

FIFTEENTH KERALA LEGISLATIVE ASSEMBLY

**COMMITTEE
ON
PUBLIC ACCOUNTS
(2021-2023)**

FOURTH REPORT

ON

**Paragraphs relating to Public Works Department contained in the Report of
the Comptroller and Auditor General of India for the year ended
31st March 2015 (Economic Sector).**

CONTENTS

	<i>Page</i>
Composition of the Committee ..	v
Introduction ..	vii
Report ..	1
Appendices :	
I. Summary of main Conclusions/Recommendations ..	31
II. Notes furnished by Government ..	33
III. Appendices from AG's Report ..	121

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Shri R. Venugopal, Deputy Secretary

Smt. Shamy J., Under Secretary.

INTRODUCTION

I, the Chairman, Committee on Public Accounts, having been authorised by the Committee to present this Report, on their behalf present the Fourth Report on paragraphs relating to Public Works Department contained in the Report of the Comptroller and Auditor General of India for the year ended 31st March 2015 (Economic Sector).

The Report of the Comptroller and Auditor General of India for the year ended 31st March 2015 (Economic Sector) was laid on the Table of the House on 28th June 2016.

The Committee considered and finalised this Report at the meeting held on 11th March, 2022.

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

Thiruvananthapuram,
16th March, 2022.

SUNNY JOSEPH,
Chairman,
Committee on Public Accounts.

REPORT

PUBLIC WORKS DEPARTMENT

[Audit paragraph 5.5 contained in the report of the Comptroller and Auditor General of India (Economic Sector) for the year ended 31st March 2015.]

Inadmissible payment to contractor on balance items of bridgework

Irregular revision of rate of items mentioned in the agreement schedule by treating them as extra items and non-availing of agreed tender rebate while making payments thereon to the contractor resulted in undue benefit of ₹1.09 crore to the contractor.

As per clause 23 (e) of Notice Inviting Tenders (NIT), extra items of work are those which are not expressly or impliedly described in the schedule, plans or specification. Those items of work which though highly necessary for the proper execution of the work and its completion, if not provided for in the original contract, can be treated as 'extras'.

Further, as per Clause 3 (b) of NIT, the overall percentage rate accepted and specified in the agreement shall not be varied on any account whatsoever.

The Superintending Engineer, PWD, Roads and Bridges, North Circle, Kozhikode (SE) had awarded¹ (April 2009) the work "construction of bridge at Varamkadavu in Chelora Grama Panchayat in Kannur district (balance work)" to a contractor² at 21.80 per cent below estimated amount of ₹2.64 crore.

The items of work included in the original agreement schedule for formation of approach roads to the bridge structure which was completed in March 2005 consisted of earthwork for forming high embankment for approach roads, and ground improvement works using non-woven geo-textiles, woven geo-textiles and Pre-fabricated Vertical Drain (PVD).

During execution of the work, these items were treated as extra items and their rates enhanced, by executing (November 2009/March 2010) Supplementary

1 SE (K) 5/2009-2010 dated 17 April 2009

2 Sri TA Abdulrahiman, Kasargod

agreements by the SE with the contractor. The contractor had agreed to execute these extra items at 21.80 per cent below estimate rate. The work was completed in May 2011. The contractor was paid an amount of ₹ 3.81 crore in five part bills as of December 2015.

Audit scrutiny revealed that:

- The above items of work were expressly mentioned in the Agreement executed by the contractor for the balance work. So, as per clause 23 (e) of NIT, they could not be treated as extra items. However, in violation of this provision, SE had treated them as extra items and revised (November 2009/March 2010) their rates.

- The Executive Engineer, PWD Roads Division, Kannur, (EE) did not apply tender rebate from the payments made to the contractor on the extra items, even though it was agreed in the supplementary agreements executed. This was in violation of the rules on application of overall tender percentage contained in the NIT.

The above violations resulted in inadmissible payment of ₹1.09 crore to the contractor, which amounted to undue benefit extended to him, as shown in the table below:

Description of item in Agreement	Up to date quantity executed	Agreed rate after applying tender rebate	Revised rate used for payment without tender rebate	Undue benefit to the contractor (in ₹)
(1)	(2)	(3)	(4)	[2 x (4-3)]
Earth work filling with all classes of soil suitable for forming high embankment...	54174.38 m ³	₹ 1516/10m ³ (1939, less 21.80 %)	2,424/10m ³	49,19,033.70
Providing and laying non-woven geo-textile fabric...	6332.08 m ²	₹ 55.91/m ² (71.5, less 21.80%)	88/m ²	2,03,196.45

(1)	(2)	(3)	(4)	[2 x (4-3)]
Providing and laying woven geo-textile fabric...	4380.78 m ²	₹ 59.82/m ² (76.5, less 21.80%)	89.78/m ²	1,31,248.17
Providing and laying non-woven geotextile fabric under water...	800 m ²	₹ 55.91/m ² (71.5, less 21.80%)	88/m ²	25,672.00
Providing and installing flexible pre-fabricated vertical drain...	130392.10 m	₹ 66.47/m (85, less 21.80%)	109.92/m	56,65,536.75
Total undue benefit to the contractor				1,09,44,687.07

When the matter was pointed out (June 2013), Government replied (October 2014) as under:—

- revision of rates in earthwork was in lieu of wastage of earth during execution. Further, the estimate rate for earth work was adopted without applying tender rebate, as it was an extra item, and;

- the ground improvement materials viz., geo-textiles and PVD, were brought from abroad and that an approximate rate taken from earlier executed work was adopted in the estimate. But, when order was placed for these materials at the time of execution, their rates had increased. Further, these were not items included in the Schedule of Rates, but were market rate components for which tender variation was not applied.

- The reply of Government was not tenable due to the following reasons:

- Earthwork for formation of approach roads was an item expressly provided in the original agreement schedule. Hence, revision of its rate by treating it as an extra item was a violation of the condition of NIT. Moreover, the contractor had clearly agreed in the supplementary agreement that the tender rebate of 21.80 per cent was applicable for this extra item.

- Similarly, the items for ground improvement work were also expressly provided for in the schedule of the balance work. So, the contractor had quoted his rates accordingly with tender rebate. Hence, classifying them as extra items of work and enhancing their rates was a clear violation of the NIT provision.

- Further, as per NIT, it was the duty of the contractor to ensure availability of materials before quoting his rates. Hence, the contractor was not eligible for rate revision on account of non-availability of materials and variation in market rates. In this case also, the department failed to avail the benefit of tender rebate agreed by the contractor.

Thus, the action of the Department in enhancing the rates of items expressly mentioned in the agreement schedule by treating them as extra items in violation of the NIT provisions and non-availing of agreed tender rebate on those items resulted in extending an undue benefit of ₹1.09 crore to the contractor.

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

Excerpts from Committee's discussion with department officials.

1) Regarding the audit objection on inadmissible payment of ₹1.09 crore to the contractor by treating the items mentioned in the agreement schedule for the construction of Varamkadavu bridge as extra items and non availing of agreed tender rebate, the Committee enquired why the soil investigation had not been conducted and how the TS had been issued without considering the conditions of soil and the length of approach road. The Chief Engineer (NH), PWD answered that the original administrative sanction was issued on the total amount based on a rough cost estimate for the work without any detailed investigation. He added that the technical sanction was issued based on a detailed estimate but the length of approach road was not considered.

2) The Committee noticed that a higher cost had been incurred as the approach road was built at marshy areas. To a query regarding the action of the department in granting administrative sanction to the second work, the Chief Engineer (N.H.) PWD, replied that the work of bridge proper was done by KSCC in 2005 but the work for raising up the approach road was terminated due to the sinkage of soil. Later agreement was executed by arranging the work of the approach road as balance work excluding the bridge proper.

3) He added that provision for the approach road was incorporated in the original work estimate. But minimum abutment height was specified in it. In technical sanction, a higher amount than that in the administrative sanction was provided for the work of bridge. But minimum provision for the approach road was given in the T.S. as the details of the work were not prepared. At the time of building the approach road the sinkage of soil was happened and KSCC demanded additional amount for the same and hence they were terminated from the work. The Committee expressed its displeasure over the attitude of the officials for not citing these matters in the RMT and for not submitting the concerned file at the time of audit.

4) The official from the office of Accountant General informed that audit observation was only on the balance work that was done without proper estimation and proper investigation. The Committee expressed its dissatisfaction over the termination of KSCC from the original work at risk and cost.

5) The Committee pointed out that the TS was issued without considering even the soil condition and the length of approach road, and the work which were expressly mentioned in the agreement schedule were treated as an extra item of work. Besides, non-availing of agreed tender rebate while making payments thereon to the contractor resulted in undue benefit to the contractor. The Committee directed the Department that a detailed report should be submitted within one month regarding the urgent situation behind issuing of TS, without considering the soil condition and in violation of NTT rules. The Joint Secretary, PWD assured to do so.

6) When enquired about the already worked out rate in the detailed estimate and the revised rate, the Chief Engineer, replied that the second work had done after 5 years from the original tendering and later when the balance work was tendered there was a provision for using modern technologies like Prefabricated Vertical Drains with Geo textiles for soil treatment. He added that when the earth filling was done for the completion of embankment construction, unaccounted sinkage of soil had occurred and subsequently an expert opinion from a Chennai based Geo-tech agency had been sought. The Chief Engineer also stated that since the material for PVD was imported from Malasia, the rates were varied in

tune with the exchange rates. The contractor approached the Government to get it done at market rate. Subsequently the work was treated as extra items and revised their rates and the same was approved by the government.

7) The Committee directed the department to submit a detailed report on the matters deliberated above and the Joint Secretary, PWD agreed that it would be furnished within one month.

[The additional information submitted by the Government on the above audit paragraph was considered by the Committee at its meetings held on 14-1-2020 and 22-1-2020]

Excerpts from Committee's discussion with department officials.

8) Regarding the construction of Varamkadavu bridge, the Committee enquired about the sanctioning of T. S. before completing soil investigation and revision of rates by considering earth works as additional work which was a clear violation of terms and conditions. The Secretary, PWD replied that rates were increased because new technology was used for the construction of vertical drains and fender piles.

9) The Chief Engineer (Bridges) explained the construction work of the Varamkadavu bridge. The work consisting of 476 m length bridge proper and approach road was under taken by Kerala State Construction Corporation Ltd. The Construction of bridge structure was based on sub soil investigation done at abutment and pier points. Though the approach road was passing through water logged, marshy areas no sub soil investigation was done. The administrative sanction for the construction of bridge was obtained on the basis of rough cost estimate without any detailed sub soil investigation in respect of approach road. As the proposed site was found unable to bear extra weight, KSCCL not only comply the direction put forth for soil investigation but also requested to increase the estimate rate as well. When detailed investigation was conducted, there was a change in design parameters and in addition to this, pre-fabricated drains, woven and Nonwoven Geo Textile materials etc. had to be provided, thereby increasing the estimate rate.

10) The committee enquired whether there was any provision in PWD norms to tender a work based on rough estimate. The Chief Engineer informed the Committee that earlier, work was tendered with a rough estimate and the detailed design was submitted later. He further informed that this particular issue was in 2005 and now work cannot be tendered using rough estimate.

11) The Committee wanted to know how the detailed project report and detailed estimate was prepared. The Chief Engineer informed that it was prepared after conducting investigation and in this case investigation was done for Bridge proper and immediate approach construction.

12) When Committee enquired whether soil testing and detailed investigation was done as per PWD norms in this case, the Secretary, PWD replied that technical sanction was given only after all these procedure, and in this case detailed investigation was done for bridge proper and immediate approach road. The question of the Committee to clarify whether soil investigation was conducted as a part of investigation, the witness Executive Engineer (Bridges), Public Works Department answered that detailed investigation was done for the place allotted for bridge proper but soil testing was not done for approach road construction.

13) The Committee acknowledged the fact that sometimes administrative sanction was provided considering rough estimate, and it was not unusual that as amount may increase when soil testing is done due to presence of rocks or water logged area. The Committee also opined that estimate could be revised in cases where the land could not be acquired within the agreement period due to some unexpected works. But the Committee strongly commended that sanctioning TS according to a rough estimate cannot be justified and criticized the department for not following proper tender procedure.

14) The Committee wanted to know whether separate estimate was prepared for bridge proper and approach road for which Executive Engineer (Bridges) replied that both could be completed within a single estimate. He further informed the Committee that changes in foundation and pillar of bridge may affect the estimate amount and the rate difference is usually rectified through revised estimate.

15) The Committee pointed out that the mentioned work was carried out violating PWD norms, without proper investigation or detailed estimate.

16) When enquired about the bill payment details, the Executive Engineer apprised the Committee that final bill had not been produced and that payment for the remaining amount is pending. The Committee then asked about the reason for not producing the final bill, the amount remaining to be settled; the total estimated amount and the difference in amount when the estimate was revised. The Executive Engineer informed that the total estimate was 21.15 crore which included 18 crore for bridge proper and 3.15 crore for approach road which later increased to 22.50 crore. To the question of the Committee when the construction of bridge was completed, the witness Executive Engineer (Bridges) replied that the work was completed in 2010 and that the bill was submitted in the same year itself.

17) The Committee expressed its displeasure to know that some files related to the above case seems missing as all files were not handed over to PWD from KSCCL. The Secretary, Public Works Department informed the Committee about the fact that the construction of Varamkadavu bridge was taken up by Kerala State Construction Company Limited and that they had not completely claimed their amount. He added that the work had been completed within 7 months as per the order of Hon'ble Highcourt and Chief Engineer had approved the design and there was no objection regarding the procedure of the work.

18) The Secretary, Public work department informed the Committee that the discrepancy came up as they used the latest technology available at that time for the construction, which accordingly increased the total estimate cost. The Committee enquired whether new technology was applied after the work was awarded and the agreement was signed.

19) The Chief Engineer (Bridges) Public Works Department informed the Committee that the total cost increased when land spanning has to be conducted due to deficiency of soil as well as when construction work had to be done through wet land. He added that similar instance could be identified in KIIFB project, Konnayil Kadavu where the construction work was dropped due to miscalculation in selection of appropriate site for construction.

20) Expressing dissatisfaction in the reply furnished by the department, the Committee criticised the department in according administrative sanction for construction of Varamkadavu Bridge and approach road without proper soil investigation and in allowing inadmissible payment to contractor by treating the earth works as extra item. The Committee directed the department to avoid such delinquencies and to take strict measures not to repeat such instances in future.

Conclusions/Recommendations

21) The Committee criticised the department in according administrative sanction for construction of Varamkadavu Bridge and approach road without proper soil investigation and in allowing inadmissible payment to the contractor by treating the earth works as extra item. The Committee directs the department to avoid such delinquencies and to take strict measures not to repeat such instances in future.

[Audit Paragraph 5.6 contained in the report of the Comptroller and Auditor General of India (Economic Sector) for the year ended 31st March 2015.]

Disallowance of re-imburement claim by MoRTH

Execution of original works without prior approval of MoRTH by treating them as ordinary repair works resulted in rejection of reimbursement claim of ₹68.10 crore besides foregoing agency charges of ₹6.13 crore.

The Ministry of Road Transport and Highways (MoRTH) is primarily responsible for development and maintenance of National Highways (NHs). The activities are monitored by the Regional Office of MoRTH in each State. The actual work of construction of NH is entrusted to State Government on agency basis under the provisions of Article 258 of the Constitution of India for which nine per cent agency charges are claimed by State Government from MoRTH. The role of State Government is confined mainly to maintain, upgrade and improve the riding quality of existing NHs and carry out ordinary annual repairs.

Up to 31st March, 2003, the State Government was to initially incur expenditure on construction and maintenance of NHs and then get it reimbursed

from MoRTH. With effect from 1st April 2003, the system was changed to Direct Payment Procedure (DPP) by MoRTH for all NH works under the major head 5054 and Special repair and periodical renewal / Improvement of Riding Quality works under major head 3054. The transactions under DPP, therefore, do not involve the State Government budgetary system. For Ordinary Repairs (ORs) and Flood Damage Repairs (FDRs), the previous system was continuing. As such, the NH works undertaken as ORs and FDRs do not require prior sanction by MoRTH before execution.

Scrutiny of records (between December 2011 and October 2015) in five offices³ of NH wing of Public Works Department (PWD) revealed that 17 works were executed during the period 2011-12 and 2014-15 treating them as ORs, based on the sanctions of State Government only and claimed reimbursement from MoRTH (between January 2012 and June 2014) projecting them as ORs. The MoRTH disallowed (between March 2012 and September 2014) the claim for reimbursement stating that the works executed were not ORs but Original Works requiring prior sanction of MoRTH before execution. The claims thus disallowed amounted to ₹68.10 crore which the State Government had to bear from its own budgetary resources. Besides, the State also could not claim agency charges amounting to ₹6.13 crore.

Thus, the department failed to adhere to the guidelines of MoRTH while making claim for reimbursement of expenditure incurred on the maintenance of NHs and consequently burdening the State exchequer to the extent of ₹74.23 crore.

Government replied that the department had arranged the works due to poor condition of NHs in the State and inadequacy of funds/sanction from Government of India. It was also stated that the works undertaken were ORs not requiring prior sanction from MoRTH. The reply is not tenable as the works executed were not Ordinary Repair works but were Original Works as remarked by MoRTH while scrutinising the claim for reimbursement. Further, these Original Works required prior sanction from MoRTH.

³ NH Division Kannur, Kodungallur, Kozhikode, Moovattupuzha and NH North Circle Kozhikode.

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

Excerpts from Committee's discussion with department officials

22) The Chief Engineer (N.H) informed that during the period 2011-12 and 2014-15, there had been public protest over deplorable conditions of NH in the state, and the work were arranged on the basis of two G.Os charging to state exchequer and later of claim of ₹68.10 crore was submitted to MoRTH for reimbursement. But the claim was rejected by MoRTH stating that the works executed were not ordinary repairs but original works requiring prior sanction of MoRTH before execution. Later the amount was written back as per C&AG's direction. Then the AG directed for the additional authorisation in the head of account '3054' when the chances of re-imbursement became rare. Then the government additionally authorised ₹20 crore during 2013, and the remaining ₹40 Crore during the last year. For a query of the Committee on the amount of Central government allocation for NH maintenance, the witness replied that Central Government allotted ₹12 crore for ordinary repair and ₹77 crore for major repair. He added that the department had arranged works due to poor condition of NHs and inadequacy of funds recieved from Government of India and the works undertaken were ORs not requiring prior sanction from MoRTH. The Committee remarked that a procedural lapse was vivid in the whole process. When a meeeting was convened by the Principal Secretary, PWD no representative of NHA I was invited. The issue could have been avoided had proper communications with the central government authorities were carried out.

Conclusion/Recommendation

23) No Comments.

[Audit Paragraph 5.7 contained in the report of the Comptroller and Auditor General of India (Economic Sector) for the year ended 31st March 2015.]

Awarding work without tender and providing undue benefit to a contractor

The execution of work without tender process and unwarranted revision of agreed rates by PWD extended undue benefit of ₹ 92.32 lakh to the contractor.

As per Para 2003 of Kerala Public Works Department Manual, works shall normally be awarded through open tenders after getting administrative and technical sanction and ensuring provisions of funds in the Budget.

Secretary to Government, PWD sanctioned (December 2012) re-construction of the partially collapsed Menonpara bridge across Korayar river in Nattukal-Velanthavalam State Highway in Roads Division, Palakkad through M/s. Kerala State Construction Corporation Limited (KSCC) without inviting tender at an estimated cost of ₹ 10.15 crore to avoid delay in tendering process. The Superintending Engineer (Roads and Bridges), North circle, Kozhikode(SE), awarded (January 2013) the work to KSCC at a cost of ₹9.31 crore. The site was handed over (January 2013) to the contractor for completion of work in 18 months. PWD revised (March 2013) the sanction to ₹18.30 crore after including road improvement work of nine kms in place of three kms originally estimated. The work was completed in May 2014. The contractor was paid ₹17.49 crore up to June 2015.

One of the items of work included in the agreement schedule for the construction of bridge was " Boring through all classes of soil for cast in situ bored piles with concrete mix M25, 1.20 metre internal diameter anchoring of pile in rock for a minimum depth of 50 centimetres etc". The work involved construction of 28 piles, 12 piles for piers each having an average depth of nine metre and 16 piles for abutment each having an average depth of 10 metre. The total length of piles was estimated to be 270 m and the agreed rate was ₹16,344 per metre. However, during actual execution, Chief Engineer, PWD Roads and Bridges (CE) revised (May 2013) the rate of the above item from ₹16,344 to ₹34,017 per metre citing reasons such as increase in average depth of piles from 9 to 19 m due to non- availability of hard rock at the estimated depth, error in calculation of hire charges for piling plant and use of M Sand⁴ due to scarcity of

⁴ Mineral sand - This is at times used as an alternate for river sand.

river sand. CE sanctioned (May 2013) the rate of above item as 'extra item' and SE executed (June 2014) a Supplementary Agreement for a total length of 549.85 m. An amount of ₹1.87 crore was paid (July 2014) to the contractor for the 'extra item'.

Audit scrutiny (February 2014) revealed the following:

- The bridge had collapsed in August 2010 and the Government decided to take up re-construction work only after a lapse of two-and-a-half years of collapse. Awarding of work to KSCC only without inviting open tenders after two-and-a-half years was lacking not only in justification but it was also against manual provisions which advocate transparency in selection of bidders through open competition.

- Items of work which do not form part of the original Agreement Schedule are treated as "Extra items". In this case, the item " boring cast in situ piles" , was already existing in the Agreement Schedule. As such, it cannot be subsequently treated as an " extra item".

- The contractor is expected, before quoting his rates, to inspect the site of the proposed work and assess the availability of specified materials. He is also expected to get himself acquainted with the sanctioned estimate, approved plans and drawings. Once his rates have been accepted and agreement finalized and signed, he is bound by the same and cannot claim its revision on grounds of errors in sanctioned estimates, un-availability or scarce availability of the specified materials etc.

- In the name of approving an " extra item" , the Department has resorted to revision of rates and specifications, after the award of work, on grounds of "scarce availability of river-sand", "error in calculation of hire charges of piling plant" and made an extra payment of ₹97.17 lakh to KSCC. The action of the department was wrong as the ground cited for their action were not valid.

Thus, undue revision of rate resulted in extra payment of ₹97.17⁵ lakh to the contractor.

Government replied (October 2015) that the work was entrusted to KSCC to avoid delay as the tendering procedure would have taken long time. Further, the rates for piling were revised as the depth of piling work had to be increased from 270 m to 549 m during execution. Besides, due to non-availability of good quality of river sand, the M sand was substituted and that there was some mistake in preparation of data.

The reply of the Government was not acceptable because the period of two-and-a-half years between the date of collapse of bridge and award of work for re-construction was reasonably adequate for completing all open tender formalities including invitation of competitive tenders so that the work could be awarded without compromising transparency instead of giving to KSCC only. Further, the revision of rates for piling was also not acceptable as the rate agreed by the contractor for piling was per metre and not for casting entire pile for a specific length. Besides, rate once concluded in the agreement signed by both the parties, was not required to be revised.

Thus, unwarranted revision of rate resulted in extension of undue benefit of ₹92.32⁶ lakh to the sub-contractor of KSCC.

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

Excerpts from Committee's discussion with department officials

24) Regarding the audit objection, the CE (NH) apprised that the work entrusted to the KSCC was as per government order. Though the old Menonpara bridge was collapsed on 2010, the government accorded AS in 2012 for the re-construction work without tender. During the actual execution, the Chief Engineer, revised the rate of the item due to error in calculation of hire charges. The Committee noted that once the rates had been accepted and the agreement was finalised and signed, the revision of rates on grounds of errors in sanctioned estimates should not be permitted. It opined that the enhancement of rates from ₹ 16344/m to ₹ 34017/m had no basis and the original rate should have been applied for the increased length of piles. The awarding of work to KSCC without

6 ₹ 97.17 lakh less ₹ 4.85 lakh being five per cent margin of KSCC.

inviting open tender against manual provision had no justification. The Committee viewed it as a fraudulent act and directed the department to look into the matter seriously and take disciplinary action against the officials responsible for it.

Conclusion/Recommendation

25) The Committee understands that the old Menonpara bridge collapsed in 2010, and the Government accorded AS in 2012 for the re-construction work without inviting open tenders. During the actual execution, the Chief Engineer revised the rate of the extra item due to error in calculation of hire charges for piling plant. The Committee noted that once the rates had been accepted and the agreement was finalised and signed, the revision of rates on the grounds of errors in sanctioned estimates could not be permitted. The Committee opines that the revisions of agreed rates had no basis and the original rates should have been applied for the increased length of piles and the awarding of work to KSCC without inviting open tender against PWD manual provisions had no justification. The Committee observes it as a fraudulent act and directs the department to look into the matter seriously and take disciplinary action against the officials responsible for it.

[Audit paragraph 5.8 contained in the report of the Comptroller and Auditor General of India (Economic Sector) for the year ended 31st March 2015.]

Wasteful expenditure on construction of fender piles in a bridge work

Department constructed "fender piles" for protecting a bridge from the impact of collision with barges even though bridge did not have scope for navigation of heavy vessels resulting in wasteful expenditure of ₹3.12 crore.

The Public Works Department (PWD) awarded the work of the construction of 'Thadikkakadavu Bridge' across Pariyar river by Roads division, Ernakulam for ₹27.51 crore. The site was handed over (June 2012) to the contractor for completion of work in 18 months (December 2013). The work remained incomplete (July 2015) and the contractor had been paid ₹15.71 crore (July 2015).

The bridge was designed to rest on a foundation of bored cast-in-situ piles, for which 2,650 metres of piles at a unit rate of ₹27,056 per metre were planned. During execution, the length of piles was increased to 3220 metres of which 729.79 metres were provided as 'fender piles'⁷ in a separate pile group, upstream and downstream of the bridge. The department stated that the fender piles were required to protect the bridge from the impact of collision from heavily loaded cargo boats moving from Nedumbassery airport to Kochi city. The cost of construction of fender piles was ₹3.12 crore⁸.

Audit observed that though the original design of the bridge was approved (March 2012) by the Design Research and Investigation Quality Control wing (DRIQ), under the control of Chief Engineer (Designs) as stipulated in the PWD manual, the design of fender piles was approved (November 2012) by the CE himself, which means that the DRIQ was not involved in the change of design of fender piles.

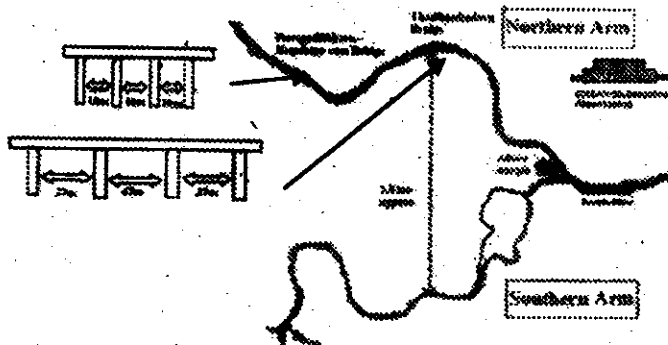
It was further noticed that there was no specific request from various stakeholders / departments (KSINC, SWTD, IND etc.) regarding provision for fender piles. Moreover, the route identified for connecting Nedumbassery airport with Kochi city passes through the southern arm of river Periyar, whereas the bridge was constructed on the northern arm as shown in the sketch attached.

Further, there was no infrastructure for anchoring of cargo boats anywhere near the Nedumbassery airport. Therefore, the construction of fender piles by adducing to safety concerns from barges/cargo boats was not tenable.

⁷ Fender piles are provided in ports and harbours to absorb the impact of berthing vessels and to avoid damage both to the vessels and the structure which are made of shock absorbing materials.

⁸ Floating platform for working ₹ 25.61 lakh (+) anticorrosive treatment to reinforcement ₹ 4.51 lakh (+) boring and concreting ₹ 197.45 lakh (+) providing casing pipe ₹75.90 lakh (+) providing reinforcement to concrete ₹ 43.24 lakh = ₹ 346.71 lakh less tender rebate ₹ 34.95 lakh = ₹ 311.76 lakh say ₹ 3.12 crore.

Sketch of Location of Thadikkakaadavu Bridge



Audit also observed that the fender piles were made of concrete with no impact absorbing quality to provide protection either to the bridge structure or to the vessels in the event of a collision. Further, the top level⁹ of fender piles constructed was much below the Maximum Flood Level (MFL)¹⁰ of the river. The fender piles would not be visible during flood, making it likely to cause damage to the piers of the bridge as well as the barges. Thus, the purpose of protecting the piers with the help of fenders was doubtful.

On being asked, the Secretary, PWD replied (October 2015) that on account of concerns of polluting the drinking water projects at Chowara and Aluva, Cochin International Airport Limited (CIAL) shelved a proposal to develop the Southern branch of Periyar river as a waterway connecting CIAL to Kochi Seaport for cargo movement. An alternative proposal of developing the Northern branch was under consideration of CIAL, and hence, the fender piles were constructed in anticipation of movement of heavy cargo vessels through the same.

The reply was not tenable in view of the confirmation provided by Irrigation Department that there were no plans of developing the Northern branch of Periyar River over which the Thadikkakadavu bridge is constructed, as a waterway connecting CIAL with the Kochi Seaport. Irrigation Department further confirmed that there were bottlenecks for large scale cargo movement from CIAL to Kochi city/seaport through the Northern branch, like insufficient vertical clearance of existing cross structures, insufficient width and depth in a five km stretch between CIAL and Chengal thodu.

9 49.8000 metres

10 51.825 metres

Thus, the decision to change the designs for providing fender piles was taken without assessing actual requirement and approval of the DRIQ Board which led to wasteful expenditure of ₹3.12 crore on construction of fender piles.

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

Excerpts from Committee's discussion with department officials.

26) Regarding the audit paragraph, Executive Engineer, PWD informed that, it was decided to construct fender piles for protecting the pier of the Thadikkakadavu bridge came up during the execution of work in view of an alarming incident of vessel hit to Venduruthy Bridge. The Committee questioned the purpose behind the construction of fender piles when the same would not be visible above the water level during floods.

27) The witness continued that the fender piles were constructed to protect the bridge, not the barge, and the possibility of occurring flood was rare. The Executive Engineer (Design & Bridges) added that the irrigation department confirmed that there was no navigable water ways connecting Nedumbassery Airport to Periyar River, and thus the audit objection occurred, but they had constructed a locking system in Purappillykavu bridge in the northern arm of Periyar for navigation purpose. The Committee noted that the irrigation department gave an impression through the construction of Purappillykavu bridge that the northern arm was also navigable and the fender piles constructed at Thadikkakadavu Bridge was necessary. The Committee had requested Accountant General to verify the issue with the irrigation department and to furnish a reply in this regard.

[The additional information from the government on the above audit paragraph was considered in the meeting of the Committee held on 14-1-2020 and 22-1-2020. The Committee also considered verification report submitted by Accountant General upon the request of the Committee.]

Excerpts from Committee's discussion with department officials

28) The chairman explained the background for the discussion. Audit para 5.8 is regarding the loss sustained to the tune of ₹ 3.12 crores by unnecessary construction of fender piles for Thadikkakadavu Bridge. In earlier discussion PWD Officials had drawn attention of the Committee to the fact that similar fender piles were constructed for Purampallykavu Bridge too. As per request of the Committee, Accountant General conducted a joint verification with Irrigation Department team and submitted a verification report before the Committee. In the report it is stated that Purappillykavu Bridge is actually a regulator-cum-bridge with navigation lock and dimension of navigation lock indicates that any bridges with a span of more than 10 meter either upstream or downstream would no way facilitate navigation due to bottleneck at Purappillykavu RCB. The report clearly states that since Purappillykavu RCB is suitable for movement of small vessels only, need of fender piles at Thadikkakadavu Bridge was unwarranted.

29) Regarding the construction of bridge over water ways, the Secretary apprised that new guidelines had been issued for fixing minimum height for bridges included in State Water ways system and hence cost will increase for land acquisition and construction. The Committee pointed out that these guidelines was also compulsory for National Water Ways.

30) The Committee understands that regarding the construction of Thadikkadavu bridge, audit observation points out the extra expenditure of ₹3.12 Crore for construction of safe guard pillars, which was not included in estimate. The Chief Engineer (Bridges), PWD replied that the work was done as piling was about to be completed. The Committee pointed out that such a construction was done in a place which was not at all navigable and was clearly an unwarranted work.

31) The Committee considered the verification report submitted by Accountant General on Committee's request. In the report Accountant General strongly refuted the Department's stand, that fender piles were constructed at Thadikkakadavu bridge across Periyar for protecting the bridge from collusion by barges, by clearly showing specific evidence that the particular stretch of waterway is not suitable for navigation because of the bottleneck upstream at Purappillykavu RCB which makes passage of heavy or medium size vessels

impossible. Also the portion of river is not included in national water ways and no plans are there for developing the stretch for navigation. The Committee, analysing Accountant General's report, observed that it was clearly an unnecessary work to construct fender piles at Thadikkakadavu Bridge which resulted in the loss of ₹3.12 crore to exchequer. The Committee suspects collusion between contractor and department officials in undertaking and completing such an unnecessary work. The Committee decided to drop the audit para with a stern warning to the Department to make sure that such flaws are not repeated in future, which if repeated, will force the Committee to make strong recommendations.

Conclusion/Recommendation

32) The Committee observes that it was clearly a wasteful expenditure to construct fender piles at Thadikkakadavu Bridge which resulted in the loss of ₹3.12 crore to the exchequer. The Committee suspects collusion between contractor and department officials in undertaking and completing such an unnecessary work. The Committee decided to warn the Department and to make sure that such flaws are not repeated in future, which if repeated, will force the Committee to make strong recommendations.

[Audit paragraph 5.9 contained in the report of the Comptroller and Auditor General of India (Economic Sector) for the year ended 31st March 2015.]

Avoidable payment on sinking of wells for foundation of four bridges

Separate payment amounting to ₹2.28 crore was made to the contractors by PWD outside the agreed rate for removing obstacles encountered during sinking of wells for foundation of four bridges.

The special conditions of contract stipulate that the rate quoted shall be inclusive of all the operations contemplated in the specification and tender schedule which covers the incidental work necessary for such operations. The conditions further stated that all items should be carried as per the relevant specification in the Madras Detailed Standard Specification (MDSS) which specifies that when the well has reached the required level care should be taken to see that it is seated properly.