange or to complete any length of canal formation works during the period 2008-09 to 2012-13. To a query in audit, the project authorities stated that no works were arranged by the department during the period between 2008-13. However, the department was not able to furnish any justification for not arranging the work even though land was available for construction of distributaries in some cases test checked by audit.

Status of canal system is as shown below.

Table 3.20: Status of canal system

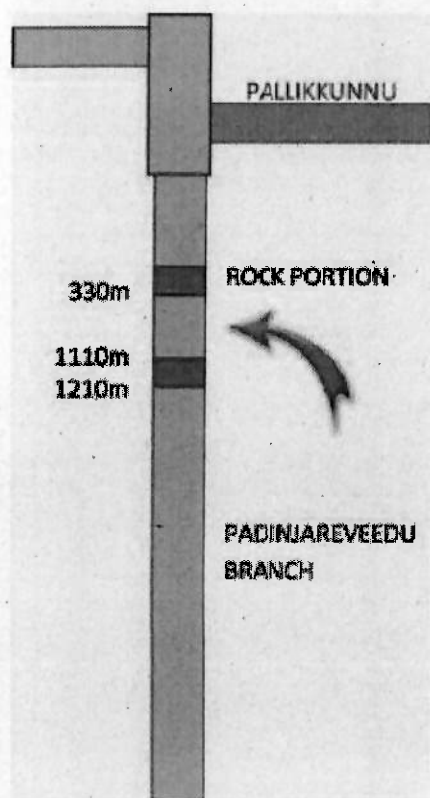
Category	Total		Completed as on 31 March 2013		Percentage Completed	
	Numbers	Length (in km)	Numbers	Length (in km)	Numbers	Length (in km)
Main canal	2	25.545	2	25.545	100	100
Branch canals	5	43.24	1	20.005	20	46.27
Distributaries	21	60.145	1	2.120	4.760	3.52
	28	128.93	4	47.67	14.29	36.98

3.10.5.5 Non receiving of grant of AIBP

Central assistance under Accelerated Irrigation Benefit Programme (AIBP) was available for certain ongoing works in particular years in order to complete projects in a phased manner so that irrigation benefit reached to the public early. Funding for the years subsequent to first year will be based on the confirmation of expenditure of the previous years.

In KRP, Gol provided grant of ₹2.72 crore under AIBP for 2006-07 for 15 components. Audit found that bills of eight out of 15 works included under the AIBP were neither submitted nor finalised so far. Non finalisation of bills of works coming under AIBP led to loss of assistance under AIBP from 2007-08 onwards. Thus, due to negligence on the part of department, the State was deprived of any assistance in subsequent years in respect of this project.

3.10.5.6 *Non commencement of water distribution due to poor execution of canal work*



Though the construction of entire length of 25.545 km of main canal was completed, water distribution was not possible in Left Bank Main Canal (LBMC) beyond the chainage from 5 km due to blockage in cut and cover from 10.175 km and 15 km and excessive seepages in LBMC. Similarly, the water distribution was not commenced beyond 3.7 km of Right Bank Main Canal (RBMC) due to damages and seepages in RBMC. Therefore, water distribution was not possible in 36.85 kms and hence an expenditure of ₹63.87 crore (Appendix III(2)) remained blocked up for five years. Similarly, in Padinjareveedu branch canal the work had to be terminated due to detection of exposed hard rock between chainage 0/000 km to 0/430 km. As a result the work pertaining to the above chainage was re-aligned

and the land acquisition work is in progress. Thus due to the lapses in investigation, the work was delayed for five years.

[Audit Paragraphs 3.10.5 to 3.10.5.6 contained in the Report of the Comptroller and Auditor General of India for the year ended 31st March, 2013. (Economic Sector)]

[Notes furnished by the Government on the above audit paragraphs are included as Appendix II]

(Excerpts from the discussion of Committee with officials concerned on 02.06.2022)

16) The Chief Engineer (Project I), Kozhikode, Water Resources Department informed the Committee that the Karapuzha Irrigation project was approved in 1974 and work began in 1978 at an estimated cost of ₹7.60 crore and was partially commissioned in 2010. He brought into the notice of the Committee that most of the work done since then had been destroyed in the flood of 2018. A total of 48.1 km maintenance work of the branch canals along with main canal had been executed during the period reported by the C&AG. He added that the work of new canals were started recently and the project as proposed by the Planning Board would be commissioned by December 2025.

17) To the query of the Committee regarding the year of commissioning of the project, the Chief Engineer, (Project – I), Kozhikode informed that there had been a delay in acquiring land for the project. Although the estimated cost of the project was ₹7.6 crore in 1978, it was not the actual project cost. Along with carrying out the work on the acquired land, the steps taken to acquire more land would also resulted in the slow down the implementation of such large projects. The scarcity of construction material and climatic changes were also the reasons for the slow down of the project, he added.

18) The Chief Engineer, (Project I), Kozhikode, further informed that an additional 6.12 hectares of land needed to be acquired to increase the storage capacity and distribution network of the Karapuzha Dam, and an amount of ₹10.5 crore would be required for that. As per the request of the Revenue Department to release an amount of ₹3.5 crore in advance, a letter had been forwarded to the Government for releasing the said amount but no fund was received till date and the land acquisition could be completed after receiving the fund.

19) The Committee criticised the slow progress of land acquisition in connection with Karappuzha Project and the lack of supervision over those procedures by the Department. The Chief Engineer, Irrigation Department informed that the extent of land to be acquired was to increase the storage capacity of the dam and also for widening the network of distribution. Full capacity of the project could be utilized only after the final commissioning of the Project. The water supply would be made possible by 2021 after completing the work of 25 km long main canal, he added.

20) The Committee enquired about the maintenance of the canals damaged during the flood in 2018 and the amount spent for maintenance work. The Chief Engineer answered that ₹5.5 Crore had been spent for the maintenance work of the canals. He added that both the main canals were fully equipped with water supply and the work of branch canal and distributaries were pending at present. The Committee pointed out that the work of 46.27%, of branch canals and 3.5% of distributeries had been completed. The Chief Engineer, Irrigation Department explained that in the first phase, the Planning Board had proposed the work of 80.15 km only. The work proposal made by the Technical Committee, constituted by the Planning Board is currently in progress.

21) To the Committee's query regarding the Technical Committee, the Chief Engineer informed that initially the Technical Committee was not constituted for the project due to paucity of budget provision. After the site inspection of Technical Committee in 2017, an amount of ₹12 Crore in 2020-21, ₹16 Crore in 2021-22 and ₹17 Crore in 2022-23 had been allocated for the project. He also informed that as land acquisition was a tedious process and different Departments had to work together for the project implementation. The absence of such coordination among the Departments at different phases of the project also caused the delay in completion of the project. The shortage of manpower was also another constraint for delaying the project. The Chief Engineer informed the Committee that all efforts had been taken to commission the Karapuzha Project by 2025 as proposed by the Planning Commission.

22) The Committee enquired about the current status of manpower for the projects. The Chief Engineer, Irrigation Department replied that the Planning Board had suggested for an additional sub division for Karapuzha project and it was sanctioned as per the order issued by the Department last day. The Committee expressed its strong dissatisfaction for the unreasonable delay in commissioning the Karapuzha Irrigation Project which was started in 1978.

23) When the Chief Engineer, Project I, Kozhikkode informed the Committee that the project was partially commissioned in 2010, the Committee enquired about the irrigated area of land, and the benefit out of it. The Chief Engineer (Project I), Irrigation Department informed that about one fourth of the water

distribution network envisaged by the project could be irrigated.

24) To a query regarding the new projects associated with Karappuzha Irrigation Project, the Secretary, Water Resources Department informed that the construction work of pattissery Dam is in progress and about 63 per cent of civil work had been completed. The work of regulator cum bridge is also in progress and the proposals for the Attapady Valley Irrigation Project has been prepared and forwarded to the Central Water Commission (CWC) for approval.

25) The Committee enquired about the working condition of shutters in all existing Dams. The Secretary, Water Resources Department informed that all shutters in major dams were operational and appropriate measures would be taken for the in-operatable shutters. When enquired about the Department's efforts to minimize the extent of land to be acquired for the canal system by redesigning the canal system from the conventional open canal system to pipe irrigation or other similar structures and its current status, the Chief Engineer, Project I, Kozhikode informed the Committee that land acquisition problems arises at the time of construction of concrete laying canals and a survey was conducted after detecting those lands. Meetings were conducted as a part of redesigning of conventional open canal system and farmers would also be included in those meetings, he added. He further informed that a field study was conducted to detect places where pipe irrigation was possible. NOC from concerned non irrigated land owners would also be obtained in some cases. Meetings with the land owners could not be conducted due to COVID restrictions.

26) The Committee enquired about the follow up action taken by the Department on the report submitted by the Technical Committee constituted by the Planning Board. The Chief Engineer, (Project I), Irrigation Department answered that Technical Committee formed as per the direction of the Planning Board, visited the Banasurasagar and Karappuzha Irrigation Projects. The works are now being carried out as per the direction of the Technical Committee. The Technical Committee further directed that the work of branch canals and distributaries should be done only in the 2nd phase of the project.

27) The Chief Engineer added that the works related to Banasurasagar and Karappuzha Irrigation Projects were now being done on priority basis. The Committee opined that it was futile to prolong the project indefinitely as the demand for irrigation would likely to be less now a days. The Committee pointed out that the RMT furnished by the Department stated that Karapuzha Project is expected to be commissioned in 2025 and asked whether detailed action plan has been prepared for the works to be done for the three years. The Secretary, Water Resources Department answered that a detailed schedule on monthly and yearly basis had been prepared. He also added that there are some maintenance and extension works on the existing canals in Karappuzha and Banasurasagar Projects.

28) The Committee directed the Department to ensure that Karapuzha Irrigation Project should be completed within 3 years time span itself and also directed that stringent measures should be implemented to monitor each specified work with in the time frame. The Chief Engineer, Irrigation Department informed the Committee that Secretary of Irrigation Department had visited the respective sites and formulated a system for assessing the progress of the project. Even though budget provision had been allocated for land acquisition, the fund had not yet been released, and hence support from the Finance Department would also necessary for the smooth functioning of the project.

29) To a query regarding the fund for the purpose of land acquisition, the Chief Engineer, Irrigation Department replied that the Revenue Department had informed the Irrigation Department that the rest of the works could be completed if 35% of the funds were provided and that the project could not be taken forward due to the lack of funds.

30) The Committee decided to visit Banasura Sagar and Karappuzha Irrigation Projects.

(Excerpts from the discussion of Committee with officials concerned on 13.03.2024)

31) The Committee decided to cancel the visit in connection with

Karappuzha Irrigation Project.

Conclusion/Recommendation

32) The Committee expresses its displeasure over the lack of supervision and slow progress in land acquisition that resulted unreasonable delay in commissioning the Karappuzha Irrigation Project and remarks that the time lag of so many years is not justifiable. The Committee directs the Department to take adequate measures to monitor the progress of execution of the work and to ensure that the Project is completed and commissioned within three years.

3.10.6 Banasura Sagar Irrigation Project (BSP)

3.10.6.1 Profile of BSP

Kerala State Electricity Board (KSEB) constructed a dam across Karamanthodu at Padinjarathara in Wayanad district to store 6.7 TMC feet⁹ of water, of which 1.7 TMC ft of water would be used to irrigate the field by constructing canals. The project envisages to irrigate 2,800 ha. of land with increased food production of 8,838 tonnes of paddy annually.

3.10.6.2 Delay in implementation and resultant cost overrun

The project was commenced in 1999 and scheduled to be completed within a span of four years. The department was able to complete less than one *per cent* of canal work in five years after incurring an expenditure of ₹21.43 crore. Time lag of nine years on project resulted in upward revision of project cost two times from ₹37.88 crore to ₹185.50 crore with a cost escalation of ₹147.62 crore (390 *per cent*). The cost escalation during the audit period was by ₹58.50 crore. Audit observed that department had not formulated proper planning to the effect that the projects could be completed in a phased manner within the time frame and at the cost proposed which led to time and cost overrun. There was no intervention of higher authorities to fill the vacancies of technical staff in BSP which affected the progress of works.

9 Thousand million cubic feet.

3.10.6.3 *Slow progress of land acquisition in BSP*

The total land required for the project was 72.462 ha. Though the land acquisition procedure had to be completed prior to the arrangement of the work, the department was able to acquire only 20.209 ha. of land in 13 years after incurring ₹42.85 crore.

As seen from the table, the extent of land acquired during the audit period 2008-09 to 2012-13 was only 5.7306 ha. which represented only 9.88 per cent of requirement.

Table 3.21: Details of land acquisition for the last five years

Total land to be acquired as on 31 March 2008 (in ha.)	Land acquired in last five years (in ha.)						Percentage of land acquired with respect to total balance land to be acquired	Balance land to be acquired (in ha.)
	2008-09	2009-10	2010-11	2011-12	2012-13	Total		
57.984	1.2275	3.4478	0	0	1.0553	5.7306	9.88307	52.2534

(Source : Departmental figures)

The department attributed the shortage of staff for survey, investigation as well as delay in getting land acquisition compensation, to the delay in land acquisition.

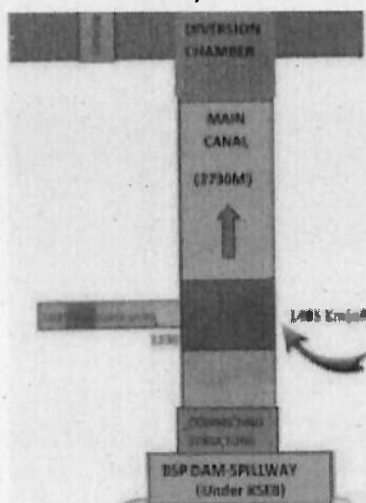
3.10.6.4 *Slow progress in awarding works in BSP*

Total length of canal left incomplete in BSP as on 31 March 2008 was 71.185 km. The project authorities completed only 0.695 km canal formation work during the last five years leaving a balance length of 70.490 km of canal to be completed. During the period, the department could award only 1.615 km of canal construction works. The slow progress in arranging the work resulted in non-completion of canals. The delay in land acquisition, revision of estimates /design after awarding works and delay in approving revision of estimates and non-deployment of required number of technical staff in BSP for preparation of estimate /revised estimate led to delay.

Table 3.22: Status of canal system

	Total length of canal to be completed as on 31 March 2008	Canal formation works completed in each year					(in km)	
		2008-09	2009-10	2010-11	2011-12	2012-13	Length of canal completed within five years	Total length to be completed
Main canal	0.520	0	0	0	0.150	0	0.150	0.370
Branch canal	14.420	0	0	0	0	0	0	14.420
Distributaries	56.245	0	0	0	0.545	0	0.545	55.700
Total	71.185	0	0	0	0.695	0	0.695	70.490

3.10.6.5 Defective investigation



The work of canal construction from ch 1130 m to 1500 m of main canal was awarded in October 2004 stipulating the period of completion in October 2006. During the course of execution, it was noticed that the open foundation proposed at Piers¹⁰ P2 to P4, P7 and P8 was unsuitable due to the soil strata at the proposed site. Hence the open foundation was changed to Pile foundation. Thus due to lapse in investigation, the work had to be stopped after incurring an expenditure of ₹47.86 lakh. The work is at stand still (31 March 2013).

3.10.6.6 Termination of work due to non-handing over of site

Process of land acquisition and construction programme was not synchronized. In BSP, 12 canal formations works costing ₹16.88 crore were awarded on or before 2008 with a period of completion of six to 18 months. Consequent on non finalisation of land acquisition process there was delay in handing over/non handing over of site to the contractors which resulted in stoppage/delay in execution of work. Hence, these works were terminated and

10 Pillars of bridge.

remain to be rearranged. Audit observed that had the land acquisition been synchronized with work awarded, the work could have been arranged in 2010 and completed by 2012.

3.10.6.7 Idle expenditure

As on 31 March 2013, an amount of ₹42.85 crore was spent on BSP. However, water distribution could not be commenced due to non completion of main canal from ch 1130 m to 1500 m. More importantly the irrigation department had fixed the Minimum Drawdown Level¹¹ (MDDL) for irrigation supply is 760.075 m above Mean Sea Level (MSL) which was the off take level of main canal. However, data available with the KSEB revealed that water level in the reservoir was lower than the off take level fixed for BSP during March 2007 to May 2007 (average 755.4 m), April 2008 to May 2008 (average 755.7 m), April 2009 to May 2009 (average 755.7 m) and May 2010 (756.3 m). This confirms that the project work would be ineffective even with the commissioning of the project.

[Audit Paragraphs 3.10.6 to 3.10.6.7 contained in the Report of the Comptroller and Auditor General of India for the year ended 31st March 2013. (Economic Sector)]

[Notes furnished by the Government on the above audit paragraphs are included as Appendix II]

(Excerpts from the discussion of Committee with officials concerned on 02.06.2022)

33) The Committee enquired about the current status of BSP(Banasura Sagar Project) which was targeted to be completed by March 2021. The Chief Engineer(Project-I), Kozhikode, Water Resources Department replied that the Government accorded Administrative Sanction for the construction of Banasurasagar Project at a cost of ₹37.88 Crore in 1999. The project was envisaged to irrigate an area of 2800 hectares of land, but could not be completed in time. A Technical Committee was constituted to evaluate all long

11 Height from MSL at which the outlet to be provided on the dam for drawing water for irrigation purpose.

pending major irrigation projects and they conducted a study on that project also and recommended to commission the project to irrigate an area of 840 hectares as the first phase of the project. At present, the balance works of the branch canal are going on.

34) The committee enquired about the current status of the case related to BSP(Banasura Sagar Project) before the Honbl'e Court. The Chief Engineer, (Project I), Kozhikode, answered that the work is in progress as per the direction of the Court. To a query of the Committee regarding liability on contractor, the Chief Engineer(Project I), Kozhikode informed that the liability could be fixed only after the completion of the work. He further added that only 0.9 hectares of land was left for acquisition and it would be possible to distribute water in many areas after the completion of main canal. He also informed that as per the directions of the Planning Board, the project should be commissioned in 2024 and the Department took the task as a challenge. As a part of this, the Secretary had visited the site and instructed the concerned officers to monitor the project every month.

35) The witness pointed out that lack of manpower also affected the full commissioning of the Banasurasagar Project. He added that after the site inspection, the Secretary had analysed the situation and permission was granted for the formulation of a sub division consisting of one Assistant Executive Engineer, 3 Assistant Engineers and other Officers and that had enhanced the functioning of the project. The Committee suggested that a date for the Commissioning of the Banasura Sagar project should be fixed. The Chief Engineer,(Project I), Kozhikode, agreed to do so. The Committee decided to visit Banasurasagar and Karappuzha Irrigation Projects

36) The Committee visited the Banasura Sagar Irrigation Project on 09.06.2023.

(Excerpts from the discussion of Committee with officials concerned on 09.06.2023)

37) The Chief Engineer, Irrigation Department at the outset, made a brief description regarding the Banasura Sagar Irrigation project. He informed the

Committee that Administrative Sanction for ₹37.88 crore for the project had been accorded in 1999 and, at present the total expenditure had been escalated to ₹72.46 crore. He added that a revised DPR of ₹200.76 crore was in the process of being submitted to the Government for approval. Even though Administrative Sanction for ₹37.88 crore had been accorded in principle, only 28.24 hectares of land could be acquired till now. He admitted that even though the Department had submitted many proposals for land acquisition, it had been delayed due to various reasons including shortage of staff. He added that being a major project, the work could be started only after completing the processes such as survey, soil test, design, estimates etc. The slow progress in the land acquisition process caused the stagnation of the work for many years.

38) He further stated that after taking charge as Chief Engineer in 2020, he had taken steps to complete the works on the main projects like Karappuzha, Banasura Sagar (BSP), Pazhassi, etc. within the current year itself. He added that even though the Banasura Sagar Project had received Administrative Sanction in 1999, the works had begun only in 2004. The proposed length of the main canal was 2.73 km. The changes made in the design and estimate during the initial phase of its construction and the consequent resubmission for the Government approval also contributed to the delay in the work. Although the contractor completed a small portion of the work, he was terminated from the contract for non-completion of the remaining work and he subsequently filed a case before the court and the work had been restarted after the disposal of the case in 2018. A gap work arranged at a distance of 330 mtrs in the main canal was completed in 2022, and the works had been progressing in order to distribute water through a distance of 2.73 km in the main canal by December 2023 itself. He supplemented that there was a lot of pending works in the Padinjarathara, Venniyode branch canals which were carried out during 2007. The foundation works were completed at present and the construction of towers is to be completed. He also informed that heavy rainfall, non-availability of construction materials, shortage of local contractors, and issues related to the planning of the Department were the major constraints faced during its implementation. He further added that even though it was delayed, the Department could make a remarkable progress at present. Now the work is

going on at a fast pace and the works costing around ₹45 crore were under way in two branch canals and six distributaries. The Department had taken up that as a challenge to commission the first phase of the project by December 2024, as directed by the Planning Board.

39) The Committee commented that C&AG had pointed out the idle investments in certain projects undertaken by the Irrigation Department, especially Banasura Sagar, Karappuzha, Muvattupuzha, Pazhassi etc., and during the detailed discussion of the said audit objections, the Committee wanted to know more details regarding the issues in connection with that. The Committee noticed that even though ₹75 crore was spent for the project with an estimated cost of ₹38 crore, the project could not be made functional even partially. The Committee enquired who was responsible for the inordinate delay in completion of the project and whether the project plan was prepared without considering factors such as the scarcity of raw materials and the geographical features of Wayanad and further inquired whether any technical lapse had occurred in that project.

40) The Chief Engineer, Irrigation Department replied that the canal was located above the outlet of the dam; hence, it was not suited for proper distribution of water through the canal, and the production process of KSEB was untimely. Therefore, it had been decided to request KSEB to maintain the desired water level for irrigation purposes at the time of the commissioning of the canal.

41) To a further query of the Committee, the Chief Engineer, Irrigation Department replied that there was a gap in the 2.73 km main canal and the construction of the pillar of the foundation in that gap was resumed in 2022. He added that there was also an issue in connection with the foundation. Then the Committee made its displeasure by opining that after spending ₹47 lakh, the Department identified that instead of an open foundation a pillar foundation was best suited for the project.

42) To the further queries of the Committee, the Chief Engineer informed that after commissioning the project, the water for irrigation would be made

available in agreement with KSEB. At present the canal is not used for irrigation purposes as the construction work of 370 meter gap in the 2.73 km main canal was not being completed. The exit pipe of the dam is located below the canal and the water that comes out of the dam fills in a pond first and then flows through the canal. He further added that a combined project had been prepared based on the decision that a single dam was sufficient for both Irrigation Department and KSEB. The dam is owned by KSEB and the canal by the Irrigation Department and only 0.84 TMC of water is required for irrigation purposes.

43) When the Committee inquired why the canal had been constructed above the exit pipe of the dam, the Chief Engineer, Irrigation Department, answered that since Wayanad district is situated at a height of 700 m above the sea level, the outlet of the dam had to be located in such a way by considering the geographical features.

44) The Chief Engineer, Irrigation Department informed the Committee that KSEB had been storing around 6.70 TMC of water. The Committee opined that there should be proper coordination between the Irrigation Department and KSEB after the completion of the project. To the further queries of the Committee, the Chief Engineer, Irrigation Department replied that the proposed canal length of 88 km had been shortened to 22 km after a thorough inspection conducted by the Planning Board in 2017. The Committee noticed that the Department had cited many reasons for the delay in completing the Project and enquired whether the Department had identified the person responsible for that inordinate delay. The Chief Engineer replied negatively and added that normally Administrative Sanction was given before the land acquisition processes, and there occurred a delay in land acquisition process. But now as per the direction of the Planning Board, 0.94 hectare of land has to be acquired.

45) The committee opined that legal disputes over land acquisition would arise naturally and inquired what steps were taken by the Department before the commencement of legal disputes and whether the acquisition process was carried out at the appropriate time. The Committee also enquired whether the Revenue Department had fruitfully been involved in the land acquisition process

and the acquisition had been completed in cases where there were no court cases and also wanted the Department to furnish the details regarding court cases.

46) The Chief Engineer, Irrigation Department informed that there had been delay from the part of Revenue Department in connection with the land acquisition process. The Deputy Collector (Land Acquisition) also added to the discussion that there was a LA office exclusively for the Banasura Sagar project. Since the majority of the work had been finished, the office was wound up and the latest matters concerned with the work were being handled by the general LA office.

47) To the further queries of the Committee, the Chief Engineer, Irrigation Department, informed that the land acquisition for the Kuppadithara branch is yet to be completed and permission from the Government is required for acquiring another 0.94 hectares of land. He further informed that 22 percent of the work had been completed after the re-assessment of the project by the Planning Board, and the remaining work was going on. He further added that ₹34.84 crore had to be required for the completion of the project, and a joint meeting of the Departments concerned was conducted on November 10, 2022, for the time-bound completion of the project. To a further query of the Committee, the Chief Engineer replied that there was shortage of staff and the Project should get additional staff in the post of Assistant Executive Engineer, Overseer and Engineers at various other levels and added that the contractors were brought from other districts. When the Committee enquired whether the Technical Committee had been informed as directed by the Planning Board and whether the study report had been submitted, the Chief Engineer replied positively and informed that, as per the direction of the Planning Board, the first phase of the project would be commissioned in December 2024. Out of the total cost of ₹200 crore, around ₹75 crore had been expended.

48) The Chief Engineer, Irrigation Department further informed the Committee that the Banasura Sagar Project included two phases with a total proposed area of 2800 hectares and it aimed to irrigate 840 hectares of land in the first phase. The expenditure for the second phase was not estimated and it included the construction of the distributory canals only. He added that water

would be distributed upto venniyode Branch including six distributaries. He also informed that M.T. Constructions, Sajeewan, Techlody were the contractors.

49) The Committee wanted to know the reason for the delay in completion of the project, in response of that the Chief Engineer, Irrigation Department appraised that the first Contractor of the work had been terminated from the contract and he had filed a case in the Hon'ble High Court. Later the case was withdrawn and the works were arranged. To a further query of the Committee regarding the vigilance case, he responded in the negative and added that there was a vigilance enquiry regarding the Karappuzha Irrigation Project only. The Committee urged the Department to submit the exact reason for the delay in the land acquisition procedures.

50) Then the Committee visited the project site and assessed the progress of the work.

Conclusion/Recommendation

51) The Committee observes with serious concern that even after spending ₹75 crore for the Banasura Sagar Irrigation Project to which the estimated cost was only ₹38 crore, the project remains noncommissioned till now. The Committee views that the preparation of project plan without considering factors such as the scarcity of raw materials and the geographical features of Wayanad is a technical lapse on the part of the Department. The Committee suggests that a time frame may be fixed for the completion of the said project and the date on which the project can be commissioned should be fixed as soon as possible.

52) The Committee expresses its displeasure over the delay occurred in completing the land acquisition for the project, and directs to submit the exact reason for the inordinate delay occurred. The Committee directs the Revenue Department to speed up the land acquisition process in which no court cases have been involved. The Committee also directs the Revenue Department to furnish the details of the pending court cases in that regard within two months.

53) The Committee directs that, after the completion of the project, there should be proper coordination between the Irrigation Department and KSEB to ensure sufficient water for irrigation purpose.

3.10.7 Attappillykadavu Regulator cum Bridge (ARCB)

3.10.7.1 Idle expenditure due to non completion of the project

Construction of ARCB was awarded in June 2008 with a period of completion as 24 months. After completing 70 per cent of the work, work was held up from 31 March 2012 due to non-availability of fund from NABARD. Delay in completion of the project was attributed to continuous flow of water in the river, revision of design and non availability of sufficient land for approach road. An amount of ₹4.24 crore was spent for the project so far and ₹six lakh payable to the contractor. It was estimated by EE that the balance work would cost ₹six crore at 2012 SoR. Thus the cost escalation would be 106 per cent when compared to AS of ₹five crore. Audit observed that as major portion of the work viz. erection of shutter was not commenced, no irrigation potential was created. Hence the entire expenditure of ₹4.24 crore spent on the project remained unfruitful.

3.10.8 Conclusion

Delay in land acquisition, poor investigation, execution and contract management coupled with ineffective monitoring led to huge time and cost overruns and creation of idle infrastructure.

[Audit Paragraphs 3.10.7, 3.10.7.1 & 3.10.8 contained in the Report of the Comptroller and Auditor General of India for the year ended 31st March 2013. (Economic Sector)]

[Notes furnished by the Government on the above audit paragraphs are included as Appendix II]

(Excerpts from the discussion of Committee with officials concerned on 02.06.2022)

54) The Committee enquired about the current status of the ARCB project. The Chief Engineer, Irrigation and Administration informed that 70% of the work was completed utilising the fund released by NABARD but the rest was held up due to paucity of funds. The total amount spent for the project was ₹4.24 Crore. The fund for the completion of the remaining project were included in the revised estimate and he assured that the project would be completed at the earliest. The Committee asked about the completion of ARCB project as it was mentioned in the RMT that Regulator cum Bridge would be completed within few months. The Chief Engineer, Irrigation and Administration answered that currently the maintenance work of the approach road is in progress.

55) The Committee expressed its displeasure over the delay in fully commissioning the project and opined that the delay in the completion of the Project work in a time bound manner, would increase the project cost considerably. As a result, estimate had to be revised several times. Hence, the Committee suggested that there should be a strong intervention on the part of the Department in commissioning the project within a stipulated time frame.

Conclusion/Recommendation

56) The Committee notes that the delay in completion of the construction work of ARCB is attributed to non availability of required land for approach road and the several revisions made in the estimates. Hence, the Committee directs that there should be strong intervention on the part of the Department in commissioning the project within a stipulated time frame, and to report the action taken in that regard within two months.

57) The Committee observes that most of the major irrigation projects being implemented in the State remains noncommissioned for decades, mainly due to delay in land acquisition, awarding the work before land acquisition, designing the projects without considering the physical as well as geographical features, absence of proper planning, cost escalation of 30 to 40 times of the estimated project cost, shortage of necessary technical

personnel in the Department etc. In addition, most of the projects become unfruitful due to poor distribution of water and failure to irrigate as much land as envisaged. Therefore, the Committee directs the Department to take utmost care to avoid such flaws in future.

5.12 Extra payment to contractor due to omission in the specification of piling work in the agreement schedule

Description of work in agreement schedule was at variance with provisions in data sheet and treating side protection work as extra item by Water Resources Department had resulted in extra expenditure to the tune of ₹7.05 crore.

The Principal Secretary, Water Resources Department (December 2011) accorded Administrative Sanction for ₹60 crore for constructing a Regulator-cum-Bridge (RCB) at Pathalam across Periyar river under Irrigation division, Ernakulam. The tendered value of this work was ₹51.36 crore which was inclusive of the cost and working charges of steel liners for 'providing bored cast *in situ* RCC piles'. The Superintending Engineer, Irrigation Central Circle (SE), Thrissur awarded (July 2012) the work to a contractor¹² for an amount of ₹49.72 crore. The work commenced in July 2012 for completion in 24 months. During the course of construction, Additional Chief Secretary, Water Resources Department had approved (April 2014) a revised estimate of ₹64.90 crore due to excess over agreed quantities in the original estimate and also for allowing extra items of work¹³. The work was under progress as of March 2016.

(i) The RCB was proposed to be founded on bored cast in-situ piles in Reinforced Cement Concrete (RCC) as per the agreement schedule. The estimates prepared by CE included the cost of in-situ piles in RCC and providing casing pipe with MS plate (i.e., steel liner). Accordingly, the rate for 1,000 mm dia pile foundation was ₹20,528, ₹7,638 for RCC and ₹12,890 for steel liner. Similarly, for

12 M/s Marymatha Construction Company, Marymatha Square, Arakuzha road, Muvattupuzha P.O., Ernakulam District.

13 Putting of ring bund, providing MS sheet piling work, providing and applying elastic and elastometric membrane.

500 mm dia foundation, the cost was ₹8,902, ₹1,911 for RCC and ₹6,991 for steel liner.

While floating the tender, the work description for these items did not include the use of steel liners and stated about the execution of RCC only. However, the rate mentioned for this work in the tender inter alia included the cost for steel liners. It was, however, noticed that during construction, steel liners were not used and hence, the Executive Engineer, Irrigation Division, Ernakulam (EE) had deducted an amount of ₹3.50¹⁴ crore on account of non-usage of steel liners for bored cast in-situ pile work which the contractor had claimed while submitting CC VII and part bill.

The contractor represented (May 2013) against the deduction stating that the work was being executed as per specifications provided in the agreement schedule which did not give any information regarding the date of this item. The Irrigation Department opposed (May 2013) the plea of the contractor stating that data was inclusive of the rate of steel liner, deduction was made from the payment to the contractor as the steel liners were not used.

During review meeting (June 2013) on the progress of this work by Minister for Water Resources and Minister for Public Works, the representation of the contractor was discussed that the contractor was objecting to the deduction towards cost of steel liners used in the said RCC work which had resulted in huge financial loss to him and therefore has been unable to proceed further with the work. In the review meeting, it was decided that Principal Secretary, Water Resources Department would study this issue by entrusting this work to Chief Technical Examiner (CTE) and submit a report in the matter.

On the basis of the report submitted by the CTE, the Government observed that the plea of the contractor was valid and directed (January 2014) that the deducted amount may be released. Accordingly, the EE released (March 2014) the deducted amount of ₹3.50 crore to the contractor. The contractor had been paid a total amount of ₹6.48 crore on account of the use of steel liners in the work up to September 2015.

14 1,738.97 m of 1,000 mm diameter piles and 1,795.27 m of 500 mm diameter piles.

Audit observed that while preparing the estimates, the cost of providing steel liners in the pile work was approved by Chief Engineer, Irrigation and Administration (I&A) in the data sheet. However, the same was not included in the tender specifications. Thus, due to the omission in preparing the tender schedule in tune with the data sheet prepared for working out estimates, the contractor was demanding the payment on account of the use of steel liners in the RCC work whereas actually he had not used the steel liners. As such, he was eligible for the payment for doing RCC work only and not for steel liners which he had not used while executing the work as certified by the officer in charge of the work. Thus, the department had rightly deducted an amount of ₹3.50 crore from the payment claimed by the contractor.

Thus, due to the non-inclusion of the use of steel liners in RCC work in the tender specification, the contractor had claimed and received the payment of ₹6.48 crore up to September 2015, though he was not eligible for the same. The decision of the Government to release the payment was also not in order as the payment is always made for the execution of actual work executed, measured and certified by the department and not merely on the basis of rates mentioned in the estimate. As such, the excess payment of ₹6.48 crore made for the work relating to steel liners, which was actually not executed by the contractor, requires to be recovered from the contractor.

(ii) While revising the estimate (April 2014) and executing supplementary agreement (May 2014) for execution, three items of works were included as 'extra items'. One such 'extra item'¹⁵ was providing MS Sheet piling work using sheet pile with sufficient anchorage for protecting nearby industries and buildings while excavating right side abutment and lock wall foundation. An amount of ₹56.97¹⁶ lakh was paid (September 2015) for the item of work. As the rate agreed by the contractor in the original tender agreement was after ascertaining the site conditions as per clause 47 of MDSS¹⁷, the above item of work cannot be treated as 'extra item'. As such, the payment of ₹56.97 lakh made was irregular.

15 Extra item 2 of Supplementary Agreement II dated 2 May 2014.

16 ₹58.85 lakh less tender rebate of 3.20 percent

17 Madras Detailed Standard Specification is part of tender documents.

[Audit Paragraph 5.12 contained in the Report of the Comptroller and Auditor General of India for the year ended 31st March 2015. (Economic Sector)]

[Note furnished by the Government on the above audit paragraph is included as Appendix II]

(Excerpts from the discussion of Committee with officials concerned on 02.06.2022)

58) Regarding the audit para, The Chief Engineer, Irrigation and Administration informed that the pathalam RCB(Regulator-Cum-Bridge) project received Administrative Sanction for an amount of ₹60 crore in December 2011 and the work started in July 2012. The piles of 1000 mm and 500mm were included in the estimate for the work of the foundation. Even though the cost of the steel liners was included in the estimate, in the work description attached to the tender notice the use of steel liners for providing board in RCC piles were not included.

59) The Committee enquired about the irregularities in the tender notification and the Officer responsible for such irregularity. The Chief Engineer, I&A, explained that it was happened in 2012. The contractor did not use steel liners since the item was not included in the tender specification. Later the contractor had claimed an amount of ₹3.5 Crore while submitting CCVII and part bill in such a way that steel liners were used. But the Department refused to pay the amount. He added that in the meeting held on 2013, the Hon'ble Minister had directed the Principal Secretary, Water Resources Department and Chief Technical Examiner to study the matter in detail and submit a report. But even before the report was received, the Hon'ble High Court passed a Judgment in favour of the contractor. The Department appealed against it and agreed to pay the amount with a bank guarantee and the amount was paid on 2017 as directed by the Hon'ble court. The Chief Technical Examiner(CTE) had also submitted a report in favour of the contractor.

60) The Committee enquired whether the copy of the Judgment was

submitted before the Committee and whether the Department had contested the Judgement. The Chief Engineer, Irrigation and Administration responded in the negative and also added that the first verdict itself was a direction to pay the amount to the contractor. The Committee observed that it was clear that steel liners were not used by the contractor and wanted to submit a clarification regarding this. The Chief Engineer, Irrigation and Administration answered that the Department refused to pay ₹3.50 crore since the steel liners were not used. He added that the amount was paid after giving a bank guarantee of ₹6.48 Crore valid till 30.9.2022, as directed by the Court.

61) The Committee enquired as to what action had been taken at the Department level to recover the excess amount paid. The witness, Chief Engineer, Irrigation & Administration answered that the contractor could not withdraw the amount without the approval of the Department as there was a bank guarantee. The Committee pointed out that if the Judgment of the Hon'ble High Court directed to pay the amount on the mortgage of the bank guarantee then the decision would be taken accordingly. Committee was sceptical about the manner in which the case was contested in the court. The Committee directed the Department that a copy of the Judgment of the Hon'ble High court should be submitted before the Committee at the earliest.

62) The Chief Engineer, Irrigation & Administration, further informed the Committee that there was a seven meter slope cutting for the lock wall foundation of the right bank canal. But due to the non-availability of land it had to be cut vertically. The steel liner was cut vertically to avoid damage to the adjacent buildings belonging to Industries Department. He added that ₹56.97 lakh was paid to the contractor after scrutinizing it by the Technical Committee constituted as per the instruction of the Government.

63) The Principal Accountant General informed the Committee that after taking the estimate, the work was carried out using the material not specified in the tender document resulted in excess payment than what was available in the market and enquired whether any disciplinary action had been taken against the responsible officers. The Chief Engineer, Irrigation and Administration informed that prima facie the site officer was responsible for the execution of

work. He also informed that a Vigilance case was registered and initiated in 2016 regarding the matter and as a part of this investigation, the related documents/files were under the custody of vigilance.

64) The Committee expressed its concern and noticed that a delay had occurred in presenting the matter before the Committee at the right time and Directed the Department to furnish a detailed report regarding the current status of the case before the Hon'ble High Court and the copy of the judgement issued by the Hon'ble High Court regarding the case. The Committee also urged the Department to submit the current status of the Vigilance case and the details of liability calculated if any in connection with the above matter.

Conclusion/Recommendation

65) The Committee observes that though the estimate for the construction of Regulator-cum-Bridge (RCB) was prepared by the Department inclusive of the cost of steel liners for providing bored cast in situ RCC piles, it was not reflected in the tender specifications. But the contractor had claimed an amount of ₹3.50 crore in part bill in such a way that the steel liners were used and the Department refused the payment. This led to the High Court judgment in favour of the contractor. Therefore the Committee views the occurrence of difference in estimate and tender specifications as a serious lapse on the part of the Department, and directs the Department to furnish a copy of the judgment and a detailed report regarding the current status of the case pending before the Hon'ble High Court within one month.

66) The Committee also directs the Department to furnish the present status of the Vigilance case registered in 2016 and the details of liability calculated if any to the Committee within one month.

Thiruvananthapuram,
18th September, 2025.

SUNNY JOSEPH,
Chairperson,
Committee on Public Accounts.

APPENDIX I

SUMMARY OF MAIN CONCLUSIONS / RECOMMENDATIONS

Sl No.	Para No.	Department concerned	Conclusion / Recommendation
1	8	Water Resources	The Committee views with serious concern that the Muvattupuzha Valley Irrigation Project, started in 1975 and scheduled to be completed in 1985 is not fully commissioned yet. The Committee expresses its displeasure that the Department failed to substantiate the reasons for the inordinate delay occurred in completing the project. The Committee directs the Department to furnish a detailed report on the delay occurred in each phase of the project implementation from the date of commencement of the project and the reason for the huge escalation in the cost of the project, within one month.
2	15	Water Resources	The Committee expresses its displeasure in implementing the Idamalayar Irrigation Project without any proper planning and observes that if each phase had been carefully planned with the objective of completing it within a certain time frame, it could have been completed earlier. The Committee comments that delay in land acquisition and non-finalisation of estimate/revised estimate resulted in time and cost overrun. Hence, the Committee directs the Department to take necessary steps to complete the project in a time bound manner

			and to furnish a detailed action taken report in that regard, within two months.
3	32	Water Resources	The Committee expresses its displeasure over the lack of supervision and slow progress in land acquisition that resulted unreasonable delay in commissioning the Karappuzha Irrigation Project and remarks that the time lag of so many years is not justifiable. The Committee directs the Department to take adequate measures to monitor the progress of execution of the work and to ensure that the Project is completed and commissioned within three years.
4	51	Water Resources	The Committee observes with serious concern that even after spending ₹75 crore for the Banasura Sagar Irrigation Project to which the estimated cost was only ₹38 crore, the project remains noncommissioned till now. The Committee views that the preparation of project plan without considering factors such as the scarcity of raw materials and the geographical features of Wayanad is a technical lapse on the part of the Department. The Committee suggests that a time frame may be fixed for the completion of the said project and the date on which the project can be commissioned should be fixed as soon as possible.

5	52	Water Resources Revenue	The Committee expresses its displeasure over the delay occurred in completing the land acquisition for the project, and directs to submit the exact reason for the inordinate delay occurred. The Committee directs the Revenue Department to speed up the land acquisition process in which no court cases have been involved. The Committee also directs the Revenue Department to furnish the details of the pending court cases in that regard within two months.
6	53	Water Resources Power	The Committee directs that, after the completion of the project, there should be proper coordination between the Irrigation Department and KSEB to ensure sufficient water for irrigation purpose.
7	56	Water Resources	The Committee notes that the delay in completion of the construction work of ARCB is attributed to non availability of required land for approach road and the several revisions made in the estimates. Hence, the Committee directs that there should be strong intervention on the part of the Department in commissioning the project within a stipulated time frame, and to report the action taken in that regard within two months.
8	57	Water Resources	The Committee observes that most of the major irrigation projects being implemented in the State remains noncommissioned for decades, mainly due to delay in land

			<p>acquisition, awarding the work before land acquisition, designing the projects without considering the physical as well as geographical features, absence of proper planning, cost escalation of 30 to 40 times of the estimated project cost, shortage of necessary technical personnel in the Department etc. In addition, most of the projects become unfruitful due to poor distribution of water and failure to irrigate as much land as envisaged. Therefore, the Committee directs the Department to take utmost care to avoid such flaws in future.</p>
9	65	Water Resources	<p>The Committee observes that though the estimate for the construction of Regulator-cum-Bridge (RCB) was prepared by the Department inclusive of the cost of steel liners for providing bored cast in situ RCC piles, it was not reflected in the tender specifications. But the contractor had claimed an amount of ₹3.50 crore in part bill in such a way that the steel liners were used and the Department refused the payment. This led to the High Court judgment in favour of the contractor. Therefore the Committee views the occurrence of difference in estimate and tender specifications as a serious lapse on the part of the Department, and directs the Department to furnish a copy of the judgment and a detailed report regarding the current status of the case pending before the Hon'ble High Court</p>

			within one month.
10	66	Water Resources	The Committee also directs the Department to furnish the present status of the Vigilance case registered in 2016 and the details of liability calculated if any to the Committee within one month.

APPENDIX II
NOTES FURNISHED BY THE GOVERNMENT

Action Taken Report of C&AG on Economic Sector Report No.4 Para 3.10 Idle Investment on incomplete Irrigation Projects for the year ended March 2013

Para	Action Taken Report
3.10 Idle Investment on Incomplete Irrigation Projects	
3.10.1 Introduction	
<p><u>Of the 25 projects, five major /medium Irrigation projects viz.</u> Muvattupuzha Valley Irrigation Project (MVIP), Idamalar Irrigation Project (IIP), Karappuzha Irrigation Project (KRP), Banasuragar Irrigation Project (BSP) and Attappillykadavu Regulator Cum Bridge (ARCB) are lying incomplete. Total cost of these projects originally envisaged was Rs.89.19 crore. The same was revised several times, the latest cost estimate being Rs. 2,270.30 crore (25 times). Total expenditure so far (March 2013) incurred was Rs.1,568.10 crore.</p>	<p>1) Muvattupuzha Valley Irrigation Project</p> <p>The total length of the dam of MVIP is 460m and the dam is divided into 12 blocks. Works of all blocks were completed. All the spillway spans and erection of shutters completed. The project was partially commissioned in November 1994 by impounding water in the reservoir. About 93.5% works of the project completed. Out of 37.1 km of Left Bank main canal, works were completed for full length. Out of 28.337 km of Right Bank Main canal, works were completed for full length. Total length of 57.154 km of Branch canals, works were completed for full length. Total length of distributories of this project is 213.00 km. Works in 191.274 km is completed and works in 21.723km is in progress. The works of Muvattupuzha Valley Irrigation Project is targeted to be completed by March 2020.</p>

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2) Karapuzha Irrigation Project

Karapuzha Irrigation Project (Kabini Scheme) is being implemented, in the Kabini Sub basin of the interstate river Cauvery. This is the first project to be taken up in the Kabini basin. The project was partially commissioned on 20th June 2010 and water distribution through canal system started. Main canal works, Dam and Head works of Karapuzha project were fully completed. About 46.27% works of branches of this project completed. 3.50% works of distributories of this project were also completed. Land Acquisition works completed only for 5 distributory canal. The balance canal formation work of 3 branch canals and 15 distributory canals works were ongoing. The project is targeted to be completed by May 2021.

3) Idamalayar Irrigation Project

The Idamalayar Irrigation project is a diversion scheme for irrigating vast cultivable land lying in Periyar Basin on right side of periyar river in Aluva and Parur Taluks of Ernakulam District and Mukundapuram Taluk of Thrissur District. The main source of water is

Ennakkal Dam of Kerala State Electricity Board and the run off from the free catchment upstream of Bhoothankettu barrage. The total length of Main canal is completed in all respects achieving an ayacut of 999 Ha. The total length of the Link Canal is 7.575 km. Out of which 2.45km has been completed. 5.125km works are to be arranged & 0.203 km is in progress. Modification and renovation works of the CRBC are in various stages of progress . Investigation works and alignment fixation of new branches and distributaries of CLBC and CRBC are pending. The total length of right bank main canal is 48.200 km. The lining work has been completed except from ch.23/650km to 25/000km. The branches and distributaries of CRBC have a total length of 155.122 km. The left Bank Main canal is having a total length of 33.200km. Modification of 4.1 km is to be taken up to complete the project. The branches and distributaries of CLBC system have a total length of 143.680km. Modification of works of these are almost completed. The Technical Committee constituted by the State Planning Board recommends



for the feasibility study of the check dam and Link canal of the Idamalayar Irrigation Project.

4. BANASURASAGAR IRRIGATION PROJECT

The Banasura Sagar Dam on the Karamanthodu river, a tributary of the Kabani river in the Cauvery Basin, was constructed by Kerala State Electricity Board in 1973 under the Kuttiyadi Augmentation Scheme. The Banasura Sagar Irrigation Project (BSP) commenced in 1998-99 and was originally designed to irrigate an ayacut of 2800 Ha in Wayanad District. Administrative Sanction for the project was accorded for an amount of Rs.37.88 crores vide GO(Ms)No.4/1999/ID dated 30.01.1999. This project consist of the construction of Main Canal of 2.73km and two branch canals and 14 distributories. The work of this project is targeted to be completed by March 2021.

5. ATTAPPILLYKADAVU REGULATOR CUM BRIDGE

Attappilly Regulator Cum bridge started in 2008 under NABARD funding & complete the work of bridge. The revised estimate of Rs.7,54,64,095/- was sanctioned in May 2018. Since all the requirements for

	the work has been arranged the Regulator Cum Bridge would be fulfilled within a few months.
3.10.2 Physical & Financial status	Annexure I enclosed
Muvattupuzha Valley Irrigation Project	
3.10.3.1 Profile of MVIP <p>The project is intended to provide irrigation to an area of 17,400 ha for three harvests of crops of paddy a year in Idukki, Ernakulam and Kottayam districts by utilising the tail race waters from Moolamattam power house of Idukki Hydro Electric project released to Thodupuzha river. The irrigation department constructed (1994) Malankara dam across Thodupuzha River for storing water to irrigate 17,400 ha area. To take the water to ayacut on both left and right banks of the Thodupuzha river. Two main canals taking off from the dam for a length of 65.437 km was constructed completely (2007). from the main canal the water is diverted to the ayacut through six branch canals having a length 57.154km and 58 distributaries taking off from the branch canals for a length of 240.882km. However, as on 31</p>	<p>As on 31 st March 2020, 21.723 Km length of canal to be completed and the project is proposed to be fully commissioned by 03/2020 itself.</p>

March 2013, 61.668km length of canal is yet to be completed even after lapse of 37 years of commencement of the project.

3.10.3.2 Time and cost overrun

The project MVP commenced in 1975, was scheduled to be completed in 1985, but the construction of canals was still going on as of 31 March 2013 with a time overrun of 27 years. Time lag of 27 years on project resulted in revision of project cost on six occasions. In the latest revision in 2011, it was raised to Rs.939 crores. When compared to the original cost of Rs. 20.86 crore the cost had escalated by Rs, 918.14 crore; cost escalation being 4401 percent. Cost escalation during the audit period was Rs. 98 crore.

Due to the change in design, inadequate provision,

3.10.3.3 Planning of Physical feature

Designing the physical features of the projects is the first step in planning. For designing the physical features, an investigation is necessary. Based on the investigation, design is carried out, hydraulic particulars fixed and design drawing prepared.

The project MVP commenced in 1975, was scheduled to be completed in 1985, but the construction of canals was still going on as of 31 March 2013 with a time overrun of 27 years. Time lag of 27 years on project resulted in revision of project cost on six occasions. In the latest revision in 2011, it was raised to Rs.939 crores. When compared to the original cost of Rs. 20.86 crore the cost had escalated by Rs, 918.14 crore; cost escalation being 4401 percent. Cost escalation during the audit period was Rs. 98 crore.

The unprecedented delay due to above change leads to revision of subsequent changes in the SoR leads to price escalation. As per GO(Rt) No. 1007/2017/WRD dated 15/12/2017 Government have already given revised Administrative Sanction for an amount of Rs. 945 Crore for MVP.

Individual works are estimated based on the design drawing. Any laxity in this regard would definitely result in delay in implementation of the projects. A test check of work files revealed that these steps were often overlooked in planning the projects as narrated below;

a) In MVIP, the structures of canals were designed without considering the hydraulic particulars of branch canals. In karikode distributary, the upstream was narrower than the down stream. Resultantly, the cross section and bed slope for major

a) In the redesign of Karikode distributary, the discharge was approved by 2.153m³ /Sec, and work arranged is in progress

portion of Karikode distributary was of a higher water discharge than what was available from the parent canal. The discharge of parent canal (Peruva) was 3.752 cum per second whereas the discharge of karikode distributary was five cum per second. This has resulted in re-designing the canal which in turn resulted in non execution / completion of works.

b) The Mammalassery Ageduct was completed by 2014 and water distribution commenced from 2014 onwards.

b) The contract for Mammalassery distributary of MVIP work was awarded (1999) without finalising the design of aqueduct (Chainage 1460m to 1770m). But

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on finalising the design (2001) contractor was not willing to do the work with the existing rates in the contracts. During execution of the retendered works it was found that the design was not suitable to the soil condition and hence it was revised in 2009. The work is going on (June 2013) based on the revised design.

3.10.3.4 Implementation

The implementation of a project starts after proper completion of planning at the initial stage of the projects. Any lapse in planning would result in defective implementation of the project. The defects in implementation as noticed in Audit are discussed in the ongoing paragraphs

a) Delay in land acquisition

The land acquisition for the projects should have been completed prior to the awarding of the works. Since the project MVIP was scheduled to be completed in 1985 land acquisition should have been completed well in advance for the timely completion of work. The extent of land to be acquired at the end

- a) The Land acquisition of all the canal completed except a bit land (0.48ha) to be acquired. Letter of credit received Land acquisition is in final stage.
- b) The status of completion of canal system from 2013 onwards as shown in Annexure II.

of March 2008 was 25.672ha. Audit found that the extent of land acquired during the period 2008-09 to 2012-13 was only 18.370 ha leaving a balance extent of 7.302 ha of land still to be acquired.

The delay in land acquisition resulted in prolonging the completion of the project.

b) Slow progress in awarding the canal works

Total length of canal left incomplete in MVIP as on 31 March 2008 was 82.363 km. The project authorities were able to award works for a length of 26.683km (32.40 percent) to the contractors who were able to complete 20.673km (25.10 percent) canal formation work during the last five years. The department could not award the balance 55.680km canal work for execution till 31st March 2013. The slow progress in awarding resulted in non-completion of canal construction works.

Idamalayar Irrigation Project

3.10.4.1 Profile of IIP

The Idamalayar Irrigation project is a diversion scheme for irrigating vast cultivable land lying in Periyar Basin on right side of periyar river in Aluva and Parur Taluks

	<p>of Ernakulam District and Mukundapuram Taluk of Thrissur District. The Technical Committee constituted by the State Planning Board recommends for the feasibility study of the check dam and Link canal of the Idamalayar Irrigation Project.</p>
<p><u>3.10.4.2 Delay in implementation and resultant cost overrun</u></p> <p>The project IIP was commenced in 1981 and scheduled to be completed within a period of 10 years. But the project is still under progress. Time lag of 21 years on project resulted in revision of project cost on four times taking the cost from Rs.17.85 crore to Rs.694 crore with a cost escalation by Rs. 676.15crore (3,788 percent). The cost enhancement between 2007 (Rs. 539.50 crore) and 2012 (Rs.694 crore) was Rs.154.50 crore. Audit observed that department had not formulated proper planning to the effect that the projects were completed in a phased manner within the time frames and at the cost proposed which led to time and cost overrun as explained in succeeding paragraph.</p>	<p>Annexure III enclosed</p>

3.10.4.3 Delay in finalisation of design of canals due to non completion of investigation

Investigation is the first step to design a project. Only after investigation the detailed design could be prepared. But the project authorities failed to conduct investigation for finalising the alignment of some stretches of new canals LLC and new canals CRBC of CRDS. The absence of investigation hampered further progress in the execution of the formation of canals.

Annexure III enclosed

3.10.4.4 Slow progress of land Acquisition

The assessment of exact area of land required for the purpose of construction of canals can be done only after the finalisation of alignment and design of canals. Owing to delay in finalisation of alignment the land acquisition process also was not started for formation of new branches LLC and new branches CRBC of CRDS. Besides, delay in various process of land acquisition also contributed non-completion of land acquisition in time.

Annexure III enclosed

The extend of land to be acquired at the end of March 2008 was not assessed so far due to non

<p>finalisation of alignment of new canals of RBC of CRDS. Audit found that land was not acquired during the period 2008-09 to 2012-13 for new branches LLC and new branches CRBC of CRDS.</p>	
<p><u>3.10.4.5 Slow progress in works</u></p> <p>During the period the dpeartment could award only 2.165 km of canal works. As on 31 March 2013 length of canal works to be completed was 111.792km. The slow progress in awarding the work resulted in non-completion of canals.</p>	<p>Annexure III enclosed</p>
<p><u>3.10.4.6 Idle expenditure on the project</u></p> <p>The expenditure incurred so far was Rs.378.74 crore in 31 years. The expenditure incurred was mainly for construction of canal system comprising MC, LLC, LC and re-modeling of CLBC and CRBC. But the construction work of MC was not completed so far. Though CC lining of works in some reaches within 23 km are still to be completed, a trial run was carried out (March 2013). It was revealed in audit that a trial run of partially completed structures along would not contribute for serving the ayacut</p>	<p>Annexure III enclosed</p>

due to the following reasons.

* Reaches between 0.625 to 1.350km and 7.400 to 8.000 km of the MC were not completed

* There were incomplete portion in the initial chainage link canal and Low level canal.

* Construction of link canal was not completed yet due to failure to acquire 11 ha. Land.

As water distribution could not be effected for irrigation under the project, an amount of Rs.378.74 crore incurred for the project remained unfruitful.

Karappuzha Irrigation Project

3.10.5.1 Profile of KRP

Karappuzha Irrigation Project in Wayanad district was taken up in 1978 for increasing production of rice by 22,550 MT. The project envisaged construction of a dam across Karappuzha river at Vazhavatta along with canal system. The construction of the dam was completed. However, the department neither completed nor arranged any canal formation work during the last five years.

The project was started in 1974 and was approved by Planning Commission in April, 1978 at an estimated cost of Rs. 7.60 crore envisaging irrigation to CCA of 5,600 ha with ultimate irrigation potential of 8,721 ha. The revised Estimate cost of the project required for the completion of all the three phases based on DSR 2014 with a Cost Index of 39.05% is 560 Crores, Sanction to this DPR was obtained vide GO(Rt) 988/2017/WRD, dated 11.12.2017.

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Sl. No.	Component	% Progress
1	Dam(Main Structure works)	100%
2	(a) Main Canal	100%
	(b) Branch Canals	46.27%
3	Distributaries	3.50%

3.10.5.2 Delay in implementation and resultant cost overrun in KRP

The project KRP was commenced in 1978 and scheduled to be completed within a span of five years.

Time lag of 29 years on project resulted in revision of project on five times and cost enhanced from Rs.7.60 crore to Rs.441.50 crore with a cost escalation of Rs.433.90 crore (5,709 percent). During the period between 2009 and 2012 the cost enhancement was Rs.49 crore. Audit observed that department has not formulated proper planning to the effect that the projects could be completed in a phased manner within the time frame and at the cost proposed which led to time and cost overrun.

On May 2017, the Kerala State Planning Board constituted a Technical Committee to review Karappuzha Irrigation Project along with three other projects to evaluate large scale infrastructure projects characterised by time and cost overruns. Based on the interim report of the State Planning Board, Budget provision for the Karappuzha project for Financial year 2018-19 was also increased. From the above it is obvious that the Government/ Department has clear plan to complete the project on time without causing any further cost overrun.

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3.10.5.3 Slow progress of land acquisition in KRP

The project area required was 1481 ha. of land. Though the project was to be completed within five years in 1983, the land acquisition was not completed even by 2013. As on 31st March 2013, the department acquired 1,378.762 ha, of land leaving 102.238ha. of land. The extent of land acquired during the period from 2008-09 to 2012-13 was only 14.9766 ha which represented only 12.78 percent of total 117.2146ha of land to be acquired as on 31st March 2008. The department stated that the progress in the work was hampered following a public demand and that the work may be resumed only after ascertaining the necessity of future acquisition of land. In this connection, the SE's office informed that the minutes of the meeting directing to acquire land only after public survey was not received from the Collectorate so far (August 2013).

3.10.5.4 Slow progress in arranging works in KRP

Total length of canal left incomplete in KRP as on 31st March 2008 was 81.26km. The project

It is true that the Land Acquisition process is a tedious one. At present Land acquisition process is on to acquire 5.72 ha. of land in the Reservior submergence area. As the land acquisition is a slow and costly affair, Department is trying to minimize the extent of land to be acquired for the Canal system by redesigning the canal system from the conventional open canal system to pipe irrigation or other similar structures.

It is pertinent to note that the open canals which were constructed 20-25years back were damaged at most locations and action has to be taken for rectifying these

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authorities failed to arrange or to complete any length of canal formation works during the period 2008-09 to 2012-13. To a query in audit, the project authorities stated that no works were arranged by the department during the period between 2008-13. However, the department was not able to furnish any justification for not arranging the work even though land was available for construction of distributaries in some cases test checked by audit.

breaches. There was considerable settlement, weed growth, even trees have grown in the canals and heavy siltation in the canals. Excessive seepage also was observed during the trial run mainly from open canals. These forced the project authorities to concentrate on the rectification of these canals instead of concentrating on building/ formation of new canals in the lower reaches. By adopting this strategy the authorities were able to extend water distribution through both the Left and Right Bank Canals. Urgent Rectification works for arresting excessive seepage from the already constructed canals during 20-25 years back should be given first priority to achieve the target Ayacut as planned as only if water is carried through these canals efficiently most of the branch canals and distributaries which are yet to be constructed will get water. In addition, these works are necessary to utilize the money already spent on this project and to reach the benefits of this project to the local people and it is also necessary for safeguarding the adjacent property owners near the canal from flooding of their property.

	<p>As most of these rectification works will be completed by Financial Year 2018-19 and 2019-2020 works/formation of two new distributaries viz; Arimula and Ponginithody, off taking from the Right Bank Canal for which the land is under possession of the Irrigation department have been included in this year's 2018-19 Action Plan and will be arranged.</p>
<p><u>3.10.5.5 Non receiving of grant of AIBP</u></p> <p>Central assistance under Accelerated Irrigation Benefit Programme (AIBP) was available for certain ongoing works in particular years in order to complete projects in a phased manner so that irrigation benefit reached to the public early. Funding for the years subsequent to first year will be based on the confirmation of expenditure of the previous years.</p> <p>In KRP, GoI provided grant of Rs. 2.72 crore under AIBP for 2006-07 for 15 components. Audit found that bills of eight out of 15 works included under the AIBP were neither submitted nor finalised so far. Non finalisation of bills of works coming</p>	<p>After completing major portion of works the contractors delayed the works. They had not taken earnest efforts to get the time of completion extended. Bank Guarantee for major works had not been renewed by the contractors till the completion of works. Two works were terminated at the risk and cost of the contractors and civil suits were filed to recover the liability amount from the contractors. Three works were foreclosed and bills were not submitted. Also land for the construction of distributaries of Left Bank Canal and Right Bank Canal had not been acquired. Insufficiency of technical staff in Sub Division offices also caused the delay in submission of bills in time.</p>

under AIBP led to loss of assistance under AIBP from 2007-08 onwards. Thus, due to negligence on the part of department, the State was deprived of any assistance in subsequent years in respect of this project.

3.10.5.6 Non commencement of water distribution due to poor execution of canal work

Though the construction of entire length of 25.545 km of main canal was completed, water distribution was not possible in Left Bank Main Canal (LBMC) beyond the chainage from 5km due to blockage in cut and cover from 10.175km and 15km and excessive seepage in LBMC. Similarly, the water distribution was not commenced beyond 3.7km of Right Bank Main Canal (RBMC) due to damages and seepages in RBMC. Therefore, water distribution was not possible in 36.85 kms and hence an expenditure of Rs.63.87crore (Appendix 3.3) remained blocked up for five years. Similarly, in Padinjarevedu branch canal the work had to be terminated due to detection of exposed hard rock

From 9th January 2012 onwards water distribution only upto 3.70km of Right Bank Main Canal (RBMC) including Arimunda Distributary has been started on a regular basis serving an ayacut of 236.15 Ha. From January 2014 onwards, water distribution is carried out through the Right Bank Main Canal up to Ch.7020m. From this season (2018 -2019) onwards water distribution through RBMC can be extended further as the rectification work of the Major breach from Ch.7673m to 7888 at Edakkaravayal is almost completed. Water distribution through the Left Bank Main Canal (LBMC), is carried out upto Ch.15300m of Left Bank Main Canal in a weekly twice basis and up to Ch. 9200 m on a regular basis. Rectification works in the already completed RBMC and LBMC are urgently

between chainage 0/000km to 0/430km. As a result the work pertaining to the above chainage was re-aligned and the land acquisition work is in progress. This due to the lapses in investigation, the work was delayed for five years.

needed to improve the hydraulic flow conditions and to reduce losses to achieve the designed efficiency of the canal system and for distributing water to the fields on a regular basis.

Banasura Sagar Irrigation Project

3.10.6.1 Profile of BSP

Kerala State Electricity Board (KSEB) constructed a dam across Karamanthodu at Padinjathara in Wayanad district to store 6.7 TMC feet of water of which 1.7 TMC ft of water would be used to irrigate the field by constructing canals. The project envisages to irrigate 2.800ha of land with increased food production of 8,838 tonnes of paddy annually.

The Banasura Sagar Dam on the Karamanthodu river, a tributary of the Kabani river in the Cauvery Basin, was constructed by Kerala State Electricity Board in 1973 under the Kuttiyadi Augmentation Scheme. The Banasura Sagar Irrigation Project (BSP) commenced in 1998-99 and was originally designed to irrigate an ayacut of 2800 Ha in Wayanad District.

3.10.6.2 Delay in implementation and resultant cost overrun

The project was commenced in 1999 and scheduled to be completed within a span of four years. The department was able to complete less than one percent of canal work in five years after incurring an expenditure of Rs.21.43 crore. Time lag of nine years on project resulted in upward revision of project cost

This project consist of the construction of Main Canal of 2.73km and two branch canals and 14 distributaries. The construction of main canal was completed around 81%. A Technical Committee was constituted under the aegis of the Kerala State Planning Board to evaluate all long pending major irrigation projects. Banasura Sagar Irrigation Project was one among the four long pending

two times from Rs.37.88 crore to Rs.185.50 crore with a cost escalation of Rs. 147.62 crore (390 percent). The cost escalation during the audit period was by Rs.58.50 crore. Audit observed that department had not formulated proper planning to the effect that the projects could be completed in a phased manner overrun. There was no intervention of higher authorities to fill the vacancies of technical staff in BSP which affected the progress of works.

major irrigation projects which were evaluated by the Technical Committee. The Technical Committee has since proposed necessary changes in scope of the project. The Chief Engineer, Project I has accordingly revised the detailed project report for the BanasuraSagar Irrigation Project in keeping with the changes proposed by the Technical Committee. The revised project cost is pegged at Rs. 165.98 Crores as estimated as per the latest schedule of rates. An amount of Rs. 106.79 Crores is required to complete the balance works as per the revised DPR. The Finance Department agreed the proposal of Chief Engineer, Project I on condition that it needs to locate funds under plan for current and coming years. Further Chief Engineer, Project I has been directed to locate funds under plan for current and coming years for this project.

3.10.6.3 Slow progress of land acquisition in BSP

The total land required for the project was 72.462ha though the land acquisition procedure had to be completed prior to the arrangement of the work, the

Land acquisition office was formed only on 8/2010 for BSP Padinjathara. Before that an LA office was functioning at Kalpetta jointly for BSP and KRP Division Kalpetta. Due to the joint liability for the land

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department was able to acquire only 20.209 ha of land in 13 years after incurring Rs.42.85crore.

3.10.6.4 Slow progress in awarding works in BSP

Total length of canal left incomplete in BSP as on 31 March 2008 was 71.185km. The project authorities completed only 0.695km canal formation work during the last five years leaving a balance length of 70.490km of canal to be completed. During the period, the department could award only 1.615km of canal construction works. The slow progress in arranging the work resulted in non-completion of canals. The delay in land acquisition, revision of estimates /design after awarding works and delay in approving revision of estimates and non-deployment of required number of technical staff in BSP for preparation of estimate/ revised estimate led to delay.

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acquisition process of these two projects, the acquisition process could not attain much progress. But at present staff strength of the acquisition office increased and the process of land acquisition is in a progressive stage.

This project consist of the construction of Main Canal of 2.73km and two branch canals and 14 distributaries. The construction of main canal was completed around 81%. A Technical Committee was constituted under the aegis of the Kerala State Planning Board to evaluate all long pending major irrigation projects. Banasura Sagar Irrigation Project was one among the four long pending major irrigation projects which were evaluated by the Technical Committee. The Technical Committee has since proposed necessary changes in scope of the project. The Chief Engineer, Project I has accordingly revised the detailed project report for the BanasuraSagar Irrigation Project in keeping with the changes proposed by the Technical Committee. The revised project cost is pegged at Rs. 165.98 Crores as estimated as per the latest schedule of rates. An

	<p>amount of Rs. 106.79 Crores is required to complete the balance works as per the revised DPR. The Finance Department agreed the proposal of Chief Engineer, Project I on condition that it needs to locate funds under plan for current and coming years. Further Chief Engineer, Project I has been directed to locate funds under plan for current and coming years for this project.</p>
<p><u>3.10.6.5 Defective Investigation</u></p> <p>The work of canal construction from Ch.1130 m to 1500m of main canal was awarded in October 2004 stipulating the period of completion in October 2006. During the course of execution, it was noticed that the open foundation proposed at piers P2 to P4, P7 and P8 was unsuitable due to the soil strata at the proposed site. Hence the open foundation was changed to Pile foundation. Thus due to lapse in investigation, the work had to be stopped after incurring an expenditure of Rs.47.86 Lakh. The work is at stand still (31 March 2013)</p>	<p>Though the investigation work was properly done but at the time of execution of the work, it was found that the soil condition was extremely different from that of investigated earlier due to the specific nature of soil conditions prevailing in Wayanad district. Hence the open foundation changed to pile foundation. This is not due to lapse of investigation.</p>

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3.10.6.6 Termination of work due to non-handling over of site

Process of land acquisition and construction programme was not synchronized. In BSP, 12 canal formations works costing Rs. 16.88 crore were awarded on or before 2008 with a period of completion of six to 18 months. Consequent on non finalisation of land acquisition process there was delay in handing over/ non handing over of site to the contractors which resulted in, stoppage/ delay in execution of work. Hence, these works were terminated and remain to be rearranged. Audit observed that had the land acquisition been synchronized with work awarded, the work could have been arranged in 2010 and completed by 2012.

In anticipation of receiving the land got acquired from the LA unit, the works were awarded on or before 2008. But as expected earlier the land was not in possession of the department. Before the possession of land, the works were awarded for the timely completion of the work but due to different reasons the land was not timely acquired by the LA office. Hence the delay for handling of land arised.

3.10.6.7 Idle Expenditure

As on March 2013, an amount of Rs. 42.85 crore was spent on BSP. However, water distribution could not be commenced due to non completion of main canal from ch.1130m to 1500m. More importantly the irrigation department had fixed the Minimum Drawdown Level (NDDL) for irrigation supply is

The Observation of the KSEB was true on that period. But the condition of water level was drastically changed on the subsequent years. After the completion of the canal system and flowing water through the canal, the derived benefit of irrigation as increase in agriculture production was to justify the spending of 42.85 crores till 31st March 2013. Hence the amount spent till date

760.075m above Mean Sea Level (MSL) which was the off take level of main canal. However, data available with the KSEB revealed that water level in the reservoir was lower than the off take level fixed for BSP during March 2007 to May 2007 (average 755.4m) April 2008 to May 2008 (Average 755.7m), April 2009 to May 2009 (average 755.7m) and May 2010 (756.3m). This confirms that the project work would be ineffective even with the commissioning of the project.

may not be idle and may be treated as the foundation for a progressive agriculture production.

Attappillykadavu Regulator Cum Bridge (ARCB)

3.10.7.1 Idle expenditure due to non completion of project

Construction of ARCB was awarded in June 2008 with a period of completion as 24 months. After completing 70 percent of the work, work was held up from 31 March 2012 due to non availability of fund from NABARD. Delay in completion of the project was attributed to continuous flow of water in the river, revision of design and non availability of

Although the Attappilly regulator Cum Bridge started in 2008 under NABARD funding & complete the work of bridge. Upstream solid Apron in 2012, it was stopped due to the expiry of NABARD funding period. During this period majority work of the bridge had been completed and the transportation has been established partially. Out of an estimate amount of Rs.5,00,00,000/-,

<p>sufficient land for approach road. An amount of Rs.4.24 crore was spent for the project so far and Rs.six lakh payable to the contractor. It was estimated by Executive Engineer that the balance work would cost Rs. Six crore at 2012 SoR. Thus the cost escalation would be 106 percent when compared to AS of Rs. 5 crore. Audit observed that as major portion of the work viz. Erection of shutter was not commenced, no irrigation potential was created. Hence the entire expenditure of Rs.4.24 crore spent on the project remained unfruitful.</p>	<p>Rs. 2,83,87,106/- had only been spent till that time. The fund (Rs.6,93,00,000/-) to complete the remaining works like downstream apron. QApproach road Mechanical shutter etc. was sanctioned after long years of effort. As per agreement No.10/SEICE/2016-17 dated 24-09-2016, the agreement was signed and the site handed over on 03-10-2016 and the work was started. The revised estimate of Rs.7,54,64,095/- was sanctioned in May 2018. Since all the requirements for the work has been arranged the Regulator Cum Bridge would be fulfilled within a few months.</p>
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S. MURALEEDHARAN

PEN : 101386

Joint Secretary to Govt.
Water Resources Deptt.
Govt. Secretariat, Typm.
0471-2517459



Report of C&AG on Economic Sector Report No.4 Para 3.10 Idle Investment on incomplete Irrigation Projects for the year ended March 2013

ANNEXURE - I

MUVATTUPUZHAAVALLEY IRRIGATION PROJECT

Status of project as on 28 th February 2019 as per modified scope	
Particulars	MVIP
Name of the river	Thodupuzha River
Name of water storage structures	Dam
Districts Irrigated	Kottayam ,Ernakulam & Idukki
Project commenced	1974
Period of completion originally fixed (in years)	10
Proposed year of completion	01/03/2020
Original project cost (Rs. In crores)	20.86 Cr
Revised Project cost (Rs. In crores) as per modified scope /works	945 Cr
Expenditure upto March 2018(works) (Rs. In cr.)	346
External assistance received for the project AIBP	154.964 Cr
Proposed length of canal in modified scope (In Km)	363.48
Length of canal constructed (in km)	335.588
Percentage completed (w.r.t modified scope)	93.50%
Length of canal on which water distribution commenced for Irrigation (in KM)	313.865
Ayacut originally envisaged(Ha)	17400
Revised Ayacut envisaged(Ha) as per modified scope	18173
Ayacut irrigable (Ha)	16696
Ayacut percentage achieved	92.00%

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ANNEXURE - I

Sl.NO.	Name of Canal	Total Length (Km)	Completed Length(Km)	Progress Length(Km)	To be arranged	% of work completed
1	Main Canal	65.437	65.437			100
2	Branches	57.154	57.154			100
3	Distributories	212.997	191.274	21.723		89.8
Grand Total		335.588	313.865	21.723		93.5

IDAMALAYAR IRRIGATION PROJECT

Works included in the Modified scope of the project

Sl. No.	Name of canal	Total length(Km)	Balance length to be completed (km)	Land acquisition	Execution of work (crore)	Total amount required (crore)
1	Main Canal	32.28	Nil	Nil	Nil	Nil
2	Low Level Canal	15	0.167	Nil (up to 15 th km)	3.47	3.47
3	Branches of LLC (1no)	7	7	30 crores (7 Ha)	20	50
4	Link Canal	7.58	4.7820	5.054 crores (5.0098)	69.004	74.058
5	Deepening CLBC(4.1m)		4.1	Nil	10.5	10.5
6	Modification of CLBC new branches			Nil	0.8	0.8
	Total	61.86	11.949km	35.054 crore (12.0098 Ha)	103.77	138.83

Total Anticipated Expenditure

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139 Crore

1) 3.10.2.1 Physical Status

Status of project as on 31 st March 2018 as per modified scope	
Particulars	IIP
Name of the river	Periyar
Name of water storage structures	Barrage
Districts Irrigated	Ernakulam & Thrissur
Project commenced	1981
Period of completion originally fixed (in years)	10
Proposed year of completion	1991
Original project cost (Rs. In crores)	17.85
Revised Project cost (Rs. In crores) as per modified scope /works	139
Expenditure upto March 2018(works) (Rs. In cr.)	346
External assistance received for the project	Nil
Proposed length of canal in modified scope (In Km)	61.86
Length of canal constructed (in km)	49.831
Percentage completed (w.r.t modified scope)	80.55%
Length of canal on which water distribution commenced for Irrigation (in KM)	42.768
Ayacut originally envisaged(Ha)	14394
Revised Ayacut envisaged(Ha) as per modified scope	5098
Ayacut irrigable (Ha)	3048
Ayacut percentage achieved	59.79%

Overall status -IIP

Main Canal (32.278 km) completed and water through
 Low Level Canal upto 10.49km completed and water through
 From 10.49km to 15.00km only 167m of canal is to be completed
 Land for an extent of 5.0098Ha is required to complete the work of link canal

2) 3.10.2.2 Financial Status

Fund allocation and Expenditure – Project wise details. (in crore)							
Particulars		Expenditure upto 31st March 2013	Year				
			2013-14	2014-15	2015-16	2016-17	2017-18
IIP	Budget		18.65	20	20.5	20.5	20.5
	Expenditure (Work + estt.)	372.25	13.09	11.64	21.22	14.8	25.04

KARAPPUZHA IRRIGATION PROJECT

Physical Status

Sl. No.	Component	% Progress
1	Dam(Main Structure works)	100%
2	(a) Main Canal	100%
	(b) Branch Canals	46.27%
3	Distributaries	3.50%

4700-22-001- 97-Execution		up to 2/19																													
01-Salaries																															
1 Pay	10,618,314	10,553,194	27,805,724	40,528,606	31,802,380	31,016,362	30,322,840	30,474,752	31,553,751	29,512,420	70,428,301	51,591,908	47,162,380	43,010,470	34,985,082	82,668,004	62,586,817	66,129,781	51,310,569	53,858,304	106,358,313	107,122,940	105,123,384	1,181,125,216							
2 D.A	5,508,344	17,583,083	6,627,102	1,379,429	13,053,511	9,687,848	16,287,307	19,948,234	19,851,542	21,483,838	6,367,480	19,269,464	24,445,013	27,370,406	32,236,164	10,681,472	28,718,756	25,406,652	39,274,257	47,414,830	11,266,611	14,931,416	12,482,326	426,279,250							
3 H.R.A	391,720	385,828	443,813	737,274	757,661	752,855	775,136	697,465	710,966	683,680	1,065,444	915,680	840,501	750,500	632,360	980,263	994,087	910,083	778,668	899,711	3,735,647	3,428,197	3,355,080	25,632,194							
4 Medical Reimbursement	110,489	83,728	76,309	300,744	147,428	103,193	127,555	27,544	24,225	97,681	68,111	377,894	380,171	210,201	40,900	62,089	31,350	233,459	273,668	206,016	71,129	109,301	86,753	3,254,828							
Interim relief										591,902	489,244	18,100												84,558							
5 Other Allowances	1,328,219	2,278,795	1,010,141	73,408	995,946	945,066	978,966	860,744	729,060	993,758	346,025	851,435	580,108	850,730	1,102,448	1,253,204	894,535	703,463	772,124	481,847	782,393	3,028,040	885,773	22,631,236							
TOTAL	27,957,086	30,884,628	35,963,088	43,280,603	46,756,926	42,505,324	48,491,804	52,006,739	52,869,544	53,363,279	65,051,549	72,788,381	74,704,263	73,034,380	69,080,847	95,645,032	53,227,255	93,382,448	92,409,286	102,860,708	122,224,093	128,619,894	121,933,316	1,639,009,762							
02-Wages	224,364	244,872	303,476	440,515	424,846	360,847	445,360	537,833	463,947	500,843	754,364	970,173	803,941	1,043,948	855,212	1,304,016	1,277,007	1,117,378	1,271,576	1,483,892	2,016,376	1,634,811	1,572,418	20,181,510							
04-Travel Expense																															
1 Tour T.A	143,583	134,672	163,875	463,065	422,690	288,576	214,407	251,926	333,351	321,674	484,554	396,179	328,877	210,047	300,453	101,310	100,450	80,024	81,947	70,095	62,604	29,362	185,240	5,155,535							
2 Transfer T.A	3,090	17,347	7,149	9,743	11,616	7,335	9,151	12,218	9,814	6,964	28,720	16,355	11,238	7,253	7,989		4,957	12,360	18,475		8,060		13,280	224,114							
TOTAL	146,673	152,019	171,024	472,808	434,306	295,911	223,558	264,144	343,165	328,638	494,272	412,534	340,115	217,900	314,442	101,310	105,407	92,384	100,422	70,095	70,664	29,362	198,520	5,379,673							
05-Office Expense																															
1 Motor Charges	1,072	780	660	5,769	3,682		9,710	34,541		5,395	24,380	4,937	24,771	30,257	57,004	206,000	6,000	28,271	35,000	316,000	105,000	771,000	342,766	2,021,995							
2 Electricity Charges	15,857	18,377	27,002	55,866	65,237	56,859	125,297	59,027	69,118	96,934	74,211	101,525	110,806	185,009	182,152	137,481	88,508	181,192	99,910	127,022	96,947	377,556	31,717	2,399,001							
3 Telephone Charges	32,758	23,563	28,070	42,716	39,888	38,493	43,805	59,280	62,512	65,670	63,190	70,314	78,801	48,477	57,918	30,389	32,511	32,262	22,771	47,969	49,367	94,852	80,342	1,127,842							
4 Other Items	41,419	57,517	92,237	141,344	139,628	139,741	207,592	239,134	202,001	147,223	133,011	113,345	121,987	100,511	116,849	126,734	60,863	74,316	29,797	61,577	95,736	114,957	104,624	2,662,089							
TOTAL	90,906	100,237	147,969	245,695	248,245	237,093	386,604	391,982	333,631	315,222	294,810	290,121	337,366	373,964	423,923	508,614	187,625	317,041	187,478	552,568	350,050	1,358,365	539,448	8,210,927							
06-Rent Rate & Taxes	427,691	378,374	102,896	617,642	637,624	482,696	380,630	610,872	231,266	279,636	1,148,780	624,696	408,684	184,622	440,821	97,214	97,941	94,892	111,041	87,874	98,611	187,841	169,076	7,550,638							
21-Motor Vehicles																															
1 Purchase of Vehicles																															
2 Repairs Maintenance	31,408	140,116	116,840	306,802	124,620	77,954	138,900	92,327	46,426	64,112	41,327	73,824	72,607	89,862	92,044	93,070	33,227	42,863	34,876	45,610	49,729	290,565	113,524	2,212,613							
TOTAL	31,408	140,116	116,840	306,802	124,620	77,954	138,900	92,327	46,426	64,112	41,327	73,824	72,607	89,862	92,044	93,070	33,227	42,863	34,876	45,610	49,729	290,565	113,524	2,212,613							
34-Other Charges	19,110	11,837	8,877	16,915	20,738	36,390	40,457	45,510	48,500	33,985	48,801	47,715	71,171	66,472	80,244	93,133	52,220	56,440	45,000	275,580	78,296	89,689	48,381	1,336,121							
45-P.O.L	48,332	57,646	100,819	201,434	131,318	129,806	185,720	123,880	191,078	115,372	69,606	113,629	120,707	101,482	112,470	248,785	49,832	99,850	20,925	94,750	99,863	664,878	160,170	3,240,852							
99-Information Technology																															
Estt Exp. Up to 3/1996	134,579,181																								134,579,181						
TOTAL OF 97	134,579,181	28,945,570	31,969,729	36,914,990	45,462,414	48,678,023	44,125,721	50,292,993	63,973,067	64,627,647	65,000,886	67,893,199	76,221,072	77,048,863	76,102,418	71,398,803	98,083,174	95,030,370	95,202,296	94,182,604	105,933,800	124,988,282	132,875,395	124,724,654	1,622,163,520						
4700-22-800-Other Expenditure																															
98-Reservoir	136,362,978	3,452,172	3,889,897	6,340,296	3,110,516	3,432,527	5,740,877	3,501,081	3,807,315	7,106,993	7,160,107	267,321	3,540,071		584,993	2,024,297	15,825,941	1,023,140	1,734,367					3,409,706	215,314,796						
97-Dam & App. Works	79,246,285	1,581,297	282,981	1,419,084	1,034,232	1,872,024	4,488,920	847,750	3,581,979	5,594,508	7,862,972	5,489,780	10,030,000	2,418,387	2,787,671	1,675,904	852,859	1,596,931	29,259,113		1,871,607	27,458,584		15,231,322	206,445,280						
93-Buildings	27,709,964	1,898,782	2,324,725	1,175,019	4,809,459	6,967,435	5,813,021	879,326	1,484,840	3,453,536	10,441,366	1,629,311	1,576,193	4,309,268	1,882,158	2,482,596	4,561,247	4,273,323	601,842	3,500	2,814,448	748,501	4,388,840	1,298,076	87,508,116						
92-Canals	781,258,238	100,971,999	152,481,802	112,803,994	136,961,696	88,011,510	111,112,133	84,206,124	108,728,062	138,941,889	126,740,571	100,245,323	31,208,946	23,904,717	14,364,238	30,752,120	27,625,461	17,815,139	21,514,853	9,120,164	16,770,467	14,128,735	19,761,491	9,153,465	2,278,463,142						
91-Branches	249,707,648	88,498,094	116,853,853	116,818,743	100,510,486	59,884,963	100,674,050	60,891,288	110,708,732	124,801,114	60,978,582	71,451,343	44,776,694	8,677,404	12,364,009	36,211,704	24,455,285	19,598,694	4,862,105	2,792,542	1,905,579	9,932,410	7,685,735	1,429,440,314							
90-Distributones	60,401,159	37,420,309	118,151,228	151,534,152	95,303,439	149,844,057	130,117,740	115,356,818	179,306,595	467,656,209	331,116,963	383,941,313	178,883,903	37,677,868	10,481,925	61,783,281	19,294,361	27,876,272	7,036,961	3,236,243	11,363,650	22,119,126	40,849,557	56,036,340	2,697,051,464						
87-AIBP Assistance for MVIP														104,404,673	7,340,828	79,178,232	69,590,494	181,834,060	43,378,700	29,346,177	44,209,706	94,396,825	59,001,693	17,711,418	770,392,806						
89-LAC-ADS																									993,452	993,452					
4701-22-800-76(02)Priority works																		27,547,481	71,188,716	22,847,619	35,156,218	6,756,811	671,200	164,168,055							
4700-80-800-97-Dam safety																									913,310	7,807,617					
4700-80-800-Pro																									48,616	48,616					
2701-80-800-97-34-03-N-V																									289,761	289,761					
2700-80-800-98-Beautification																									2,775,030	2,775,030					
TOTAL OF 800	1,334,685,267	233,822,632	333,984,486	390,091,298	341,729,836	310,212,516	357,946,741	265,682,387	407,617,523	747,554,249	544,400,561	563,024,966	266,477,736	185,013,389	38,073,230	212,648,830	148,204,004														

PROJECT CIRCLE, MLVATTUPUZHA
YEAR WISE EXPENDITURE DETAILS

DETAILED HEAD OF ACCOUNT		1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Uptodate	
2701 Major & Medium Irrgn. 80																																			
General -001-99																																			
12. Scholarship & stipend																																			
12.1. Reimbursement of 50% Government share of Stipend																																			
93. Stipend to Trade Apprentice																																			
TOTAL OF 01		0	0	2000	0	800	0	0	0	90797	25941	46408	3465	3958	8448	12864	18571	11905	22483	6329	5550	7521	0	0	0	0	0	0	0	0	0	0	0	0.00	
4700-22-001- D&A																																			
98. Supervision																																			
01. Salaries		854182.86	1037180	1248763	1382387	1365196	1400577	1737742	1964730																										
1. Pay										880757	906284	853260	1191891	5216949	2705368	2752768	2670000	3172059	2564742	2680278	6544088	5012325	4852804	5190373	5173473	14346390	8588469	11311590	9083902	8577337	16609814	26088906	23391612	169375049.00	
2. D.A.										1210477	1379860	1494937	1395317	1305199	1161913	881306	1470630	1790459	1547422	1975996	646940	1722340	2841526	3273762	4856674	1128553	4125643	9141	8824198	7617758	1688957	4937465	3127608	39548919.00	
3. H.R.A.										47860	48510	46895	60696	93718	91707	105773	98400	89442	93404	97188	138808	137918	130925	138113	135690	179793	173865	110738	175477	188329	536480	479895	431802	3891811.00	
4. Medical Reimbursement										8894	5847	18508	8801	20183	17224	16697																			
5. Other Allowances										92520	82231	74656	91381	82392	72376	72323	59170	80197	58855	52783	47453	57072	54584	68699	95373	388984	348298	302346	21681	328555	113946	726375	163253	3543591.00	
6. Interim Relief										61397	134291	103154	220811	151	6																				
Total		854182.86	1037180	1248763	1382387	1365196	1400577	1737742	1964730	2240408	2484229	2820647	2851040	3887412	4048603	3828873	4335280	4132667	4366975	4897575	6012647	7113692	7906064	8675294	10062110	13791614	13307898	17332977	16122116	16825078	18952797	22378808	18899583	228065117.88	
02. Wages		4958.00	5882	7388	8556	10284	9588	13286	13180	15201	17090	18824	21542	36786	33547	31565	32609	37726	38417	40329	40914	59792	67139	70499	71477	102383	106488	118281	102201	107713	140415	152775	127751	1664567.00	
04. Travel Expenses		21916.35	21053	19719	12817	18126	17822	14707	19457																										
1. Tour T.A.										10532	9743	6653	8288	10950	7711	3035	7092	13646	17333	15886	38875	42984	91801	42156	20749	46343	45434	34473	15048	27817	8968	122348	124800	772645.00	
2. Transfer T.A.										1000		659				802	734	534							7000	1770	0	2829	5497	0	0	10000	9759	0	40384.00
4. LTC																										0	0	0	0	0	0	0	0	0	0
Total		21916.35	21053	19719	12817	18126	17822	14707	19457	11532	9743	6653	8947	10950	7711	3637	7828	14180	17333	15886	38875	42984	91801	49156	22519	46343	48293	39970	15048	123080	85038	132105	137468	1132645.35	
05. Office Expenses		17857.30	18371	19943	32505	28008	40216	34536	33550																										
1. Water charges																																			
2. Electricity charges																																			
3. Telephone charges										14401	9434	7893	7452	10774	11543	14282	187	15234	17585	19005	18698	15784	15041	11476	27865	35000	22870	23000	27158	8251	14727	17539	13841	397486.00	
4. Other items										20411	13025	20512	12481	23988	20837	30587	28258	14000	26405	27979	74252	28000	19815	61498	61873	64993	63818	40000	34207	69923	49885	77000	21495	905118.00	
Total		17857.30	18371	19943	32505	28008	40216	34536	33550	34812	22459	28405	19933	34762	32380	44949	46963	29334	44000	46984	92950	55747	54810	97214	127314	144891	128818	80284	84786	107753	95876	151232	35136	1866864.30	
06. R R T																																			
21. Motor Vehicles																																			
1. Purchase of Vehicle																																			
2. Repairs & Maintenance																																			
Total		0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
34. Other charges										758			1733	1265	1320		1903	1210	1325	10193	2000	7000	4000			4000	4927	0	0	0	0	33000			41927.00
45. POL																																			
TOTAL OF 35		898914.5	1082486	1293813	1436265	1422414	1468203	1800251	2030917	2393508	2559462	2628121	2906660	3978133	4132009	3921888	444318	5227024	4490533	5014183	6209466	7292332	8128612	8892133	10230971	14083895	13594467	17573437	16326051	17165562	19311108	22638520	19214238	233056738.51	

Chief Engineer
Project-II
Thiruvananthapuram

Annexure II (MVIP)

Name	Total length of canal to be completed as on 31.03.2013	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total length completed	Total length to be completed as on 31-03-2019
Branch	2.917	-	0.410	2.454	Nil	-	0.053	2.917	Nil
Distributory	28.533	0.700	0.600	0.205	5.200	-	0.110	6.815	21.723
Certain canals deleted for which land not yet acquired. Hence total length of distributory reduced to 213km from 245 km and length to be completed reduced.									

IIP - works in progressMain Canal

The full length of main canal for the length 32.278km is completed and water through.

Low Level Canal

All works of Low level Canal upto Ch.10.490km is completed and water through. From Ch. 10.49km to 15km following works are pending.

1. 10490m to 10599m includes M.C.road crossing portion

Single tender submitted to Government for sanction and is being negotiated with the contractor to reduce abnormally high rates.

2. 13818.5m - 13876.5m Railway crossing

This work has to be done by Railway authorities as deposit work. The amount for the work is deposited to railway during 2017. Now railway has submitted a Revised Estimate and directed to remit additional amount of Rs. 2658820.

Link Canal

The works in link canal upto 2km have been completed except work.

- (1) From Ch.811m to 851m - This work has to be terminated as per court order and balance work is included in 2018-19 Action Plan.

The construction of Link Canal from Ch.2000m to 2500m and from 2840m to 2950m is included in the Action Plan. But the works of link canal can be arranged only after getting final decision from Technical committee.

The land acquisition of link canal between ch.2000m to 4000m is in various stages of progress. Land for an extent of 5.0098 Ha is required to be acquired for this.

Modification of CLBC

Modifications of CLBC (Deepening existing CLB canal for the initial 4.1km reach) can be taken up only after completing the link canal. Extensions and new branches of LLC, CRBC and CLBC.

Branches of LLC in the Modified scope of the project the Branches of LLC is reduced to one number (Kanjoor Thekkumbagam). Investigation of 3.5km is completed and balance investigation for 2.5km to be arranged.

Branches of CRBC and CLBC are not included in the Modified scope.

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Action Taken Report of C&AG on Economic Sector Report No.4 Para 3.10.3.5 Idle Expenditure for the year ended March 2013

Para	Action Taken Report
<p><u>3.10.3.5 Idling of Expenditure</u></p> <p>As the water is brought to the ayacut through canals on the system of gravitational flow, the canal work should have been arranged in such a manner that the works in upstream completed first. Failure to arrange the work in order of priority right from feeder has resulted in construction of canals of 43.037 km at a cost of 35.53 crore (Appendix 3.2) without connectivity. Resultantly, water could not be distributed to an ayacut of 1695 ha. of land where the construction of canal works were idling. Hence, an amount of 35.53 crore is blocked without serving intended purpose.</p>	<p>The Project has a canal network of 65.44 km Main canal, 57.154 km Branch canal and 212.997 km Distributaries. Almost all the works were arranged as and when the land in possession and other technical/administrative formalities were completed. Since this is a vast canal system, the criteria that "the work in upstream completed first in order of priority, right from feeder " for arranging the works were practically not possible as there were many issues during execution like change in design due change in site condition, interference of local peoples for various additional demands etc. By arranging the works at the reaches where all the formalities are completed first, the construction cost would have been reduced to some extent on account of rate revision, land value etc. came in force in time to time. Now all the canals mentioned in the appendix 3.2 of audit report have already been completed and water distribution is being done through these canals. The project has already commissioned on 10th July, 2020.</p>

P. ASOK KUMAR
 Additional Secretary to Govt.
 Water Resources Department
 Govt. Secretariat
 Thiruvananthapuram
 Ph: 0471 2518769

Pam

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Action Taken Report of C&AG on Economic Sector for the year ending on 31.03. 2015 (Report No.4 of the year 2016) - Para 5.12

I	(a)	Department	Irrigation Department
	(b)	Subject/Title of the Review Paragraph	Extra payment to contractor due to omission in the specification of piling work in the agreement schedule. Description of work in agreement schedule was at variance with provisions in data sheet and treating side protection work as extra item by Water Resources Department had resulted in extra expenditure to the tune of Rs.7.05 crore
	(c)	Pending Para No.	5.12
	(d)	Report No. and Year	C &AG report ended 31 st March 2015
II	(a)	Date of receipt of the Draft Para/Review in the Department	
	(b)	Date of Department's Reply	
III	(a)	Gist of Paragraph/Review	(i) Audit observed that while preparing the estimate, the cost of providing steel liners in the pile work was approved by Chief Engineer, I&A in the data sheet. However the same was not included in the tender specifications. Thus, due to the omission in preparing the tender schedule in tune with the data sheet prepared for working out the estimates, the contractor was demanding the payment on account of the use of steel liners in the RCC(Reinforced Cement Concrete) work where as actually he had not used the steel liners. As such, he was eligible for the payment for doing RCC work only and not for the steel liners which he had not used while executing the work as certified by the officer in charge of the work. Thus the department had rightly deducted an amount of Rs.3.50 crore from the payment claimed by the contractor.


Thus, due to the non-inclusion of the use of steel liners in RCC work in the tender specifications, the contractor had claimed and received the payment of Rs.6.48 crore upto September 2015, though he was not eligible for the same. The decision of the Government to release the payment was also not in order as the payment is always made for the execution of actual work executed, measured and certified by the department and not merely on the basis of rates mentioned in the estimate. As such, excess payment of Rs. 6.48 crore made for the work relating to steel liners, which was actually not executed by the contractor, requires to be recovered from the contractor.

(ii) While revising the estimate (April 2014) and executing supplementary agreement (May 2014) for execution, 3 items of works were included as 'extra items'. One such 'extra item' was providing MS sheet piling work using sheet pile with sufficient anchorage for protecting near by industries and building while excavating right side abutment and lock wall foundation. An amount of Rs. 56.97 Lakhs was paid (September 2015) for the item of work. As the rate agreed by the contractor in the original tender agreement was after ascertaining the site condition as per clause 47 of MDSS, the above item of work cannot be treated as 'extra item'. As such, the payment of Rs. 56.97 Lakhs made was irregular.

	(b) Action Taken Report	<p><u>Extra item sanctioned for Temporary protection work in the right bank of PRCB</u></p> <p>On commencement of the work, revenue land in the right bank side including land for the set back for the cutting position was not received from the revenue department whatever land available was in the possession of the Industries Department. While preparing the estimate, it might have been anticipated that revenue land under the possession of the Industries department shall be made available for execution of the work and hence earth cutting with sufficient slope, could very well be made. The only delay anticipated might have been in the case of acquisition of private holding on the left bank. It must be for that reason provision for shoring is not included in the original estimate. For actual execution of work site conditions required immediate earth cutting on the right bank. Since there was no sufficient land for earth cutting maintaining required slope, the only possible way out was vertical cutting. Since cutting had to be done on the river bank invariably slippage or erosion should be anticipated. To avoid the same the only possible solution was to provide steel shoring by MS Steel piles (interlocking piles). Considering the delay in land acquisition and urgency of opening the regulator lock to affect salinity control, it was not possible for waiting any further. Hence in order to avoid earth slippage and possible collapse of the Industrial land and building and consequent huge loss the only possible way out of protection was to provide MS sheet piles. This was reported to the Technical Committee for decision. The Technical committee also recommended so being</p>
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			<p>convinced of the factual situation.</p> <p>On the basis of the report of the technical committee and the site condition Government has sanctioned the extra item as per the usual practice before making payment. Hence it is clear that officials not taken any unilateral decision to enable to get any advantage to the contractor. The specification 47 of PS to MDSS done does not cost any liability on the contractor to provide side protection works of that nature which he had actually done. Hence it is submitted that the normal provision under specification 47 of PS to MDSS will not be sufficient considering the later site conditions and situations. Hence Provisions of extra item was done only in good faith and to avoid possible slippage and damage to the adjacent Industrial buildings and much more loss especially since the work was being done in the bank of the river where slippage of earth or erosion should be expected any time particularly in rainy season. On the other side, if the land was acquired with sufficient set back and for cutting with required slopes, 3 Nos. of industrial buildings are to be acquired with more than 25 cents of land. This acquisition will cost more than 75 lakhs. Hence there is no extra expenditure incurred due to this action. Hence the payment made towards the cost of MS sheet piling work as an extra item may please be regularized based on the above facts.</p> <p>The Industrial buildings on the North side of the river is located very close to the boundary of the river. Providing foundation by merely shoring the side embankment will not be sufficient as the</p>
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			<p>water that traverses during floods will penetrate through the bottom of the foundation leading to scouring of soil beneath the buildings close to the river which will finally lead to the failure and collapse of the buildings by sinking. The MS sheet piling work provided is not for shoring but to prevent the seepage of sand thereby to protect the buildings. The sheet piling work is a permanent installation work to prevent the seepage of sand and is not a temporary shoring work for excavation. That is why the MS sheet piling work was included as an extra item for the above work. The payment made towards the cost of MS sheet piling work as an extra item may please be regularized based on the above facts.</p>
IV	(a)	Does the Department agree with the facts and figures included in the paragraph?	Yes
	(b)	If not, Please indicate areas of disagreement and also attach copies of relevant documents in support	
V	(a)	Does the Department agree with the Audit conclusions?	No
	(b)	If not, please indicate specific areas of disagreement with reasons for disagreement and also attach copies of relevant documents where necessary	Providing MS sheet piles has been agreed by the Technical Committee being necessary to avoid slippage of earth on the river bank.


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APPENDIX III
APPENDICES FROM AG's AUDIT REPORT

Appendix III (4)

Construction cost of completed canals where water distribution is not possible due to non completion of upstream reach

(Reference: paragraph 3.10.3.5; Page 82)

Sl. No.	Name of canal	Chainage where water distribution not commenced due to non completion of upstream reach (in km)	Length of canal (in km)	Cost of construction (₹ in crore)	Ayacut (in ha.)
1.	South kakkad distributary	0.000 to 11.34	11.34	14.91	476
2.	Ettumanoor Branch Canal	18.275 to 18.525	0.250	3.87	Not assessable
3.	Kurumullor distributary	0.000 to 7.045	7.045	1.25	400
4.	Manjoor distributary	0.891 to 3.080	2.189	3.86	250*
5.	Kidangoor MD	3.920 to 7.953	4.033	Not available	Not assessable
6.	Koothattukulam distributary	3.725 to 7.975	4.250	3.16	Not assessable
7.	Kuruppanthara distributary	3.433 to 4.065	0.632	Not available	Not assessable
8.	Kizhumuri distributary	0.000 to 3.690	3.690	3.97	100
9.	Mammalassery distributary	1.800 to 7.098	6.298	3.73	369*
10.	Muvattupuzha branch canal	10.210. to 11.875	1.665	0.32	Not assessable
11.	Kizhakkekara distributary	0.000 to 1.645	1.645	0.46	100
	Total		43.037	35.53	1695

* Considerable portion of the canal included. Hence the ayacut taken.

Appendix III(2)

Construction cost of completed length of canals in KRP where water distribution not commenced

(Reference: paragraph 3.10.5.6; Page 88)

Sl. No.	Name of canal	Chainage where water distribution not commenced (in km)	Length of canal (in km)	Cost of construction (₹ in crore)
1.	Left bank main canal	5.000 to 16.74	11.740	25.83
2.	Right bank main canal	3.700 to 8.805	5.105	7.35
3.	Padinjareveedu branch canal	0.430 to 8.94*	8.510	14.15
4.	Kolliyl branch canal	0.000 to 2.995	2.995	10.14
5.	Kariambady branch canal	0.000 to 8.500	8.5	6.40
	Total		36.85	63.87

*Work is to be arranged from 0.00 to 0.430