

**REPORT OF THE  
COMPTROLLER AND AUDITOR  
GENERAL OF INDIA**

**on**

**ECONOMIC SECTOR**

**for the year ended March 2017**

**Government of Kerala  
Report No. 06 of the year 2018**

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## PREFACE

This Report for the year ended March 2017 is prepared for submission to the Governor of Kerala under Article 151 of the Constitution of India.

The Report contains significant results of the performance audit and compliance audits of the Departments of Government of Kerala under the Economic Services including Departments of Forests and Wildlife, Water Resources and Public Works.

The instances mentioned in this Report are those, which came to notice in the course of test audit of records during the year 2016-17 as well as those, which came to notice in earlier years but could not be reported in previous Audit Reports. Instances relating to the period subsequent to 2016-17 are also included wherever necessary.

The Audit is conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.

# **Chapter I**

## **Introduction**

## CHAPTER-I

### INTRODUCTION

#### 1.1 About this Report

This Report of the Comptroller and Auditor General of India (C&AG) relates to matters arising from performance audit of selected programmes and activities and compliance audit of Government departments and autonomous bodies under the Economic Sector.

Compliance audit refers to the examination of transactions relating to expenditure of the audited entities to ascertain whether the provisions of the Constitution of India, applicable laws, rules, regulations and various orders and instructions issued by the competent authorities are being complied with. On the other hand, performance audit, in addition to compliance audit, also includes examination of whether the objectives of the programme/activity/department are achieved economically, efficiently and effectively.

The primary purpose of the Report is to bring to the notice of the State Legislature, the important results of audit. Auditing Standards require that the materiality level for reporting should be commensurate with the nature, volume and magnitude of transactions. The findings of Audit are expected to enable the Executive to take corrective actions as also to frame policies and directives that will lead to improved financial management of the organisations, thus contributing to better governance.

This chapter, in addition to explaining the planning and extent of audit, provides a synopsis of the significant deficiencies and achievements in implementation of selected schemes, significant audit observations made during compliance audit and follow-up on previous Audit Reports.

#### 1.2 Profile of units under audit jurisdiction

The Accountant General (Economic & Revenue Sector Audit), Kerala conducts audit of 11 Departments and 18 Autonomous Bodies under the Economic Sector in the State. The departments are headed by Additional Chief Secretaries/Principal Secretaries/Secretaries, who are assisted by Directors/Commissioners/Chief Engineers and subordinate officers under them. The comparative position of expenditure incurred by the Government during the year 2016-17 with that of the preceding year is given in **Table 1.1**.

**Table 1.1. Comparative position of expenditure incurred by the Government**

(₹ in crore)

Disbursements	2015-16			2016-17			Percentage (+) Excess (-) Deficit
	Plan	Non-plan	Total	Plan	Non-plan	Total	
<b>Revenue Expenditure</b>							
General Services	116.98	35,967.70	36,084.68	181.39	41,013.94	41,195.33	(+)14.16
Social Services	7,591.56	20,011.73	27,603.29	9,773.34	23,991.38	33,764.72	(+)22.32
Economic Services	4,369.95	6,728.47	11,098.42	3,537.62	7,117.73	10,655.35	(-)3.99
Grants-in-aid and Contributions	---	3,903.08	3,903.08	---	5,480.91	5,480.91	(+)40.43
<b>Total</b>	<b>12,078.49</b>	<b>66,610.98</b>	<b>78,689.47</b>	<b>13,492.35</b>	<b>77,603.96</b>	<b>91,096.31</b>	<b>(+)15.77</b>
<b>Capital Expenditure</b>							
Capital outlay	6,518.48	981.56	7,500.04	8,945.65	1,180.30	10,125.95	(+)35.01
Loans and advances Disbursed	407.61	434.64	842.25	375.25	785.04	1,160.29	(+)37.76
Repayment of public debt	---	---	6,060.73	---	---	7,706.01	(+)27.15
Contingency Fund	--	--	---	--	--	---	---
Public Account disbursements	--	--	1,62,824.67	--	--	1,79,910.43	(+)10.49
<b>Total</b>	<b>6,926.09</b>	<b>1,416.20</b>	<b>1,77,227.69</b>	<b>9,320.9</b>	<b>1965.34</b>	<b>1,98,902.68</b>	<b>(+)12.23</b>
<b>Grand Total</b>	<b>19,004.58</b>	<b>68,027.18</b>	<b>2,55,917.16</b>	<b>22,813.25</b>	<b>79,569.3</b>	<b>2,89,998.99</b>	<b>(+)13.32</b>

Source: Report of the Comptroller and Auditor General of India for the year ended 31 March 2017 (State Finances).

### 1.3 Authority for Audit

C&AG's authority for audit is derived from Articles 149 and 151 of the Constitution of India and the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971[C&AG's (DPC) Act]. C&AG conducts the audit of expenditure of the departments of the Government of Kerala under Section 13<sup>1</sup> of the C&AG's (DPC) Act. The C&AG is the sole auditor in respect of one autonomous body in the Economic Sector, which is audited under Sections

<sup>1</sup>Audit of (i) all transactions from the Consolidated Fund of the State (ii) all transactions relating to the Contingency Fund and Public Accounts and (iii) all trading, manufacturing, profit & loss accounts, balance sheets and other subsidiary accounts.



19(3)<sup>2</sup> and 20(1)<sup>3</sup> of the C&AG's (DPC) Act. Besides, C&AG also conducts audit of 17 other autonomous bodies in the Economic Sector under Section 14<sup>4</sup> & 15 of C&AG's (DPC) Act, which are substantially funded by the Government. Principles and methodologies for various audits are prescribed in the Auditing Standards and the Regulations on Audit and Accounts, 2007 issued by the C&AG.

#### **1.4 Organisational structure of the Office of the Accountant General (Economic & Revenue Sector Audit), Kerala**

Under the directions of the C&AG, the Accountant General (E&RSA), Kerala conducts the audit of Government Departments/Offices/Autonomous Bodies/Institutions under the Economic and Revenue Sector, which are spread all over the State. The Accountant General (E&RSA) is assisted by three Group Officers.

#### **1.5 Planning and conduct of Audit**

The audit process starts with the assessment of risks faced by various departments of the Government based on the expenditure incurred, criticality/complexity of activities, level of delegated financial powers, assessment of overall internal controls and concerns of stakeholders. Previous audit findings are also considered in this exercise. Based on this risk assessment, the frequency and extent of audit are decided.

After completion of audit of each unit, Inspection Reports (IRs) containing audit findings are issued to the heads of the offices. The departments are requested to furnish replies to the audit findings within four weeks from the date of receipt of the IRs. Whenever replies are received, audit findings are either settled or further action for compliance is advised. The important audit observations arising out of these IRs are processed for inclusion in the Audit Reports, which are submitted to the Governor of the State under Article 151 of the Constitution of India for being presented to the State Legislature.

During 2016-17, in the Economic Sector Audit Wing, 4155 party days were utilised to carry out audit of 42 units.

#### **1.6 Significant audit observations**

In the last few years, Audit reported on several significant deficiencies in the implementation of various programmes/activities through performance audits as well as on the quality of internal controls in selected departments, which impact the success of programmes and functioning of the departments. Similarly, deficiencies noticed during the compliance audit of government departments/organisations are also reported upon.

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<sup>2</sup>Audit of the accounts of Corporations established by law made by the State Legislature on the request of the Governor.

<sup>3</sup>Audit of accounts of any body or authority on the request of the Governor, on such terms and conditions as may be agreed upon between the C&AG and the Government.

<sup>4</sup>Audit of all (i) receipts and expenditure of a body/authority substantially financed by grants or loans from the Consolidated Fund of the State and (ii) all receipts and expenditure of any body or authority where the grants or loans to such body or authority from the Consolidated Fund of the State in a financial year is not less than ₹one crore.

The present report contains findings of one performance audit and seven compliance audit paragraphs. The significant audit observations are discussed below:

### **1.6.1 Performance audit of programme/department**

#### **1.6.1.1 Implementation of the Wildlife (Protection) Act, 1972 in the State**

A performance audit was conducted to assess whether there was proper and adequate planning for the conservation and protection of wildlife in the State; and whether implementation and enforcement measures for wildlife protection were taken in accordance with the Act.

Though the Government constituted the State Wildlife Board as mandated under the Act, its meetings were not held as prescribed, which hampered timely advice to the Government. Advisory committees for managing sanctuaries as mandated in the Act were not constituted, which did not give the benefit of local participation in the management of sanctuaries.

The Government failed to issue final notifications in respect of seven National Parks/Sanctuaries after settling all claims in or over the land. Though, the area under protected area network was claimed to be 8.27 *per cent* (3,213 sq km) of the State's landmass, 654.66 sq km of this was yet to be notified as sanctuaries, thereby reducing the area under protected area network to 6.58 *per cent* (2,558 sq km). The Government did not take effective measures to increase the protected area network though 11,309 sq km is under forest area, of which only 2,558 sq km is under protected area network.

There were deficiencies in the planning and implementation of conservation, protection and enforcement measures. This resulted in lack of continuity in approved working plans, lack of management prescription for management of wildlife in newly added area to tiger reserves, delayed detection of wildlife offences, ineffective measures to combat encroachments etc. The conviction rate of wildlife offences was low due to their ineffective handling. Tourism/construction activities were not regulated as prescribed in the Act. Mitigation measures as required under the master plan for Sabarimala to lessen the impact due to pilgrimage activities were not implemented.

Effective measures were not taken to restore the identified elephant/wildlife corridors in the State or to relocate settlements inside sanctuaries to lessen man-animal conflicts.

The Government permitted declaration of animal articles by a person against whom an offence under the Act was registered, in violation of the provisions of the Act. The Government failed to ensure compliance of Kerala Captive Elephants (Management and Maintenance) Rules, 2012, by the captive elephant owners.

*(Chapter 2)*

## **1.6.2 Compliance Audit**

### **1.6.2.1 Contract management in Public Works Department**

Public Works Department (PWD) plays a major role in the design, construction and maintenance of roads and bridges coming under its jurisdiction. The compliance Audit on 'Contract management in PWD' was conducted with a view to examine comprehensiveness of planning/estimation, transparency in tendering/awarding of the works, adherence to financial propriety and qualitative execution of works by the Department.

Instances of arrangement of work without ensuring land or fund allocation and carrying out of work during the defect liability period were revealed in audit. The estimate rates were seen inflated due to defective calculation of unit rates for items of work, arithmetical errors, excess provision of cement concrete, violation of MoRTH specification, excess provisions of overhead charges and adopting of uneconomical methods of work.

Irregularities such as waiving of tender call in violation of delegated powers, inadequate provision for time of completion and non-finalisation of tender within the firm period with consequent excess cost of ₹21.19 crore were noticed in audit.

Audit observed irregular provision for incidental items of work, entrustment of works valued ₹809.93 crore to M/s ULCCS without tenders in violation of the guidelines issued by the Finance Department and providing of undue benefit to the contractor by exempting him from keeping security deposit as required. Lapses were noticed in ensuring validity and invoking of Bank Guarantee amounting to ₹2.16 crore in respect of terminated works. Changes in items of work causing additional financial burden, insufficient provision of defect liability period, exempting payment of royalty and irregularities in revision of estimates resulting in undue benefit to contractor and consequent financial burden to the Government were also observed during audit.

*(Paragraph 3.1)*

### **1.6.2.2 Functioning of the Kerala Road Fund Board**

The Kerala Road Fund Board (KRFB) was established in the year 2002 pursuant to the Kerala Road Fund Act, 2001. The Fund was intended for investment in transport facility projects in the State. The compliance audit was taken up to ascertain whether the Fund was established and administered properly, the projects were implemented observing financial propriety and the supervision and monitoring of the projects by KRFB were in compliance with the Act.

The Act provides for funding from various receipts of the Government of Kerala (GoK). But, GoK released only ₹895.23 crore (upto June 2017). During the last 15 years, KRFB undertook only two City Road Improvement Projects for improving 64.318 km of road. KRFB advanced ₹53.69 crore to a PSU during 2007 and 2008, which is lying unrecovered. Lending of money was outside the purview of the functions of KRFB and not in conformity with the Act and Rules.

KRFB gave mobilisation advance amounting to ₹19.22 crore disregarding government directives, thereby rendering undue favour to contractors. The Chief Executive Officer exercised financial powers beyond delegation and continued in office without government approval.

The Thiruvananthapuram City Road Improvement Project was implemented under BOT-Annuity mode with half yearly annuity of ₹17.749 crore. The Operation and Maintenance period was 15 years. Project facilities were not maintained as per agreement conditions and the KRFB did not invoke penal provisions thereon. KRFB did not engage the Independent Engineer/Project Engineer according to the procedure prescribed under Article 4.1 of the Concession agreement. Consequently, the Concessionaire refused to accept the observations of the Independent Engineer. KRFB allowed exorbitant rates as differential cost for substituting material for pavement of foot path resulting in undue benefit of ₹10.74 crore to the Concessionaire. KRFB incurred an amount of ₹79.50 lakh for providing traffic wardens to regulate traffic during construction, which was to be borne by the Concessionaire. Consequent on the phasing of the project, payment of proportionate annuity was regulated rendering undue financial gain worth ₹3.98 crore to the Concessionaire. Exorbitant rates were fixed for restoration works, which entailed financial burden to the utility agencies/public and undue benefit to the Concessionaire.

*(Paragraph 3.2)*

### **1.6.3 Compliance Audit Paragraphs**

- Lapses in adhering to the tender and agreement conditions, selection of incompetent suppliers, non-observance of the provisions of the Stores Purchase Manual and poor contract management resulted in non-delivery of two boats intended for tourism activities despite paying ₹68.34 lakh.

*(Paragraph 4.1)*

- Non exercise of propriety by departmental authorities in arranging road work resulted in execution of three unwarranted works costing ₹74.99 lakh. Besides, fictitious measurements and admission of irregular claims by departmental authorities resulted in payment of ₹15.78 lakh.

*(Paragraph 4.2)*

- Post contractual changes made to compensate a contractor for the price of bitumen resulted in extra liability of ₹70 lakh to the Government.

*(Paragraph 4.3)*

- Executive Engineer enabled the contractor to execute works of more than ₹4.56 crore without remitting security deposit and performance security deposit of ₹72.50 lakh, thus failing to indemnify the Government against future liabilities.

*(Paragraph 4.4)*

- Failure of the departmental technical committee in ensuring that the dredgers supplied by the contractor matched the required specifications and configuration resulted in supply of sub-standard dredgers unfit for the intended purpose, making ₹7.58 crore spent on their purchase unfruitful.

*(Paragraph 4.5)*

## **1.7 Lack of responsiveness of Government to Audit**

### **1.7.1 Outstanding Inspection Reports**

The Handbook of Instructions for Speedy Settlement of Audit Objections/Inspection Reports issued by the State Government in 2010 provides for prompt response by the Executive to the IRs issued by the Accountant General (AG) to ensure action for rectification in compliance with the prescribed rules and procedures and accountability for the deficiencies, lapses etc., noticed during the inspection. The Heads of Offices and next higher authorities are required to comply with the observations contained in the IRs, rectify the defects and omissions and promptly report their compliance to the AG within four weeks of receipt of the IRs. Half-yearly reports of pending IRs are being sent to the Secretaries of the Departments concerned to facilitate monitoring of audit observations.

As on 30 June 2017, 496 IRs containing 2,044 paragraphs were outstanding against PWD (Roads and Bridges), Irrigation, Agriculture & Farmers' Welfare and Forests & Wildlife Departments. Year-wise details of IRs and paragraphs outstanding are detailed in **Appendix 1.1**.

A review of the IRs pending due to non-receipt of replies in respect of these four departments revealed that the Heads of offices did not send even the initial replies in respect of 73 IRs containing 428 paragraphs.

### **1.7.2 Departmental Audit Committee Meetings**

During the year 2016-17, nine Audit Committee Meetings were held wherein 143 out of 455 IR paragraphs pertaining to the period between 2010-11 and 2015-16 relating to departments of Public Works (Roads and Bridges), Irrigation, National Savings, Agriculture & Farmers' Welfare, Forests & Wildlife, Civil Supplies and Kerala Road Fund Board were settled.

### **1.7.3 Response of departments to the draft paragraphs**

Draft Paragraphs and Reviews were forwarded demi-officially to the Additional Chief Secretaries/Principal Secretaries/Secretaries of the departments concerned between December 2017 and February 2018 with a request to send their responses within six weeks. The Government reply for the performance audit was received and suitably incorporated in this Report. The Government replies were not received for any of the compliance audit paragraphs featured in this Report.

### **1.7.4 Follow-up action on Audit Reports**

The Finance Department issued (January 2001) instructions to all administrative departments of the Government that they should submit Statements of Action

Taken Notes on audit paragraphs included in the Audit Reports directly to the Legislature Secretariat with copies thereof to the Audit Office within two months of their being laid on the table of the Legislature.

Five out of 11 departments did not submit Statements of Action Taken Notes for 11 paragraphs for the periods 2012-13 and 2015-16 even as of January 2018. Action Taken Notes on audit paragraphs were due from the Departments of Water Resources (four numbers), Public Works, Fisheries & Ports, Agriculture & Farmers' Welfare (two each) and Forests & Wildlife (one).

#### **1.7.5 Paragraphs to be discussed by the Public Accounts Committee**

There were 35 paragraphs relating to 11 Departments pertaining to the period 2012-13 and 2015-16 pending discussion by the Public Accounts Committee as of January 2018. Pending audit paragraphs include one each from Harbour Engineering, Co-operation, Forests & Wildlife and Transport, Coastal Shipping & Inland navigation; two paragraphs each from Information Technology, Tourism, Irrigation, Industries and Fisheries & Ports; three paragraphs from Water Resources, nine paragraphs each from Agriculture & Farmers' Welfare and Public Works departments.

# **Chapter II**

## **Performance Audit**

## CHAPTER-II

### PERFORMANCE AUDIT

#### FORESTS AND WILDLIFE DEPARTMENT

## 2. Implementation of the Wildlife (Protection) Act, 1972 in the State

### 2.1 Introduction

The Wildlife (Protection) Act, 1972 (the Act), a Central Act, was enacted for the protection of wild animals, birds and plants and connected matters with a view to ensure the ecological and environmental security of the country. It was enforced in Kerala with effect from 01 June 1973.

The Wildlife wing of the Forests and Wildlife department (Department) came into existence from 01 March 1985 on the direction of the Government of India (GoI) to constitute a separate Wildlife wing to strengthen the wildlife protection and conservation programmes in the State in tune with the first National Wildlife Action Plan of 1983. All Wildlife Sanctuaries (WLS) and National Parks (NP) were brought under the control of the Wildlife wing and separate Wildlife Divisions (WLD) were formed to manage them. There are six NPs, 17 WLS and one Community Reserve in Kerala. The total geographical area of Kerala State is 38,863 sq km, of which forest land constituted 11,309 sq km (29.10 *per cent*). The extent of Protected Areas (PAs)<sup>1</sup> as on 31 March 2017, as claimed by the Department was 3,213 sq km, which constituted 8.27 *per cent* of the total geographical area of the State. PAs consist of the areas notified under the Act as Sanctuaries, NPs, Conservation Reserves and Community Reserves. The PAs notified in the State are as shown in **Appendix-2.1**.

### 2.2 Organisational set-up

The Department is headed by an Additional Chief Secretary to the Government. The organisational set up of the Wildlife wing of the Department is given in **Appendix-2.2**.

### 2.3 Audit Objectives

The Performance Audit seeks to assess:

- (a) whether there was proper and adequate planning for the conservation and protection of wildlife in the State; and
- (b) whether implementation and enforcement measures for wildlife protection were taken in accordance with the Act.

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<sup>1</sup>Protected Area' means a National Park, a sanctuary, a conservation reserve or a community reserve notified under Sections 18, 35, 36A and 36C of the Act.



## **2.4 Audit criteria**

Audit findings are based on criteria derived from:

- Wildlife (Protection) Act, 1972 (as amended from time to time) and Rules framed thereunder.
- Forest Act, 1961 and Rules framed thereunder.
- Management Plans/Conservation Plans/Working Plans of the Division Offices.
- Government Orders, Notifications, Guidelines, etc.

## **2.5 Audit scope and methodology**

The Performance Audit was conducted from May 2017 to October 2017 covering the period 2012-17. Audit test checked the records of four WLDs<sup>2</sup> out of 10 and six Territorial Divisions<sup>3</sup> out of 25, selected on the basis of Probability Proportional to Size Without Replacement sampling method. In addition to the samples selected, Audit also scrutinised the records of Silent Valley Wildlife Division, Mannarkkad and Social Forestry Division, Thrissur. An entry conference was conducted on 05 July 2017 attended by the Principal Chief Conservator of Forests & Chief Wildlife Warden (PCCF & CWW) and the exit conference held on 20 February 2018.

## **2.6 Audit findings**

### **2.6.1 Planning for conservation and protection of wildlife in the State**

#### **2.6.1.1 Functioning of the State Board for Wildlife**

According to Section 6 (as amended in 2002) of the Act, the State Government shall constitute a State Board for Wildlife (the Board) consisting of 31 members with the Chief Minister as the Chairperson, which shall advise the State Government on various matters related to protection and conservation of wildlife. In terms of Section 7 of the Act, the Board is required to meet at least twice a year.

The Government of Kerala (Government) constituted the Board as required, but the Board did not hold meetings as specified in the Act. Audit observed that during the period 2012-13 to 2016-17, against the requirement of at least 10 meetings only five were held, with no meeting during 2015-16. Non-conduct of meetings by the Board delayed decisions on agenda items based on which the Board was to advise the Government on issues/matters concerning the protection and conservation of wildlife and its habitat.

The Government replied (March 2018) that the delay in convening meetings of the Board was not intentional and that the audit findings are taken note of and corrective action would be taken in future.

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<sup>2</sup>Periyar East, Periyar West, Wayanad & Idukki.

<sup>3</sup>Konni, Ranni, Vazhachal, Malayattoor, Munnar and Kothamangalam.

### 2.6.1.2 Non-constitution of Advisory Committee

Section 33B<sup>4</sup> of the Act provides for constitution of an Advisory Committee for rendering advice on the measures to be taken for better conservation and management of each sanctuary including participation of the people living within and around the sanctuary. This is not constituted till date (December 2017). Hence, the Government failed to ensure better conservation and management of the sanctuaries through local participation.

The Government replied (March 2018) that the process of formation of an Advisory Committee for each sanctuary was in progress and this would be finalised within a short period.

### 2.6.1.3 Notification of Sanctuaries/National Parks

The State is empowered by the Act to declare its intention to constitute a WLS or NP through a notification under Section 18 and Section 35 respectively. This is to be followed by appointment of a Collector who will determine the rights or claim of persons over the land and finalise the acquisition within a period of two years. After completion of this procedure, a final notification as per Section 26A<sup>5</sup> or 35(4) is to be issued declaring the area as a WLS or NP by specifying the limits and the date of effect, which cannot be altered by the State Government without recommendation of the National Board for Wildlife.

Since 1991, the Government issued intention notifications in respect of three NPs and four Sanctuaries as given in **Table-2.1**.

**Table 2.1: Details of Sanctuaries and National Parks notified since 1991**

Sl No.	Name of the Sanctuary/ National Park	Extent (sq km)	Intention notification issued under section	Date of Notification	Status of land before notification
1	Mangalavanam Bird Sanctuary	0.0270	18(1)	31/08/2004	Purambokke
2	Kurinjalama Sanctuary	32.000	18(1)	06/10/2006	Revenue
3	Choolannur Peafowl Sanctuary	3.420	18(1)	15/05/2007	Vested
4	Malabar Wildlife Sanctuary	74.215	18(1)	05/06/2009	Reserve/Vested
5	Pambadum Shola National Park	1.318	35(1)	23/12/2003	Reserve
6	Anamudi Shola National Park	7.500	35(1)	14/12/2003	Reserve
7	Mathikettan mala National Park	12.817	35(1)	10/10/2003	Cardamom Hill Reserve

<sup>4</sup>The State Government shall constitute an Advisory Committee consisting of the Chief Wildlife Warden or his nominee not below the rank of Conservator of Forests as its head and shall include a member of the State Legislature within whose constituency the sanctuary is situated, three representatives of Panchayati Raj Institutions, two representatives of non-governmental organisations and three individuals active in the field of wildlife conservation, one representative each from departments dealing with Home and Veterinary matters, Honorary Wildlife Warden, if any, and the officer-in-charge of the sanctuary as Member-Secretary.

<sup>5</sup>Section 26A was inserted in the Act through amendment Act in 1991.

Source: Notifications issued by the Government

It was observed in the above-mentioned cases that though eight to 14 years had lapsed since the intention notifications, the final notification under Sections 26A (1)/35(4) was not issued till date (February 2018). As the specific limit and situation of the sanctuary is defined and notified only with the final notification, delay in issue of the final notification may lead to alienation of land from the initially notified area as observed in the case of Kurinjimala<sup>6</sup> Sanctuary.

The Government replied (March 2018) that the delay in final notification was due to resistance from the public and the long process involved in convincing them. Further, it was stated that in the case of two NPs (Pambadum Shola and Anamudi Shola), the area fell within reserve forests and therefore, the intention notification itself could be considered as the final notification.

The reply is not acceptable as Audit observed that even where the land was under the full control of the Department (Mangalavanam Bird Sanctuary), the final notification was pending. In the case of the two NPs, the Government should have directly notified<sup>7</sup> the area as NPs instead of issuing intention notification under Section 35 (1) of the Act.

#### **2.6.1.4 Strengthening and enhancing the protected area network**

National Wildlife Action Plan 2002-16 focused on strengthening and enhancing the PA network in the country by creation of new legal PA categories like Conservation Reserves<sup>8</sup> and Community Reserves<sup>9</sup>. Through these categorisations and by including suitable adjacent habitats and corridors with existing PAs, the National Wildlife Action Plan aimed at bringing 10 *per cent* of India's land mass under the PA network and urged the States to establish new PAs including the proposed Conservation Reserves and Community Reserves, etc.

- The Department reportedly brought 8.27 *per cent* of the land mass under PA network.
- However, Audit observed that the figures reported by the Department included core area of 293.76 sq km added to Periyar (148 sq km) and Parambikulam (145.76 sq km) Tiger reserves; and buffer area of 360.90 sq

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<sup>6</sup>In the case of Kurinjimala sanctuary, the area notified as per initial notification issued in 2006 was 3200 hectares. In 2009, the Collector (appointed under the provisions of the Act) in order to determine the rights issued a notification excluding an area of 672 hectares (possibly due to encroachments) from the proposed sanctuary without assigning any reason.

<sup>7</sup>Explanation (under section 35 of the Act)—For the purposes of this section, in case of an area, whether within a sanctuary or not, where the rights have been extinguished and the land has become vested in the State Government under any Act or otherwise, such area may be notified by it, by a notification, as a National Park and the proceedings under sections 19 to 26 (both inclusive) and the provisions of sub-sections (3) and (4) of this section shall not apply.

<sup>8</sup>Areas adjacent to National Parks and sanctuaries and those areas which link one protected area with another, declared as a Conservation Reserve for protecting landscapes, seascapes, flora and fauna and their habitat.

<sup>9</sup>Where a community or an individual has volunteered to conserve wildlife and its habitat in private or community land, the State Government may declare such land as a Community Reserve, for protecting fauna, flora and traditional or cultural conservation values and practices.

km added to Parambikulam tiger reserve (212.90 sq km) and Silent Valley National Park (148 sq km), though the same were yet to be notified as sanctuaries. Therefore, an area of 654.66 sq km out of 3,213 sq km claimed by the Department was yet to be notified, reducing the area under PA to 6.58 per cent.

Audit also observed that the forest cover of the state was 11,309 sq km, of which only 2,558 sq km were under the PA network. The Department did not initiate any action to achieve the PA network target by notifying the forest area, which was already under its control. Even the proposal in the Working Plan of Vazhachal Territorial Division to declare certain forest areas as sanctuaries did not progress further. Therefore, there was scope for improvement in achieving the target PA network area envisaged in the National Wildlife Action Plan 2002-16.

The Government replied (March 2018) that the audit finding was taken note of and efforts in this direction would be expedited.

#### **2.6.1.5 Administrative control of new area added to Tiger Reserve**

The Government notified (December 2009) an extent of 390.89 sq km as core and 252.77 sq km as buffer area of Parambikulam Tiger Reserve, which were inclusive of 145.76 sq km and 212.90 sq km respectively of the adjoining Territorial Divisions<sup>10</sup>.

The first Tiger Conservation Plan (TCP) of Parambikulam Tiger Reserve was prepared for the period 2011-21. As stipulated in the TCP, the Field Director (Project Tiger) was to take over the 145.76 sq km area of forest land from the above three Divisions and manage the area as one unit under the administrative control of Deputy Director, Parambikulam Tiger Reserve.

It was observed that:

- The administrative control of the territorial forest area included in the core area was not handed over to the Parambikulam Tiger Reserve. Hence, the management prescriptions<sup>11</sup> provided with regard to protection and conservation of wildlife were limited to the existing forest area of the four<sup>12</sup> ranges of the Parambikulam Tiger Reserve only. There were no specific management prescriptions in respect of weed eradication/*Vayal*<sup>13</sup> maintenance, construction of new water holes, deepening of existing water holes, construction/maintenance of anti-poaching camps etc in the newly added area which negated the very purpose of their being brought under the tiger reserve.
- Similarly, administrative control of the buffer area transferred was not handed over to the Field Director (Project Tiger) even though more than eight years had lapsed since the notification.

<sup>10</sup>Nenmara, Chalakkudi and Vazhachal.

<sup>11</sup>The Department used the word 'prescription' in the Management, Conservation, Working Plans to denote stipulations for future action.

<sup>12</sup>Sugam, Karimala, Parambikulam and Orukomban.

<sup>13</sup>Vayals are low attitude marshy grass lands with perennial availability of water and grass.

The Government replied (March 2018) that the core area of Vazhachal (60.53 sq km) and Chalakkudy (42.24 sq km) was already handed over to Parambikulam Tiger Reserve and that of Nenmara Division (42.99 sq km) was in progress. Further, the area was managed as a tiger reserve as per the prescriptions in the TCP and wildlife management is being carried out in these areas.

The reply is to be viewed against the fact that handing over of the entire core area, which is under the sole control of the Department and where no third party is involved is not yet complete despite more than eight years of the notification. Moreover, the TCP (2011-21) of Parambikulam Tiger Reserve does not include management prescriptions for these areas.

#### **2.6.1.6 Delay in notification of areas as Sanctuary**

The Government added areas of the adjoining Territorial Forest Divisions to the existing sanctuaries and tiger reserves through notifications as either buffer or core area. These areas were, however, not notified as PAs.

An extent of 148 sq km of Ranni Territorial Division was added as core area to the Periyar Tiger Reserve (PTR) during the year 2007. Similarly, an extent of 145.76 sq km<sup>14</sup> of adjoining territorial division was added to the core area of the Parambikulam Tiger Reserve during the year 2009. Further, an extent of 148 sq km was added (June 2007) to the Silent Valley National Park as buffer. Though the State Board in its meeting held on 30 November 2010 recommended declaring the above areas as WLS, the same did not materialise.

The Working Plan<sup>15</sup> of each Division, prepared for a period of 10 years, is approved by the Ministry of Environment, Forest and Climate Change (MoEF & CC). It was proposed in the Working Plan (2002-12) of the Vazhachal Division to declare the entire forests of the Division, excluding Athirappilly Range, as a Sanctuary so that the whole area becomes a conservation unit. Out of the total Divisional forest area of 413.94 sq km, 318.84 sq km was proposed to be declared as Sanctuary. Though an extent of 215.75 sq km<sup>16</sup> of this was added to Parambikulam Tiger Reserve, the Department did not take action to declare the remaining area of 103.09 sq km as Sanctuary. This weakened enforcement of penal provisions against violation of prohibited/restricted activities like restricting entry to the sanctuary, prohibition of entry with weapon, etc.

The Government replied (March 2018) that the process of issuing final notification of the area handed over to the PA network was in progress.

#### **2.6.1.7 Deficiencies in planning**

In forest areas, other than the PAs and Tiger Reserves, management of wildlife and animal habitats are included in the Working Plan of the respective Forest Division. In respect of PAs and Tiger Reserves separate plans are prepared by

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<sup>14</sup>Nenmara Territorial Division 42.99 sq km, Chalakkudi Territorial Division 42.24 sq km and Vazhachal Territorial Division 60.53 sq km.

<sup>15</sup>Working plan is a written scheme of management aiming at continuity of policy controlling the systematic treatment of a forest prepared for each territorial division.

<sup>16</sup>60.53 sq km core and 155.22 sq km as buffer.

respective Divisions for management of wildlife and habitats and approved by PCCF&CWW<sup>17</sup>/National Tiger Conservation Authority (NTCA)<sup>18</sup>. As per the National Forest Policy, 1988, no forest should be permitted to be worked without an approved working plan by the competent authority and the National Working Plan Code, 2014 requires the working plans to be revised every 10 years.

The Divisional Forest Officers (DFOs)<sup>19</sup> as the Wildlife Wardens are responsible for the protection and conservation of wildlife and habitats in their respective jurisdictional area and are required to manage them through approved working plans of the Division.

Audit observed that in Vazhachal, Ranni, Malayattoor, Konni and Kothamangalam Divisions, there was no working plan during the period 2012-17, 2012-14, 2012-15, 2011-15 and 2011-16 respectively. In the absence of a 10 year working plan, these Divisions followed short term interim management plans.

Short term plans were prepared without detailed planning inputs, or any prescription for management of wildlife and habitats. Implementation of short term plans without inclusion of area specific measures for conservation and protection of wildlife negatively impacts scientific management of forest.

The Government accepted (March 2018) the audit observation and stated that the lack of continuous approved working plan was due to the long process to be followed in the preparation and approval of the working plans. But currently all divisions except Vazhachal had got approved working plans prepared as per the new working plan code, which included adequate management measures for protection and conservation for wildlife.

#### **2.6.1.8 Shrinkage of elephant habitat in Munnar Division and its impact**

Catchment area of Anayirangal Reservoir<sup>20</sup> in Munnar Division was a hub of wild animals especially elephants due to the availability of water and fodder. During the year 2002, the State Government rehabilitated landless tribes in Pandhadikkalam, 301 Colony<sup>21</sup> and 80 Acre area adjacent to Anayirangal. There were 15 settlements surrounding the reservoir, of which five were new tribal settlements, which came up after land assignment in 2002. With the establishment of new settlements, the available habitat of elephants in this area shrank, which resulted in intense human-elephant conflicts in this area. To counter animal attacks, damage of crops, etc. solar fences were built along the private land boundaries blocking the natural path of elephants, which made them more aggressive.

Many incidents of death, damage to crops/building, injuries etc. due to animal attacks, disturbances to wildlife due to tourism activities were reported in

<sup>17</sup>PCCF&CWW approves the management plan of PAs.

<sup>18</sup>NTCA approves the Tiger Conservation Plan.

<sup>19</sup>The DFOs are responsible for management of their respective territorial divisions, whereas wildlife wardens are responsible for management of wildlife divisions which comprise PAs.

<sup>20</sup>Reservoir area of Anayirangal Dam is controlled by Kerala State Electricity Board Ltd.

<sup>21</sup>Around 301 families settled down at Anayirangal area between 2001 and 2005, hence the name 301 Colony.

Chinnakanal and Anayirangal area of Devikulam Range. Many of the inhabitants rehabilitated abandoned the area due to frequent elephant attacks.

The situation was further aggravated by the use of boats by Kerala State Electricity Board Limited for tourism activities in the reservoir. The elephants, which get disturbed by the boating activity do not have an escape route as all other sides are surrounded by private properties secured by fences. Thus, due to the actions of the Government neither the purpose of tribal welfare nor wildlife conservation is served.

The approved Working Plan of the Division (period 2010-20) emphasised keeping the corridors to Mathikettan side and Kannan Devan Hill side, free from activities impeding elephant movements. The Working Plan recommended protecting the entire valley by declaring it as an Ecologically Sensitive and Protected Area and to confine the human settlements by re-locating them to areas less frequented by elephants.

The Act empowers the State Government to declare an area as PA if it considers that such area is of adequate ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment. The area was frequented by elephants and the Department objected to the rehabilitation, but the Government ignored this and rehabilitated landless tribals in this area.

Audit observed that the Department did not submit any proposal to the Board for declaring the area as PA. The Division requested the District Collector, Idukki only in May 2017 to submit a proposal to the Government for relocating the remaining people of the 301 Colony elsewhere.

Non-declaration of the area as PA is causing continued human-wild animal conflicts.

The Government stated (March 2018) that the area as pointed out fell under Anamudi Elephant Reserve managed as per the prescriptions in the approved Elephant Reserve Management Plan. So it may not be required to declare the said area as a PA as mentioned in the audit observation.

The reply is not acceptable as in the working plans proposed by the Department and approved by MoEF & CC, the area should have been declared as PA for elephant corridor and the tribals should not have been rehabilitated in this area.

**Recommendation No.1: The Government may initiate steps to expedite final notification for declaration of the Sanctuaries/National Parks.**

**Recommendation No.2: The Government may take measures to ensure continuity of working plans.**

## 2.6.2 Implementation of conservation, protection and enforcement measures

### 2.6.2.1 Population of umbrella species

Tigers and elephants serve as umbrella species<sup>22</sup> for the conservation of all biota represented by the ecosystems. The status of their population indicates the well-being of the ecosystem.

According to the censuses and as reported by the Wildlife Institute of India, Dehradun the population of tigers in Kerala increased from 46 in 2006 to 136 in 2014. Similarly, as per the report of elephant population census August 2017, estimated elephant population in Kerala increased from 2,735 in 2012 to 3,054. This indicates that the protection and conservation measures implemented by the Department is yielding results.

### 2.6.2.2 Ineffective surveillance

- The Act prohibits hunting of wild animals. The Plans of the Divisions prescribe construction of camp sheds at vulnerable and strategic locations with constant presence of forest officials/protection watchers to strengthen anti-poaching initiatives.

Audit observed that out of 60 anti-poaching camps prescribed for construction in eight<sup>23</sup> Divisions test checked, only eleven were constructed.

- In terms of the Forest Code, Beat Forest Officer (BFO)<sup>24</sup> is to perambulate the area under his beat in such a way that the entire beat area is covered in every seven days. It is the duty of the BFO to prevent forest offences and to collect and communicate to senior officers all information regarding the forest offences committed or attempted, to make private enquiries on suspicious characters frequenting the forest and find them, etc.

Audit observed that 12 offences of elephant killings in Malayattoor Division committed between June 2014 and January 2015 and four elephant killings in Vazhachal Division in June 2015 were detected by the Divisions only after several months of the incidents, that too on the offender confessing to the crime.

This was indicative of inadequate surveillance by the Divisions.

The Government replied (March 2018) that a detailed protection plan was prepared for each division identifying the vulnerable areas and that interior camping and perambulation routes were identified in the plan. The protection was

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<sup>22</sup>Umbrella species are those species selected for making conservation related decisions as protecting those species indirectly protects many other species that make up the ecological community of its habitat.

<sup>23</sup>Konni, Periyar West, Ranni, Malayattoor, Munnar, Vazhachal, Silent Valley and Idukki Divisions.

<sup>24</sup>Earlier termed as Forest Guard.



strengthened through revamping the wireless network, GPS tracking, Personal Digital Assistant devices, installing camera traps, etc.

### **2.6.2.3 Issues relating to wildlife offences**

#### **➤ Ineffective handling of wildlife offences**

Hunting (poaching) of wild animals, trespassing into the WLS, NP, Reserve Forest, etc. are offences punishable under the Act. According to the Forest Code, when a forest officer below the rank of Range Officer (RO) detects commission of a forest offence, he shall submit to the RO within 24 hours, an occurrence report of the case in the form of Mahassar setting forth all the details of the offence committed. On receipt of the report, RO after proper enquiry should submit a report in Form B<sup>25</sup> to the DFO.

Audit observed that in the 10 Divisions test checked, 630 wildlife offences were registered since 2000, of which, 165 offences were booked by RO but not charged in court for want of submission of Form B report as shown in **Appendix 2.3**.

The average rate of conviction in the wildlife offences disposed of by the Courts in respect of the test checked Divisions was 22 *per cent*. Some of the reasons for low rate of convictions in the Court were due to the inability of the investigating officers to gather and produce proper and sufficient evidences to establish the crime, failure in producing the articles seized at the crime spot, and procedural lapses.

Offences committed in the Sanctuary are to be charged under the provisions of the Act; instead, it was observed that some cases<sup>26</sup> were booked by the Wayanad Wildlife Division under the Kerala Forest Act, 1961, reducing the gravity of such offences.

The Government replied (March 2018) that regular refresher courses were being conducted by the State Forest Institutes regarding wildlife crime investigation and the trend was changing and many of the wildlife offenders were convicted.

#### **➤ Permitting declaration of animal articles without issue of notification**

According to Section 40 (1) of the Act, every person having captive wild animals, specified animal articles, etc. is liable to declare particulars of such captive wild animals or specified animal articles to the Chief Wildlife Warden (CWW) or the authorised officer within thirty days from commencement of the Act. The CWW on receipt of the declaration would issue a certificate of ownership, under Section 42 of the Act. As per Section 40(2B), every person inheriting any captive animal, animal article, trophy or uncured trophy was required to make a declaration to the CWW or the authorised officer within ninety days of such inheritance.

Under Section 40(4) of the Act, the State Government may, through a notification published in the official gazette, require any person to declare to the CWW or the

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<sup>25</sup>The report furnished by a Range Forest Officer to the Divisional Forest Officer after investigating a forest offence.

<sup>26</sup>Out of 180 cases, six cases of illegal constructions, one case of illicit felling of sandal woods, two cases of setting forest fire and one case of destruction of *junda* (cairn).

authorised officer any animal article or trophy (other than musk of a musk deer or horn of a rhinoceros) or salted or dried skins derived from an animal specified in Schedule I or Part II of Schedule II in his control, custody or possession in such form, in such manner, and within such time, as may be prescribed. Three opportunities were given to the public, first in 1972, then from 1978 to 1991 and finally in 2003 to declare possession of animals and animal articles. During the period 2012-17, there were two declarations of possession of animal articles under section 40(4) of the Act by a prominent film actor, consequent to detection (21 December 2011) of four elephant tusks by forest authorities at his house. The Department registered (2012) an offence<sup>27</sup> against the actor. The Government granted (16 December 2015) him permission under Section 40(4) of the Act to declare possession of the four articles by issuing an order specifically for the actor. Thereupon, he requested (03 February 2016) for permission to further declare 13 artefacts made of ivory, stated to be family heirlooms. The Government granted (17 February 2016) permission for this also and he declared (24 February 2016) possession of the artefacts to the CWW.

Audit observed that issue of a specific order to benefit an individual, instead of issuing a notification published in the official gazette was a violation of Section 40(4) of the Act.

The Government replied (March 2018) that on 15 December 2015, the CWW submitted to the Government a draft notification for providing one time opportunity to individuals for declaration of elephant tusks and ivory artefacts.

However, in the same reply, Audit observed that, the Government instead of providing opportunity to individuals, issued an order permitting only the actor to declare animal articles in his possession. Further, Audit observed that the order was not as per the provisions of the Act, which required the Government to issue a notification published in the official gazette and that similar offences<sup>28</sup> booked by the Divisions did not receive such favourable treatment but were either under investigation or under trial in Courts.

#### **2.6.2.4 Degradation of forest ecology due to encroachments**

The Act envisages ecological and environmental security of the country through protection of wild animals, birds and plants. Any encroachment of forest land (wildlife habitat) and destruction of plants by humans for cultivation of crops is a serious threat to the ‘natural home of wild animals’.

The Act does not contain provision to book the encroachments in areas other than PAs as an offence. Hence, the encroachments are to be evicted using powers contained in Section 66 of the Kerala Forest Act, 1961 or provisions of other applicable statute. The Government notified the Kerala Land Assignment (Regularisation of Occupations of Forest Lands Prior to 01 January 1977) Special

<sup>27</sup>OR No.14.2012 of Mekkappala Forest Station of Malayattoor Division.

<sup>28</sup>For instance OR No.24.2008 (illicit storage of wildlife trophy), OR No. 18.2009 (illicit custody of stuffed head of tiger and leopard),OR No.10.2015 (illicit possession of elephant tusk and teeth), etc registered in Devikulam Range.

Rules, 1993 through which an extent of 28,588 hectares (ha) of forest land admittedly encroached in the State prior to 01 January 1977 were regularised. Thereafter, no fresh encroachment was to be allowed and any attempt at encroachment from any quarter was to be dealt with firmly and new encroachments after 01 January 1977 were to be evicted.

Audit observed that 11,917.8952 ha of forest land was encroached<sup>29</sup> in the State after 01 January 1977, of which, only 4,628.5555 ha was evicted. The balance 7,289.3397 ha included areas coming under Territorial Divisions Munnar, Kothamangalam and Konni<sup>30</sup> test checked in audit. An extent of 310.632 ha which was not a part of the 7,289.3397 ha was also encroached in the Kaliyar Range of Kothamangalam Division.

The Department failed to prevent encroachments made after the regularisation of occupation of forest land as on 01 January 1977 in spite of being empowered under Section 66 of the Forest Act, 1961.

According to Rule 26 of the Forest Settlement Rules, 1965 when a forest land is notified as reserve forest under Section 19 of the Forest Act, 1961, the Chief Conservator of Forest should immediately take necessary steps to demarcate the boundaries of the land by construction of permanent cairns. Non-demarcation of forest boundaries with cairns facilitated encroachments.

Even though 31 years elapsed since the last reserve forest was notified, Audit observed that as of March 2017, construction of a total of 41,880 Cairns were pending.

The Government replied (March 2018) that following High Court orders, the Department handed over a list of encroachers to the concerned District Collectors for eviction, and an extent of 866.8997 ha was cleared of encroachment so far. Further, against the construction of 41,880 cairns pending as of March 2017, 12,258 were constructed upto February 2018.

#### **2.6.2.5 Constructions in Wayanad Wildlife Sanctuary in violation of the provisions of the Act**

During the period prior to 1950, cultivable lands within the Reserve Forest of Wayanad Plateau were leased out on an annual basis under Section 21 of the Madras Forest Act, 1882, for cultivation of annual crops. In 1973, an extent of 344.40 sq km of the reserve forest including leased out lands was notified as Wayanad Wildlife Sanctuary (WWS) under the Wayanad Wildlife Sanctuary Rules, 1973. Section 33 of the Wildlife (Protection) Act, 1972 does not permit construction of permanent buildings within the sanctuary area other than for sanctuary purpose.

Audit observed that though the lease agreements were not renewed since 2004, the possession of the leased-out land was not taken by the Department. The present occupiers of the erstwhile leased out land were not the original lessees.

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<sup>29</sup>As per a counter affidavit filed by the State before the High Court in September 2015.

<sup>30</sup>Measuring 1,099.6528 Ha, 147.5961 ha and 11.41 ha respectively.

The Assistant Wildlife Warden in his field inspection report (December 2012) stated that 13 residential buildings and 19 commercial buildings, three to forty years old were illegally built on the land included in lease nos. 3 and 4 near Muthanga check post. No action was taken by the Department to remove these unauthorised structures despite being empowered to do so under Section 34A of the Act.



**Pic 1&2 – Buildings illegally constructed in the erstwhile leased land near Muthanga checkpost in the Wayanad Wildlife Sanctuary. (Both pictures taken on 09 March 2018)**

The Government replied (March 2018) that eviction process was difficult, and it would create law and order issues. Further, most of the people living in the leased-out land were landless farmers and were forest dependent and that they could not be treated as illegal encroachers and summarily dealt with.

#### **2.6.2.6 Un-regulated tourism activities in Periyar Tiger Reserve**

The Department leased out 946.91 ha<sup>31</sup> of forest land in Goodrical Range of Ranni Division for cardamom plantation to Kerala Forest Development Corporation Limited (KFDC), which handed over (1979) 34 ha of it to the Kerala State Electricity Board Limited (KSEB) to construct a dam at Gavi. During 1998, the KFDC started eco-tourism activity near the Gavi Dam and used the surrounding lease area for eco-tourism. During the year 2007, Government added an extent of 148 sq km (14800 ha) of reserve forest of Goodrical Range encompassing the Gavi eco-tourism area to the core area of PTR.

Tourist vehicles entering the core area unaccompanied by forest staff/authorised guides often went close to wild animals leading to confrontation. The tourists were also involved in unauthorised trekking, setting of fire and littering. Hence traffic through the core area of PTR was considered in the TCP as a prioritised threat to the Tiger Reserve.

NTCA brought out (October 2012) Normative Standards for regulating tourism activities and Project Tiger under Section 38-O(1)(c) of the Act. The Standards stipulate that the CWW should ensure preparation of a tourism plan by each tiger reserve as part of the Tiger Conservation to include identification of corridor

<sup>31</sup>146 ha in 1977 and 800.91 ha in 1981.

connectivity and important wildlife habitats and mechanisms to secure them along with fixing of a ceiling on the number of visitors. This was not complied with. Other stipulations such as constitution of a Local Advisory Committee (LAC), establishment of an advance booking system to control tourists and number of vehicles, etc. were also not complied with. Though tourism activities in Tiger Reserves are to be under the overall guidance of the respective Tiger Conservation Foundations and the LACs, Gavi tourism area was managed by KFDC alone. These non-compliances were also against the direction (16 October 2012) of the Honourable Supreme Court to follow the guidelines issued by NTCA in respect of tourism activities in and around Tiger Reserves.

The Government replied (March 2018) that the tourism activities were regulated inside the Park as per the instructions and guidelines issued by NTCA in this regard. The tourism management in PTR was carried out as per the prescriptions approved in the TCP and that restrictions were placed on the number of vehicles permitted to enter the PTR.

However, it is observed that the regulations imposed are not as per the normative standards for tourism activities inside tiger reserves issued (October 2012) by NTCA.

#### **2.6.2.7 Non-clearance of undergrowth below power lines**

Four high tension power (HT) lines<sup>32</sup> passes through the core of PTR. Maintenance of the HT lines and timely clearance of the undergrowth beneath them is the duty of KSEB. The TCP requires the Division to conduct periodical joint inspection of power lines with KSEB during the period April to September every year, which was not complied with. The Department did not take any follow up action with KSEB on this matter. Five out of the 15 fire incidents reported since January 2013 to June 2017 in the Periyar East Division were due to sparks from the HT lines. Audit further observed that, in November 2016 one leopard and a *Nilgiri Langur* were electrocuted from an 11 KV line.

Though the risk of fire from HT lines were identified in the Plan, the Department failed to follow up the matter with KSEB, which led to repeated fire incidents damaging the forest ecology.

The Government in its reply (March 2018) accepted the audit findings and stated that steps would be taken in future to enforce KSEB officials to take necessary preventive measures.

#### **2.6.2.8 Human habitation inside Wayanad Wildlife Sanctuary**

The Act as well as the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, require that forest rights of the forest dwelling Scheduled Tribes and other traditional forest dwellers recognised in forest areas within the core and critical wildlife habitats of PAs may be modified and resettled for providing inviolate areas for wildlife conservation. The people were to be relocated paying compensation in accordance with National

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<sup>32</sup>Lower Camp-Sabarigiri, Sabarigiri-Nattakom and Moozhiyar-Sabarigiri (2 parallel lines).

Rehabilitation and Resettlement Policy, 2007. The total cost projected for the relocation was ₹80 crore in 2009.

The WWS covers an area of 344.40 sq km. According to a report prepared (December 2009) by Kerala Forest Research Institute, Peechi (KFRI) there were 110 settlements in WWS area, consisting of 2,613 families. Out of this, 2,485 eligible families<sup>33</sup> were willing to relocate from the sanctuary.

Audit observed that of the 2,485 eligible families who opted for relocation, the Department was able to relocate only 192 eligible families from seven settlements so far. The delay in relocation would lead to increase in the number of eligible families over a period of time, which in turn would lead to cost overrun requiring additional funds and further delay in relocation.

Further, human habitation inside the sanctuary could lead to frequent human-wild animal conflicts resulting in loss/injury to humans as well as wild animals.

The Government replied (March 2018) that the Department was pursuing the initiatives to complete the relocation package in a time bound manner.

#### **2.6.2.9 Violation of conditions of Master Plan for Sabarimala affecting the ecology of the Periyar Tiger Reserve**

The Sabarimala Ayyappa Temple is located within the PTR area as an enclave attracting millions of devotees every year. The increasing number of pilgrims and growing demand of Travancore Devaswom Board (TDB) for additional land for infrastructure development at Sabarimala led to habitat degradation. Out of 18 major threats identified by the PTR in Tiger Conservation Plan (TCP), Sabarimala Pilgrimage ranked the first.

The Government brought out (May 2007) a Master Plan for Sabarimala (MPS), which was to be implemented by the TDB. The TCP of the PTR, stipulated that all developments and management at Sabarimala should be in tune with the MPS and implementation of the Master Plan was to be monitored by the Deputy Director (Periyar West). The TCP emphasised solid waste management and sanitation interventions in the MPS as these were closely linked with the health of the wildlife habitat of the surrounding forests. As per Para 2.1.1 of the Infrastructure Module - solid waste management, water supply and sanitation of the MPS, the collection, transportation and disposal of waste at Pampa and Sannidhanam was the responsibility of the TDB.

A scrutiny of the relevant records revealed the following deviations/violation of the MPS.

- The TDB failed to set up composting facility at Pampa in line with the Solid Waste Management Guidelines of MPS. But the Department did not take any action against the non-compliance by TDB.

<sup>33</sup>Major son/unmarried daughter/sister, widow, woman divorcee, mentally and physically challenged persons and minor orphan counted as separate families.

- There are two Sewage Treatment Plants (STP) at Sabarimala, one at Pampa and the other at Sannidhanam. No drainage facility to convey waste water of the hotels to the Pampa STP was provided. Similarly, the sewage pipes from the buildings near Kumbalamthodu (stream) to the STP at Sannidhanam were left unconnected. Resultantly, the overflowing waste water got mixed up with the Kumbalamthodu, which in turn reached and polluted river Pampa frequented by wild animals.
- In place of underground electrical supply lines envisaged in the MPS, overhead cables without insulation were drawn.



**Pic.3: Waste water overflowing Kumbalamthodu**



**Pic.4: Overhead lines in trek path to Sannidhanam at Sabarimala**

**(Both pictures taken on 27 July 2017)**

The Government in its reply (March 2018) accepted the audit observations and stated that utmost importance of establishing composting facility at Pampa would be brought to the attention of the high power committee and that the need for urgent measures for improvement of drainage system connected to STPs would be brought to the notice of the TDB officials at the earliest. It was also stated that matter regarding non-insulated overhead cables existing in traditional trek route was brought to the notice of KSEB.

#### **2.6.2.10 Inordinate delay in restoration of elephant corridors**

Fragmentation of wildlife habitats is a major threat to long-term conservation of species. Large animals like elephants require extensive area for survival and are more affected by loss of habitat contiguity. Construction of roads/buildings, settlements, cultivation, etc. obstruct the natural corridors causing some of them to disappear. Establishing biological corridors is one of the measures to ensure genetic exchanges within and between populations.

Elephant habitats at a minimum should be of several hundred sq km to ensure short term and several thousand sq km to ensure long-term viability. Protection and strengthening of existing corridors can be a solution to human-wild animal conflicts.

Referring to the four elephant corridors<sup>34</sup> mentioned in the Book ‘Right of Passage – Elephant Corridors of India’ (2004) the MoEF & CC requested (August 2006) the Government to take action to notify and protect the identified elephant corridors in the State. The Department submitted a proposal for restoration of four corridors,<sup>35</sup> which included three corridors mentioned in the above book.

Of these, restoration of one corridor *viz.*, Tirunelli – Kudrakote was achieved by two NGOs namely, Wildlife Trust of India and Asian Nature Conservation Foundation by purchase of private land in the corridor area and handing it over to the Government for conservation. Action taken by the Department to restore/establish the other three corridors is discussed below.

In respect of Periya-Kottiyoor corridor, the GoI accorded (November 2008) administrative approval for acquisition of 131.50 ha<sup>36</sup> of private land in Kottiyoor and Periya for restoration of traditional elephant corridors at a total cost of ₹7.89 crore and released ₹4.50 crore<sup>37</sup> in three instalments. The area was to be acquired by negotiated purchase through the Revenue Department within two years.

Nine years have since elapsed and it was observed that against 95 ha of land to be acquired in Wayanad, acquisition of 8.5676 ha at CRP Kunnu in Periya Village only was initiated. CRP Kunnu area was given priority since it was more vulnerable to animal attacks. A field visit to CRP Kunnu revealed construction of new residential buildings in the proposed corridor area.



**Pic.5&6: New buildings constructed in the area proposed for restoration of Elephant Corridor at CRP Kunnu & Chapparam (Both pictures taken on 13 September 2017)**

Regarding restoration of the other two corridors, *viz.* Periya-Pakranthalam and Nilambur Kovilakam-New Amarambalam, Audit observed that the Department did not take any action. The delay in restoration of those corridors can obstruct the free movement of elephants leading to increased human-wild animal conflicts in the area.

<sup>34</sup> (1) Periya-Kottiyoor (2) Tirunelli-Kudrakote (3) Periya-Pakranthalam and (4) Nilambur Kovilakam-New Amarambalam.

<sup>35</sup> (1) Periya-Kottiyoor (2) Tirunelli-Kudrakote (3) Periya-Pakranthalam and (4) Pallivayal-Tattur.

<sup>36</sup> 95 ha (later revised to 60.4468 ha) in Revenue District Wayanad and 36.50 ha in Revenue District, Kannur.

<sup>37</sup> First, second and third instalments of ₹1.50 crore each were released in the year 2008-09, 2009-10 and 2010-11 respectively. Of this, ₹2.50 crore and ₹2 crore respectively were allocated to Kannur and Wayanad Districts.



The Department conceded that establishing of wildlife corridors were delayed and stated (February 2018) that acquisition of land was an issue as multiple agencies were involved and some of the landowners were not willing to vacate the land.

The Government replied (March 2018) that the reason for delay in starting restoration of the two corridors was because the priority was for those corridors where the elephants frequented.

The reply is not acceptable as even for the prioritised corridor (Periya-Kottiyoor), Government failed to establish inter-departmental liaisoning due to which land acquisition issues cropped up and remained unsettled even after nine years from the sanction of the project.

#### **2.6.2.11 Non-compliance to working/management plan prescriptions**

##### **➤ Deficiencies in implementation of fire management plans**

Fire lines are areas, which are cleared of vegetation in the hope of stopping or at least slowing a fire which may devastate large areas with grave ecological repercussions.

The Divisions make Fire Management Plans (FMP) in accordance with their requirements to check and mitigate the possibilities of forest fire. Audit observed that the fire protection measures in the following Divisions were not in accordance with a FMP, with shortfall in the creation of fire lines as given in **Table 2.2**.

**Table 2.2 – Shortfall in creation of fire lines**

Sl. No.	Division	Fire lines proposed in the FMP from 2012-13 to 2016-17 (in km)	Fire lines created from 2012-13 to 2016-17 (in km)	Shortfall in creation of fire lines (in km)
1	Silent Valley	1,120.00	876.730	243.270
2	Wayanad	2,234.00	1,214.000	1,020.000
3	Vazhachal <sup>38</sup>	1,292.22	839.685	452.535

Source : Data furnished by divisions

No fire lines were created in the area newly added (2007) to the PTR East Division from nearby Goodrical Range. The Warden, Wayanad Division stated (October 2017) that funds were not sufficient to create and maintain fire lines.

The Government replied (March 2018) that the fire lines are taken based on the fund availability and subject to the priority based on fire vulnerability.

The reply is not acceptable as FMP had made the provisions prioritising the fire vulnerability in forest areas and hence, adequate funds needed to be provided in accordance with FMP.

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<sup>38</sup>FMPs for the years 2014-15 & 2015-16 were not made available to Audit.

➤ **Non-eradication of invasive weeds**

*Senna*, *Lantana*, *Eupatorium*, *Mikania*, *Parthenium*, etc. are the common types of invasive alien<sup>39</sup> plants identified in the State and some of these species became invasive, out-competing and preventing growth of the native species. They also increase the chances of forest fire. The Working Plans/Management Plans/Conservation Plans provide prescriptions for eradication of invasive weeds. Audit observed that, the eradication works as prescribed in the Plans were not carried out by some Divisions as shown in **Appendix 2.4**.

Audit also observed that WWD failed to take adequate management measures to eradicate *Senna Spectabilis* (*Senna*), planted in Wayanad district long ago under the social forestry programme of the Department and which is now spread extensively over the Sanctuary area. It has become a threat to wildlife and indigenous plants owing to its quick growth and has lowered the quality of ecosystem and reduced the food of herbivores. The Division stated that no effective method existed to eradicate the exotic weeds fully and that KFRI was directed to experiment with new methods to eradicate *Senna*.

The Department failed to recognise the seriousness of the issue and take measures to contain the invasion in time. Further, neither was the affected area surveyed nor did the problem find a mention in the management plan of the wildlife sanctuary till 2014.

The Government replied (March 2018) that special funds were allotted for controlling the exotic weeds in WWS.

The Government initiative is, however, inadequate in addressing the issue as spread of the weed is not restricted to WWS alone.

➤ **Watershed Management**

Watershed is an area bound peripherally by water, parting and draining ultimately to a particular watercourse or body of water. Protection and conservation of watershed is necessary to minimise soil erosion, floods, silting etc. and to ensure availability of water for wildlife in natural streams, waterholes and check dams. The plans prescribed construction of small check dams across streams, at sites frequented by wild animals to secure water throughout the year.

Audit scrutiny of the watershed management activities carried out by various Divisions revealed deficiencies in the execution of plans as shown in **Appendix 2.5**.

- A joint physical verification (August 2017) of three check dams along with the Range Officer in the Neriya Mangalam Range (Munnar Division) revealed that the water carrying capacity of two check dams at Anachanda and Eanthanampara were severely reduced by accumulation of silt.

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<sup>39</sup>International Union for Conservation of Nature and Natural Resources (IUCN) defines alien invasive species as alien species which become established in natural or semi-natural ecosystems or habitat, an agent of change, and threatens native biological diversity.

Acute scarcity of water could lead to migration of animals to other areas, which may result in crop raids, damage to human life, etc.

The Government replied (March 2018) that construction of check dams, de-silting the ponds and check dams, maintenance of check dams, gully plugging are carried out as soil and moisture conservation techniques.

The reply does not address to the audit observations adequately.

#### **2.6.2.12 Non-compliance with the requirements of Kerala Captive Elephant (Management and Maintenance) Rules, 2012**

##### **➤ Non-providing of stables for elephants**

There are 599 captive elephants in the State. The Government, in exercise of powers under Section 64(2) of the Act, notified<sup>40</sup> the Kerala Captive Elephants (Management and Maintenance) Rules, 2012 to address the problem of ill-treatment of captive elephants and to ensure their proper upkeep and management. Rule 3 provided for proper housing of the elephants.

Site visit to the elephant camp (Aanakkotta) of Guruvayoor Devaswom revealed the following:

- The 'Aanakkotta', having 51 captive elephants had only 15 stables, each capable of accommodating one elephant. It was observed that the balance 36 elephants were kept in the open yard. Though the Additional Chief Secretary (Forests & Wildlife) directed (21 July 2016) the Guruvayoor Devaswom to construct shelters for all elephants within a month, only 10 sheds were constructed even after a year.

Thus, the directives under Rule 3 regarding proper housing of the captive elephants are not adhered to by the Guruvayoor Devaswom.

The Government replied (March 2018) that frequent inspections were being carried out to ensure compliance of the Kerala Captive Elephants (Management and Maintenance) Rules, 2012.

#### **2.6.2.13 Deficiencies in conservation of captive animals in Zoo**

The GoI framed Recognition of Zoo Rules, 2009 under section 63(1) of the Act according to which every zoo should endeavour to establish and sustain population of physically, genetically and behaviourally healthy animals for furthering the cause of wildlife conservation and communicating credible conservation message to the visitors through display of healthy animals in naturalistic settings.

- There are two medium, one small and two mini zoos in Kerala. As per Para 3 of Schedule to Rule 10 of the Recognition of Zoo Rules, 2009, every zoo is to prepare a master plan and get it approved by the Central Zoo Authority (CZA). According to the information furnished by the

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<sup>40</sup>Superseding the Kerala Captive Elephants (Management and Maintenance) Rules, 2003.

CWW, only the two<sup>41</sup> medium zoos prepared master plans for development and planning.

- A visit to the State Museum and Zoo at Thrissur (a medium zoo) by Audit revealed that the CZA renewed (April 2017) recognition of the zoo upto January 2018 subject to compliance of 27 conditions some of which were to be complied with immediately while others were to be met within a period of six months. The CZA also requested (April 2017) the PCCF & CWW to implement the conditions. It was seen that against the 27 conditions stipulated by the CZA, 11 conditions (**Appendix 2.6**) were not complied with/implemented in the Zoo (October 2017).



**Pic.7: Temporary measure to cover damaged enclosure (Picture taken on 28 September 2017)**



**Pic.8: Snake stuck in rusted wire mesh (Picture shared by the Curator, Thrissur Zoo on 28 September 2017)**

Similar lapses/deficiencies pointed out by the CZA while granting recognition in earlier years also were ignored. Many enclosures of animals were in dilapidated condition for want of periodical maintenance work.

Non-compliance with the directions prescribed by the CZA and inadequate maintenance of cages/enclosures negates the very purpose of having captive wild animals.

The Government replied (March 2018) that the audit findings were taken note of for future compliance.

**Recommendation No.3: The Department may take necessary steps for establishing sufficient anti-poaching camps, ensuring effective perambulation etc.**

**Recommendation No.4: The Department may evolve an effective mechanism to deal with the backlog in investigation of wildlife offences and in improving the conviction rate.**

<sup>41</sup>State Museum and Zoo, Thrissur and Zoological Garden, Thiruvananthapuram.

**Recommendation No.5: The Department should evolve an action plan for eviction of all encroachments by invoking the legal powers available.**

**Recommendation No.6: The Government may ensure compliance with the Normative Standards for tourism activities in Tiger Reserves issued by NTCA.**

**Recommendation No.7: The Department may take measures to expedite the relocation of settlements inside the sanctuary.**

**Recommendation No.8: The Department, by proper monitoring and coordination with the TDB may ensure that the infrastructure development activities carried out in the land transferred to the TDB do not lead to habitat/ecology degradation.**

**Recommendation No.9: The Department may accelerate its efforts towards restoring elephant corridors.**

## **2.7 Conclusion**

- Advice of the State Board for Wildlife to declare the core and buffer areas added to Periyar, Parambikkulam Tiger Reserves and Silent Valley National Park as wildlife sanctuaries was not implemented. Even after eight to fourteen years of initial notification, the legal process to notify the four Wildlife Sanctuaries and three National Parks was not completed.
- There was absence of planning in respect of new core areas added to Tiger Reserves and lack of continuity of working plans and measures for conservation of wildlife and its habitat in territorial divisions.
- Unregulated tourism activities in a Tiger Reserve adversely affected the conservation of wildlife and habitat.
- Against the four identified elephant corridors in the State, the Department is yet to restore/legalise three corridors.
- The surveillance measures in the Divisions were poor. Inadequate handling of wildlife offences resulted in low rate of conviction and large number of cases pending investigation.

# **Chapter III**

## **Compliance Audit**

## CHAPTER-III

## COMPLIANCE AUDIT

## PUBLIC WORKS DEPARTMENT

## 3.1 Contract Management in Public Works Department

## 3.1.1 Introduction

The Roads & Bridges (R&B) and National Highways (NH) wings of Kerala Public Works Department (Department) are responsible for the design,<sup>1</sup> construction and maintenance of all roads and bridges coming under the jurisdiction of the Department, except those coming under Kerala State Transport Project<sup>2</sup>, irrespective of the source of fund. The Principal Secretary to Government heads the Department at the Government level. He is assisted by Chief Engineers (CE) with charge over separate wings for programme delivery. The Department has control over 33,593 km of roads (including bridges) consisting of 442 km of National Highways<sup>3</sup>, 4,342 km of State Highways and 27,470 km of Major District Roads.

Expenditure on road works incurred during the last three years is shown in **Table 3.1.1**.

**Table 3.1.1: Expenditure on road works**

(₹in crore)

Year	Revenue expenditure		Capital expenditure	
	Budget provision	Actual expenditure	Budget provision	Actual expenditure
2014-15	2,191.07	1,760.61	1,759.35	1,477.26
2015-16	3,018.03	2,010.30	2,773.15	2,675.24
2016-17	2,234.94	1,182.63	2,216.37	2,815.79

Source: Finance Accounts and figures of Accountant General (A&E)

## 3.1.2 Audit objectives and scope

The compliance audit covered the works awarded by the R&B and NH wings of the Department during the period 2014-15 to 2016-17, and sought to examine whether:

<sup>1</sup>Design of roads and minor bridges only. Major design of bridges are done by Design, Research, Investigation and Quality Control Board headed by a Chief Engineer.

<sup>2</sup>Kerala State Road Transport project is a World Bank aided project under which certain State highways were upgraded or improved through separate wing under Public Works Department.

<sup>3</sup>Total length of National Highways(NH) 1,781 km less length of NH (1,339 km) under the jurisdiction of National Highways Authority of India.

- (a) the planning and estimation of the works were comprehensive and proper;
- (b) there was transparency in tendering/awarding of the works and that the canons of financial propriety were adhered to; and
- (c) the works were executed without time and cost overrun and their quality was ensured.

Audit scrutinised the records of the Department at the Government Secretariat, offices of the CEs of R&B and NH wings, Circle offices<sup>4</sup> and 10 divisional offices<sup>5</sup> and conducted joint physical verification of sites along with the Departmental officials at selected work sites/cases. The work files were selected adopting Stratified random sampling method. Entry and exit meetings were held with Government in June 2017 and February 2018 respectively. In the exit meeting, it was requested to furnish Government replies, which are still awaited. However, views of the Government as held in the exit meeting are incorporated in this Report.

### **3.1.3 Audit findings**

#### **Planning including estimation**

##### **3.1.3.1 Arranging of works without ensuring availability of land/proper investigation**

In terms of Section 1402 of the Kerala Public Works Department Manual, Revised Edition, 2012, (Manual) and stipulations in Administrative Sanctions, bidding of works shall be resorted to only after getting possession of the required land free of hindrances. Further, every work shall be properly investigated and all relevant data collected and correlated before finalising the design and estimate for the work.

Audit observed that

- In the selected R&B circles (North, Central and South), eight works valuing ₹59.98 crore awarded to contractors could not be completed due to faulty design and land disputes/delay in acquisition of land despite spending ₹33.34 crore on the works (**Appendix 3.1.1**). This included ₹2.85 crore on a bridge across Thodupuzha river in Idukki, which remained unused due to lack of approach road, thus, rendering the entire amount unfruitful.

CE, R&B attributed the reasons for non-completion of the projects to change in survey numbers of land proposed for acquisition, issues related to conversion of wetland, protest of public/land owners etc. The reply is

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<sup>4</sup>Circle offices are headed by Superintending Engineers (SEs) who report directly to the CEs concerned. The R&B and NH wings have three circle offices each.

<sup>5</sup>The Executive Engineers are in charge of Division offices, which come under SEs. The divisions inspected were Roads Divisions Alappuzha, Ernakulam, Muvattupuzha, Palakkad, Thrissur and Thiruvananthapuram and NH Divisions at Alappuzha, Kodungallur, Muvattupuzha and Thiruvananthapuram.



not acceptable as the Department should have ensured encumbrance-free land/proper design before awarding the work.

- In the selected circles, there were two more works<sup>6</sup> valuing ₹3.61 crore, where the works awarded were not taken-up for want of encumbrance-free land and mandatory clearances from the Forest Department/Railways. In the exit meeting, the Department stated that the road work was awarded assuming that the land belonged to the Department, and in respect of the retaining wall, the work was awarded in anticipation of getting clearance from Railways. The reply is not acceptable as the Department failed to ensure the availability of land, which was a pre-requisite for awarding a work.

### 3.1.3.2 Arrangement of works without ensuring fund

In terms of Section 2003 of the Manual, works arranged should have budget provision. The Government accorded (October 2014) Administrative sanction (AS) for the work “Junction improvement and providing 1.5 metre (m) paved shoulder from Kazhakkottam to Eanchackkal” for rupees four crore without mentioning the source of fund (Head of account). But the CE, NH issued (9 December 2014) Technical Sanction (TS) inserting a head of account. Superintending Engineer (SE), NH, South Circle (SC) tendered the work (3 December 2014) and handed over the site (16 January 2015) to the contractor who completed (February 2015) the work. Department could not pay ₹3.93 crore to the contractor for want of allocation; but it was later released based on a Court order. Audit observed that insertion of a head of account by the CE without ensuring actual availability of fund led to the litigation, which was avoidable.

### 3.1.3.3 Arrangement of work during Defect Liability Period

The Government ordered (August 2013) that the Defect Liability Period (DLP) of roads renewed with Bituminous Macadam (BM) and Bituminous Concrete (BC) would be for 24 months and 12 months for 20 millimetre (mm) Chipping Carpet (CC). As per section 2602.4.2 of the Manual, a road once renewed with CC is to be taken up for renewal only after three years.

Audit observed that a renewal work at a cost of ₹1.84 crore was taken up during DLP (**Appendix 3.1.2**), which tantamount to extending of unintended benefit to the contractor by allowing him to escape from the liability of maintaining the road during the DLP.

CE, R&B accepted the audit observation and in the exit meeting, CE, NH reiterated that arrangement of work during DLP was irregular. However, further action on the same was not intimated to Audit till date (March 2018).

<sup>6</sup>Annual Plan 2014-15: Improvements to Cheppukulam -Moolekkadu road km 0/500 to 3/500. Road Safety NH 744 - construction of gabion wall with necessary road safety measures from km. 45/700 to km. 46/100.

### **3.1.3.4 Estimates inflated due to defective calculation of unit rates for items of work**

According to Section 1601.1.2 of the Manual, proper care shall be bestowed on preparation of detailed estimate so that it reflects as faithfully as possible the cost of work as can be foreseen at that time.

Audit observed the following defects in the preparation of estimates due to errors in calculation of approved unit rates:

➤ **Exhibition of higher rate in the tender than the actual rate calculated**

Audit noticed that in one work<sup>7</sup>, the unit rate of an item included in the tender was higher than the rate calculated in the Rate Analysis, which enhanced the cost by ₹23.90 lakh. In the exit meeting, the SE, R&B South Circle accepted the audit observation and stated that with the introduction of PRICE software, the defects were rectified to a certain extent. The reply is not acceptable as such checks are required to be exercised meticulously in order to safeguard financial transparency, failing which, the government exchequer gets unreasonably affected and the contractor in turn gets unduly benefitted.

➤ **Arithmetical error in calculating unit rates**

Arithmetical errors in the calculation of unit rate of items in two works<sup>8</sup> inflated the cost by ₹16.72 lakh. Audit noticed that CE, R&B incorrectly applied cost index in the rate analysis in one work and in the second work CE, NH reckoned provision of pontoon<sup>9</sup> for construction of superstructure of bridge twice in the rate analysis. CE, R&B replied (September 2017) that arithmetical error amounting to ₹11.27 lakh was corrected based on Audit findings. However, Audit noticed that supplemental agreement (reducing the rate) was still not executed. In respect of the other case, CE, NH did not furnish any reply.

➤ **Excess provision of cement concrete in rate analysis**

According to the Standard Data Book (SDB) of Ministry of Road Transport and Highways (MoRTH), the rate for executing unit length of cement concrete pile<sup>10</sup> for foundation is calculated by considering, among other things, the quantity of concrete required for executing one metre length of pile, hire charges of machinery, labour and materials for boring.

Audit observed the following errors in calculation of the cement concrete component for piles:

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<sup>7</sup>Construction of Anjilimoottilkadavu Bridge at Kozhipalam across Pampa river in Pathanamthitta district.

<sup>8</sup>₹11.27 lakh in respect of construction of Valiyazheekal bridge across Kayamkulam lake connecting Kollam and Alappuzha district and ₹5.45 lakh in respect of construction of Calicut Bypass Phase II-reach II- from ch 0/000 to 5/000 of NH 17(New NH 66) in the state of Kerala.

<sup>9</sup> A flat-bottomed boat, which aids construction in water.

<sup>10</sup>Pile is a type of foundation to transfer loads from a structure to a strong sub surface strata. It is generally cylindrical in shape.

- As per MoRTH SDB unit rate of 1.2 m diameter bored cast in-situ pile is calculated initially for nine meter and one meter diameter pile is calculated for 10 m, which are converted to one meter thereafter. As per the SDB, requirement of cement concrete for 1.2 m diameter pile (for nine meter) was 10.170 cubic meter (cum), but the Department adopted 11.869 cum and in respect of one meter diameter pile (for 10 meter) Department adopted 8.243 cum instead of 7.85 cum in MoRTH SDB. The unit rate of pile foundation for three bridge works<sup>11</sup> was calculated deviating from the SDB of MoRTH, consequent upon which, excess quantity of cement concrete for providing bored cast in-situ pile was considered in the rate analysis, resulting in enhancement of the estimate cost by ₹91.30 lakh. CE, NH replied that the rate would be reduced.
- In the same three bridge works, the unit rate for bored cast in-situ pile foundation in rock was calculated as 2.5 times the rate of executing the same item in soil. This increase was due to additional time required for boring through hard rock. Audit observed that the multiplication factor of 2.5 was applied not only on boring but also on the cost of cement concrete, the quantity of which was the same for both hard rock and soil. Consequently, the estimate was overstated by ₹33.20 lakh. CE, NH replied that they adopted the procedure adopted by CE, R&B. The reply is not acceptable as the CE, R&B calculated the rate for boring in rock considering the actual volume of cement concrete in rock portion without reckoning 2.5 times the cost of boring in soil as stated by CE, NH.

➤ **Excess labour resulted in inflated rates**

Sl. No. 58 of the SDB of the Department provides for extra labour @ 0.40 woman for each additional lift of 1.5m involved, per 10 cum of construction material conveyed.

Audit observed that in three works<sup>12</sup>, the unit reckoned for extra labour was one cum, instead of 10 cum, resulting in cost escalation by ₹39.94 lakh. CE, R&B stated that Sl No.58 was meant for working with earth. Further the rate was provided considering actual site conditions and practical difficulties.

The reply is not acceptable as Sl No. 58 is applicable to all items including rubble. Further, the Department already included extra labour in the unit rate considering difficult areas. Hence, unit reckoned for extra labour violating SDB of the Department was irregular.

<sup>11</sup> ₹40.65 lakh in respect of construction of Calicut Bypass Phase II-reach II- from ch 0/000 to 5/000 of NH 17(New NH 66); ₹45.01 lakh in respect of DFIP-construction of flyover at Ramanattukara junction in NH 66 (old NH 17) – Calicut Bypass in the state of Kerala and ₹5.64 lakh in respect of DFIP-construction of flyover at Thodayad junction in Calicut by pass NH 66 (old NH 17).

<sup>12</sup> ₹8.11 lakh in respect of NABARD RIDF XX construction of Keezhmurikadavu bridge across Muvattupuzha River, ₹16.63 lakh in respect of construction of Murikallu bridge across Muvattupuzha River and ₹15.20 lakh in respect of Budget work 2015-16 construction of Parappuram Vallamkadavu bridge across Periyar River (all in Ernakulam District).

### **3.1.3.5 Violation of specifications/data of MoRTH**

➤ **Irregular inclusion of provision for cutting pile heads and conducting routine and initial pile load tests**

In terms of Section 1119 of MoRTH specification, the contract unit rate for providing cast in-situ bored piles includes the cost of labour, materials, hire charges of equipments and all other incidentals involved in conducting routine and initial pile load tests. As such, the contract unit rate of piles is inclusive of full compensation for furnishing all labour, material, tools and equipments, and incidentals for cutting off of pile heads.

It was observed that in nine works, items such as pile load tests and cutting of concrete pile heads costing ₹2.59 crore (**Appendix 3.1.3**) were included as separate items in the Contract. CE, NH replied that as there was no separate provision for pile load test and chipping off of pile top in the rate analysis, the items were separately provided. CE, R&B replied that in one work the provision of pile load test was included accidentally. In other cases, the reasons were stated to be non-provision of conducting pile load test and chipping off of pile top in the rate analysis.

The reply is not acceptable as Section 1119 of MoRTH specification prohibits separate payment for pile load test and chipping off of pile top, which are treated as incidental items and are already included in the contract unit rates of piles. Thus, separate provision of pile load test and chipping off of pile top in addition to incidental charges in the rate analysis led to extending of undue benefit to the contractor.

➤ **Calculation of unit rate of items of work deviating from MoRTH data**

The Government ordered (April 2013) adoption of MoRTH specifications by all State Government Departments from 1 October 2013 onwards.

Audit noticed that the Department did not adopt the specifications for calculating unit rate of some items of work; instead it used its own method, which caused inflation in unit rates as discussed below:

- As per SDB of MoRTH, 1.04 labour is required for fixing 50 road studs. Contrary to the MoRTH stipulation, the Department provided four labour per 50 road studs resulting in excess cost of ₹8.74 lakh in eight works, which commenced on or after November 2014. Audit observed that out of this, one work was under NH wing, for which they were bound to adopt MoRTH SDB but instead adopted observed data<sup>13</sup>.

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<sup>13</sup>Rate analysis prepared based on field observations for items of work, which are not available in SDB.

- As per SDB of MoRTH, certain percentage (maximum 55 *per cent*) of the cost of cement concrete, being the cost of staging<sup>14</sup> and formwork<sup>15</sup>, is to be added to the cost of cement concrete, so as to arrive at the unit rate for providing the superstructure<sup>16</sup> of a bridge. Audit noticed that in seven works (**Appendix 3.1.4**), the unit rate for providing superstructure of bridge also included the cost of additional staging and use of high-cost N Truss, instead of reckoning a certain percentage of the cost of cement concrete provided for the superstructure.

Audit observed that as per the Delhi Schedule of Rates (DSR), steel used in formwork can be reused 40 times, instead the unit rates were calculated by reckoning the re-usability of steel formwork as four to 18 times. Unit rates in these seven works ranged from ₹21,730 to ₹26,071/cum, whereas in bridge works conforming to SDB and DSR stipulations, the unit rate was less than ₹20,000/cum leading to a cost overrun of ₹10.66 crore. CE, NH and CE, R&B stated that a different method was adopted considering the actual requirement at site.

The replies are not acceptable as the rate analysis was available in MoRTH SDB for the same item of work. So the Department should have adopted the same irrespective of the site condition.

➤ **Inclusion of multiple/excess provisions for overhead charges in estimates**

In terms of the SDB of MoRTH, the unit rate of items also includes Overhead Charges (OH), which consist of provision for site accommodation, general site arrangement, mobilisation of resources, vehicle for supervision and an element of tax. In cases where MoRTH data are adopted, the OH applicable in road projects and bridges are as follows:

- the rate of OH applicable in road projects valued up to ₹50 crore is 10 *per cent* and for those above, it is eight *per cent*.
- the rate of OH admissible for bridges ranged between 20 *per cent* and 30 *per cent*.

The Government ordered (May 2010 and December 2010) that OH of five *per cent* would be applicable on estimates worked out on the basis of SDB of the Department to compensate the tax liability of the contractors.

Audit observed that additional provision for OH was provided in the work estimates of the following works even though OH at applicable rates was already included.

<sup>14</sup>The function of staging is to carry loads without appreciable deformation either before or during the placing of concrete.

<sup>15</sup>Formwork shall include all temporary or permanent forms required for forming the concrete of the shape, dimensions and surface finish, as directed, together with all props, staging, centering, scaffolding and temporary construction required for support. The concrete acquires exact shape of the mould in which it is placed.

<sup>16</sup> Superstructure of bridges includes deck slab of bridges, girder, cross girder, etc.

- As per SDB of MoRTH, contractor's profit (CP) is included in the estimate. But while entrusting works to accredited agencies the estimate shall not include CP. In a work<sup>17</sup>, apart from the regular OH of 8 and 25 *per cent* (for both road and bridge works), additional provision of 10 *per cent* was included in the unit rates of items towards compensation for taxes payable by the contractor. As an element of such tax was part of OH, a separate provision for taxes amounting to ₹12.01 crore was irregular and not as per SDB of both MoRTH and the Department.

CE, NH replied that Local Self Government Department and other institutions were entrusting works directly to the conveners of beneficiary committees and similar agencies by providing for taxes and OH in the estimate without CP and the same procedure was followed in the instant work also. Reply is not acceptable as OH charges at applicable rates were already included in the rate analysis and hence, additional provision towards compensation for taxes and other OH charges is irregular. Further audit scrutiny in a Local Self Government Institution confirmed that they did not incorporate the dual application of OH charges as stated by CE, NH in his reply.

- It was also noticed that even though the items of work did not conform to the MoRTH specification, in 16 works<sup>18</sup> OH at the rate of ten/twenty *per cent* was provided by R&B wing of the department instead of an eligible five *per cent*, which increased the cost by ₹6.52 lakh. CE, R&B replied that the PRICE software through which technical sanction was issued had no provision to alter the provision of 10 *per cent*. However, the Department did not take action to rectify the issue.
- Audit also observed that in two works<sup>19</sup> OH of both five *per cent* prescribed by the Government, and 10 *per cent* prescribed by MoRTH were included in the unit rate of items of work. The dual application of OH increased the estimate cost of these works by ₹27.88 lakh. CE, R & B replied that both OH were allowed on MoRTH data citing the Government directions in May 2010 and December 2010. The reply is not acceptable as

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<sup>17</sup>Construction of Calicut Bypass Phase II-reach II- from ch 0/000 to 5/000 of NH 17(New NH 66) in the state of Kerala.

<sup>18</sup>Agreement No.330/EE/2015-16 Dtd. 03/03/2016, No. 28/EE/2016-17 Dtd 17/06/2016, No. 29/EE/2016-17 Dtd 17/06/2016, No. 37/EE/2016-17 Dtd 17/06/2016, No. 40/EE/2016-17 Dtd 17/06/2016, No. 46/EE/2016-17 Dtd 17/06/2016, No. 48/EE/2016-17 Dtd 17/06/2016, No. 165/EE/2016-17 Dtd 24/03/2017 (8 Nos-Ernakulam Division), No. 67/EE/2016-17 Dtd 01/07/2016, No. 107/EE/2016-17 Dtd 02/12/2016, No. 147/EE/2016-17 Dtd 13/01/2017 (3 Nos-Thrissur Division), No. EE/PL/64/2016-17 Dtd 23/09/2016, No. EE/PL /66/2016-17 Dtd 30/09/2016, No. EE/PL/147/2016-17 Dtd 21/03/2016 and No. EE/PL/27/2016-17 Dtd 01/06/2016 (4 Nos-Palakkad Division), No.44/SECCA/2016-17 Dtd 17/05/2016 (Central Circle, Aluva).

<sup>19</sup>Improvements to Hill Highway from Koomanthodu to Aralam (22.80 km) II reach between km 64/620 to 71/690 (Vallithodu to Karikkottakkari) in Kannur district and Budget work 2011-12 – Improvements to MC road–Pathanapuram road–Sabarimala Bypass road (Mercy road–Chengamanadu road) ch 0/000 to 6/600 km.

the said Government directions allowed OH charge of five per cent on SDB of PWD only. Hence, dual application of OH had led to unintended benefit to the contractor.

- In a work<sup>20</sup> for providing deck slab of a bridge, apart from the 25 per cent OH already included in the unit rate, cost on sub-items for stay, food and vehicles were additionally added. Thus, inclusion of additional OH resulted in the boosting of cost by ₹16.50 lakh. CE, NH replied that special crew consisting of Engineers and technicians from United Kingdom would arrive for installation of stressing operation, the expenses of which, are to be met by the contractor. Hence the provisions of stay, food and vehicles were additionally added apart from 25 per cent OH. The reply is not acceptable as 25 per cent OH already provided would cover all such expenses, and hence, additional provision for such expenses in the rate analysis is irregular.

#### 3.1.3.6 Method adopted for earthwork excavation led to undue benefit to contractors

According to the SDB of MoRTH, the unit rate for excavation of soil including rock is worked out adopting mainly three methods viz, manual excavation, excavation using dozer and excavation using hydraulic excavator.

Audit observed that unit rate for excavation using manual method was up to four times costlier than mechanical methods of excavation. As per MoRTH SDB, manual means of excavation are meant for areas inaccessible to machines and for small jobs.

Estimation using incorrect method of excavation could provide undue benefit to the contractor as observed in the following instances:

- In a work,<sup>21</sup> the Department calculated the unit rate for excavation of soil using manual means. However, the specification of the item mentioned in the agreement was excavation using mechanical means. This gave an undue benefit of ₹88.61 lakh<sup>22</sup> to the contractor as he executed the work by mechanical means whereas the rates were for manual method, which were much higher. CE, R&B, the technical sanction authority, replied that since the field engineers found the usage of manual means necessary, the technical sanction authority also considered it to be genuine. However, in the agreement schedule, the specification for earthwork indicated the use of mechanical means. Reply is not acceptable as the measurement book, work bills and work slip revealed that the work was executed using mechanical means, which resulted in avoidable extra cost.

<sup>20</sup>Construction of Valiyazheekal bridge across Kayamkulam lake connecting Kollam and Alappuzha districts.

<sup>21</sup>Providing traffic safety measures between Km. 67/000 to 97/070 of CVG road.

<sup>22</sup>Quantity of earth work excavation (60278.206 cum) multiplied by the difference in rate of excavation as per manual means and rate of excavation as per hydraulic means.

- Audit also observed that in respect of one work<sup>23</sup> where excavation of soil was to be executed by mechanical means, it was done manually, thereby inflating the cost by ₹71.60 lakh for a quantity of 78,680 cum. CE, R&B stated that based on the representation submitted to the PWD Minister, it was ordered that utmost care should be taken while using heavy machines as expensive houses with gardens were situated on either side on the entire road. Hence, the land owners agreed to give land free of cost, on the condition that only manual means are used for earth work excavation. To verify the facts, a Joint Physical Verification (JPV) was conducted with the departmental officials. It was observed that the road was widened by taking land from both sides. In most of the cases, there was no boundary wall or houses nearby and instances of excavation using mechanical means were clearly visible at many locations. Hence, the provision of manual means for entire length of road led to extra expenditure to government, which was avoidable.
- In one work,<sup>24</sup> the original provision for earthwork excavation was using hydraulic excavator. During excavation, hard rock was stated to have been detected, which was treated as an extra item, and therefore manual excavation was provided. This inflated the cost of work by ₹60.19 lakh. CE, R&B replied that it was not possible to dismantle the hard rock with hydraulic excavator and blasting was not possible as the area was highly populated and so manual chipping was adopted. A JPV conducted at the site to verify the facts revealed that the detected material was hard laterite, which was excavated using mechanical means only and not manual means. Hence, the reply of the CE was not justifiable.

### **Irregularities in tender process**

#### **3.1.4.1 Non-compliance to MoRTH guidelines on fixing of completion period**

A bidder in a tender should have sufficient bid capacity. Period of completion of the work tendered, annual turnover and work in hand are the factors affecting bid capacity. As per timelines issued (August 2013) by MoRTH, the time prescribed for completing a work under ‘Improvement of Riding Quality Programme’ (IRQP) is six days per kilometre subject to a maximum of six months.

Audit observed that the SE, NH South Circle, Thiruvananthapuram, tendered three works<sup>25</sup> each with a minimum length of 20 km (approximately) with a total value of ₹57.99 crore. As against MoRTH specification of four months, the time

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<sup>23</sup>Improvements to Hill highway from Koomanthodu to Aaralam (22.80 km) 2nd reach between 64/620 to 71/690 (Vallithodu to Karikkottukari) in Kannur district.

<sup>24</sup>Improvements including BM and BC to Neruvambram - Payyattuchal - Chemberi road km 0/000 to 7/850 km in Kannur district.

<sup>25</sup>IRQP (Non plan) from ch.462/000 to 482/000 of NH 47 (New NH 66) in the State of Kerala; IRQP (Non plan) from ch 0/000 (Kollam high school junction) to 23/900 (Kadapuzha bridge) of NH 220 (New NH 183) in the state of Kerala and IRQP from ch.482/000 to 520/400 of NH 47 (New NH 66) in the State of Kerala.



of completion (ToC) fixed for each work was less than that prescribed by MoRTH. Scrutiny of the bids by MoRTH revealed that the reduction of ToC to three months provided insufficient time to contractors, which affected their bid capacity adversely. As such, re-tender of the works was ordered by MoRTH. Due to this, taking up of the works was delayed by three to five months and cost increased by ₹10.10 crore.

CE, NH replied that the SE, NH South Circle fixed the ToC as three months in order to ensure the completion of work before the forthcoming monsoon. Audit noticed that the action of the Department violating the MoRTH guidelines led to scrapping of the tender process, and in the process of retendering, one monsoon season elapsed, which caused further damage to the roads requiring extra work with more quantity of Bituminous Macadam, thus, resulting in cost escalation by ₹10.10 crore.

#### **3.1.4.2 Waiving of tender calls in violation of delegated powers**

In terms of Appendix 200B-2 of the Manual, the Executive Engineer (EE), SE and CE are empowered to waive tender calls of the value of up to ₹3 lakh, ₹10 lakh and ₹25 lakh respectively.

Audit observed that EE, Roads Division, Ernakulam, arranged six works, each valued at ₹25 lakh approximately, waiving tender calls, which were ratified by the SE, R&B Central Circle even though such waivers could be given only by the CE. It was further observed that all the works were awarded to a single contractor or to firms controlled by the contractor himself.

SE, R&B Central circle replied that the SE sanctioned the limited tender treating it as a normal tender. The reply is not acceptable as waiving of tender calls of works valuing ₹25 lakh was in violation of the delegated powers as per the extant manual provision.

#### **3.1.4.3 Non-finalisation of tender within firm period**

As per the Manual, the firm period of a tender is two months. Delay in finalisation of tenders before expiry of the firm period, at times, leads to backing out of the lowest bidder. Consequently, retendering or the second lowest bidder is considered.

Audit noticed that in eight instances, non-finalisation of tender process within the firm period led to arrangement of works through the second lowest bidder or retendering, which is at higher rates resulting in excess cost of ₹21.19 crore. **(Appendix 3.1.5)**

In the exit meeting, the departmental officials opined that these works required pre-qualification and two months period was insufficient for completing all the formalities. Audit observed that the firm period fixed in the pre revised manual was four months but when the period was reduced to two months, a system was not adopted to speed up the process. Further, there was undue delay in finalisation of tender and rearrangement, which led to the cost escalation.

#### **3.1.4.4 Excess liability due to rejection of single bid at estimate rate**

According to instructions issued (August 2012) by the Government, single bids at estimate rate or below could be accepted at the first instance. SE, R&B, Central Circle, Aluva tendered (February 2014) a work<sup>26</sup> against which a single tender at 9.20 *per cent* below estimate amount of ₹9.57 crore was received from M/s Kerala State Construction Corporation Limited (KSCC). The SE recommended (March 2014) the bid for Government approval. The Government returned (April 2014) the proposal directing retransmission after re-tender without citing any reason. On re-tender (July 2014), again a single tender was received which was from KSCC, but the rate quoted this time was 24.50 *per cent* above estimate. Government accepted the tender at 23.23 *per cent* above estimate and the SE awarded (March 2015) the work to KSCC. The Government decision to reject the initial single bid without recording any justification to do so and subsequently awarding the work to the same firm, that too at 23.23 *per cent* above the estimate rate resulted in an avoidable cost escalation by ₹2.04 crore.

#### **Irregularities in the award /entrustment of works**

##### **3.1.5.1 Entrustment of five works valued at ₹809.93 crore to accredited agency violating Government guidelines**

The Central Vigilance Commission (CVC) reiterates (July 2007) that tendering process or public auction is a basic requirement for the award of contract by any Government agency as any other method especially award of contract on nomination basis would amount to a breach of Article 14 of the Constitution of India. Further, as per the Kerala Financial Code while giving a work on contract the general principles governing invitation to tender are to be followed.

The Government (Finance) issued (July 2014, August 2015) guidelines<sup>27</sup> for selection of accredited agencies for execution of public works and enlisted M/s Uralungal Labour Contract Cooperative Society Limited (M/s ULCCS) as one of the accredited agencies.

Audit noticed that in violation of the CVC guidelines and the Government's Financial Code, the Department did not exercise due diligence in selection of the accredited agency through tendering and entrusted (20 February 2016) five works amounting to ₹809.93 crore to M/s ULCCS at estimate rate. Furthermore, as per the guidelines for selection of accredited agencies, the maximum value of a single work that could be entrusted to M/s ULCCS was ₹25 crore and the maximum quantity of work in hand at a time that could be held by the society was ₹250 crore, but it was noticed that even the smallest of the works entrusted was worth ₹51.42 crore and the maximum quantity of work in hand was ₹809.93 crore, thus violating the guidelines issued by the Government.

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<sup>26</sup>NABARD RIDF XIX: Improvements to Kodungallur –Athani Airport Road (KM 0/000 to 16/900) Part I in Thrissur District.

<sup>27</sup>Para (4) of Annexure II of GO (P) No.311/14/Fin dated 30/07/2014 & Annexure to GO(P) No. 339/2015/Fin dated 07/08/2015.

In the exit meeting, the Special Secretary to the Government in PWD stated that the entrustment was based on a Cabinet decision in which the guidelines of the Finance Department were not considered. Audit observed that the Committee on Public Accounts disapproved<sup>28</sup> the practice of nominating an agency to entrust a work. It further reiterated that the Department should resort to more transparent tendering procedure for awarding any work. Further, the Honourable Supreme Court of India emphasized<sup>29</sup> that the award of Government contract should be through public auction/public tender. This would ensure transparency, economy and efficiency in government procurement to promote healthy competition among the tenderers, to provide for fair and equitable treatment of all tenderers and to eliminate irregularities, interference and corrupt practices by the authorities concerned. As the Department did not adhere to the guidelines issued by the CVC, Government and the Supreme Court's directions on awarding the contract, an inquiry needs to be initiated by Government to fix responsibility.

### 3.1.5.2 Issues relating to Security Deposits for works

In terms of Section 2009.7 of the Manual read with the Government's (Finance) orders<sup>30</sup> (September 2015), the selected bidder shall produce a Security Deposit (SD) equal to five *per cent* of the contract amount for executing contracts, which is to remain valid till the expiry of DLP of the work. Prior to this, the Government in a circular (March 2003)<sup>31</sup> permitted contractors to adjust the amounts due to them on account of completed works as SD of new contracts awarded to them. The various types of irregularities noticed regarding SD are discussed below:

#### ➤ Pledging part bills of incomplete works

The Department permitted contractors to pledge part bills of two incomplete works (**Appendix 3.1.6**) as SD for seven newly awarded works, of which the bill of an incomplete work was pledged as SD of six contracts of the same contractor.

In respect of one out of the two incomplete works, CE, R&B replied that as per the recommendation of the EE, Roads Division, Ernakulam, second and part bill of a work amounting to ₹2.13 crore was pledged as the amount was sufficient for the security deposit of ₹1.29 crore. Reply of the CE is not acceptable as the circular permits only pledging of pending bills of completed works. In respect of second work, no reply was furnished.

#### ➤ Defect liability period not covered by security deposit

The EE, Roads Division, Thrissur, arranged (May 2016) a work<sup>32</sup> for providing retro-reflective sign boards/object hazard marker for which DLP was 36 months, i.e. up to 28 May 2019. However, Audit noticed that the SD submitted by the

<sup>28</sup>Committee on Public Accounts (2014-2016) - 113<sup>th</sup> Report presented to the State legislature on 18 February 2016.

<sup>29</sup>Judgement arising out of SLP (civil) No. 10174 of 2006.

<sup>30</sup>GO(P) No.104/2014/Fin dated 14/03/2014, GO(P) No. 3/15/Fin dated 05/01/2015 and GO(P) No. 429/15/Fin dated 28/09/2015.

<sup>31</sup>Circular No.4583/H3/2003 dated 07/03/2003.

<sup>32</sup>Providing road safety measures to various junctions in Thrissur-Kuttipuram road.

contractor was valid up to 03 March 2017 only. SE, R&B, Central circle replied that instruction was given to the contractor to furnish the SD for 36 months.

Audit observed that the actions of the Department provided undue benefit to the contractors and violated Government directions.

### **3.1.5.3 Non-revoking of Bank Guarantee**

Tender conditions stipulate that the contractor is to remit Bank guarantee (BG) at the rate of 10 *per cent* of the contract amount at the time of executing the contract, so as to ensure performance of the work during the period of contract.

Audit noticed that in two instances<sup>33</sup>, the agreement authority obtained BG amounting to ₹2.16 crore at the time of executing agreements. As the contractors did not complete the works in time, the SEs concerned extended the ToC but failed to ensure renewal of the BG for the extended periods. The SEs terminated the works at the risk and cost of the contractors as they did not complete the works within the extended ToC. The balance works were rearranged at higher rates. As the BG was not renewed, the Department lost the opportunity to recover the risk and cost from the original contractors to the extent of the BG.

In respect of one work, SE, R&B, North circle stated that BG was not renewed due to oversight.

In respect of the other work CE, R&B replied that BG expired on 30 June 2013, and the Department approached the Bank for withholding BG on 9 July 2014. He further stated that the Honourable High court passed a stay order (28 May 2015) against realisation of the amount from the contractor. The reply is not acceptable as the Department failed to take action to ensure the validity during the extended period of contract and to realise BG in time.

In the exit meeting, the Department stated that there was a lacuna in the system and that the finance wing of the Department was to ensure validity of the BG for the required period.

## **Irregularities/deficiencies in execution of works**

### **3.1.6.1 Preparation of defective estimates leading to revision of estimates**

The Manual stipulates that proper care shall be bestowed on the preparation of a detailed estimate so that it reflects, as faithfully as possible, the cost of work as can be foreseen at that time.

Audit noticed that, estimates of 63 works were revised post award, citing changes in the quantity/scope of work as discussed in the following paragraphs.

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<sup>33</sup>NABARD RIDF XV – Development and improvements to Peruva-Piravom-Peruvannamuzhy-Valampur-Valayamchirangara – Cheenikuzhi road Km. 0/000 to 30/030 including reconstruction of Vilappil Bridge (R&B Central Circle), Improvements to carriageway of Mudappallur-Mangalam dam road by providing BM & BC to Ch. 0/000 to 9/432 in Palakkad District (R&B North Circle).

➤ **Revision of estimates compromising on traffic safety and road safety**

In terms of the Manual, drainage is the most important aspect for proper upkeep of roads, as it strengthens the pavements and increases their life by reducing the moisture present in and below the pavement. Further, all road works must be properly provided with signs to warn road users about possible hazards.

It was noticed that initially, there were provisions for road safety and traffic safety items in the original estimate of the works, but during execution, the Department reduced the provisions for crash barriers, delineators, sign boards culverts, retaining wall etc. which compromised traffic safety/road safety in the revised estimate of 10 works (**Appendix 3.1.7**).

CE, R&B attributed different reasons for different works such as lack of proper original estimation leading to exclusion of certain items on execution, executing the work within the contract amount, limiting the expenditure within sanctioned cost etc.

The reply is not acceptable as compromising traffic safety and road safety would adversely affect the road users.

➤ **Erroneous calculation of rate of extra item**

In one work<sup>34</sup> involving construction of cast in-situ cement concrete drains under NH, North Circle, Kozhikode, the contractor quoted the rate for cement concrete and reinforcement separately. The rate quoted for reinforcement was ₹50,000 per MT. Later, on the plea of avoiding difficulties to public during construction and for enabling speedy completion, the Department substituted the item of cast-in-situ cement concrete drain with pre-cast drain for 629.38 cum, as an extra item. The item was approved for execution at estimate rates of ₹17,967 per cum at a total cost of ₹1.13 crore, reckoning the cost of reinforcement as ₹60,004 per MT.

In addition to the above, the Department also made provisions in excess of those specified in the MoRTH SDB for cement concrete, which consisted of cement, labour and use of machinery.

On this being pointed out (August 2017), the SE cancelled (August 2017) the supplemental agreement executed for the extra item and stated that the defects would be rectified and new supplemental agreement executed.

In the exit meeting EE, NH division, Kannur stated that the rate was reduced and that finalisation of the rate by higher authorities was under process.

➤ **Change in items of work causing additional financial burden to Government**

Audit detected instances wherein the items of work already included in the tender were altered/substituted/excluded during execution, leading to additional financial burden to the Government, as discussed below:

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<sup>34</sup>CRF-15-16 Improvement to Chelaramukku – Kolacherimukku - Nayattupara road in Kannur district ch 0/000 to 18/500 km.

In terms of MoRTH data, constructing the superstructure of a bridge on the piers at site is cheaper than casting the same on land and then launching it on the piers. The agreement of a bridge work<sup>35</sup> stipulated launching of the superstructure after it was cast on land. But during execution, the work was changed to casting of superstructure on the piers at site. Audit observed that even though the change in method should have reduced the cost, the cost of work actually increased by ₹85.35 lakh. This was due to adoption of a method different from MoRTH data for arriving at the unit rate for construction of superstructure, such as incorporation of hire charges of pontoon, excess provision for incidental items, etc.

CE, R&B replied that due to the narrow width of the approach road and a lot of sharp curves and bends, it was difficult to pre-cast and launch girder and slab. Also land for casting was not available. Hence, it was approved to carry out cast in-situ girder using N-truss. The data was based on observed data, which was on the lower side.

Audit observed that the following factors led to cost escalation on the extra item:

- While the Department adopted OH charges of 20 *per cent* prescribed in MoRTH SDB for rate analysis of the extra item, they did not adopt the MoRTH data as such to arrive at the rate.
- They did not even adopt observed data used in other bridge works. Instead, usage of N-truss was limited to four, whereas in other works, the maximum usage was up to 18 times.

Considering the Department's observed data in other bridge works, the maximum rate for construction of superstructure was ₹26,071 per cum whereas the Department considered ₹44,454 per cum for cost of the entire superstructure disregarding the already agreed lower rate of cross girder which is part of the superstructure. Hence, the reply of CE is not acceptable and the action of CE to grant a higher rate compared to other works led to avoidable cost overrun of ₹ 4.07 crore<sup>36</sup>.

➤ **Sanctioning of ancillary works as extra items**

In terms of MoRTH specification, the rate for construction of pile is inclusive of the cost for conducting pile load test. SE, R&B, Central Circle Aluva awarded a work<sup>37</sup> to a contractor for driving down test pile and conducting pile load test. Audit observed that after executing the agreement, the CE, R&B accorded separate sanction (April 2016) for conducting pile load test as an extra item costing ₹ nine lakh. The action of the CE, R&B was tantamount to extension of undue benefit to the contractor, vitiating the tender system.

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<sup>35</sup>Construction of Nanicherikadavu Bridge across Valapatanam River.

<sup>36</sup>₹44,454 per cum less ₹26,071 per cum multiplied by the quantity of 2,212 cum equals to ₹4,06,63,196.

<sup>37</sup>Construction of Perandoor - Vaduthala bridge across Perandoor Canal in Ernakulam district- Driving down test pile and conducting pile load test.

SE, R & B, Central Circle stated that there was lump sum provision for conducting pile load tests in the technical sanction but was not included in the tender. He stated that approved schedule had provision for casting of pile alone and hence revised estimate was submitted and sanctioned.

The reply is not acceptable as the nomenclature of the work itself specifies conducting of pile load tests. Hence, its inclusion as an extra item without mentioning in the tender is an undue favour to the contractor, as he is required to do the same without extra payment.

➤ **Irregular provision of incidental items of work**

As per contract conditions, the rates quoted by the contractor shall be inclusive of incidental items of work such as shoring, formation of ring bund, bailing out of water etc. Further, the contractor shall make all arrangements for inspection of works, free of charge.

Audit observed that, while revising the estimate of two works<sup>38</sup>, the Department made separate provisions for incidental items such as cost of footbridge for supervision in one work and cost of bailing out of water and formation of ring bund in the other work at a total cost of ₹35.28 lakh, which was a violation of the contract conditions.

In respect of Ayamkadavu Bridge CE, R&B replied that as the height of the bridge from the river to the bottom of the girder was between 20 and 24 m, it was necessary to provide the supervising officers with a strong and safe foot bridge to inspect the work. The cost of the foot bridge is more than the incidental charges included in the rate of concrete. Hence, additional provision was given for supervision and inspection of piers and superstructure in the estimate. The reply is not acceptable as the contractor had to provide the facilities for supervision of site for his own technical staff at his own cost, and provision of the extra item for supervision at Departmental cost is an undue benefit to the contractor.

➤ **Excess quantity of road studs provided on a road**

As per Indian Road Congress (IRC) guidelines 35-2015, the minimum space to be provided between two road studs is six meters. Audit noticed that during execution of a work<sup>39</sup>, road studs were placed at intervals of two to three meters instead of six meters. Excess execution of studs in violation of the IRC specification resulted in extra cost of ₹43.96 lakh.

Audit noticed that there was a complaint from public regarding excess number of studs creating a dazzling effect at night which could adversely affect traffic safety.

In the exit meeting CE, NH stated that while doing the next reach of the road the IRC specification would be adopted.

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<sup>38</sup>MLA – LAC- ADF – widening and improvements to Mannirampady –Thekkepuram road Ch. 0/000 to 1/180 (Agreement No. 125/SESC/13-14 dated 30/10/2013) and Construction of bridge at Ayamkadavu across Vavadukkam River on Perladukkam-Ayampara-Periya road.

<sup>39</sup>Widening of 6/4 lane from Karamana ch 570/200 to Kaliyikkavila 599/000 of NH 47.

### **3.1.6.2 Undue benefits extended to contractors**

#### **➤ Excess provision made for pontoon which is an incidental item for bridge works**

According to general practice, for construction of bored cast in-situ pile foundation of bridges, where formation of islands using earth is found to be uneconomic or technically unfeasible, pontoons can be provided. Audit observed that while the practice of allowing either island or pontoon is followed correctly in R&B Central Circle, it was not followed in R&B North Circle.

In the construction of a bridge work<sup>40</sup> under Roads Division, Kannur the original provision was to construct islands at a cost of ₹45.23 lakh and connecting service roads between islands at a cost of ₹10.47 lakh. But the Department substituted the item of service road with pontoon at a cost of ₹49.98 lakh citing that filling up of the river for forming a service road was not practicable. The Department's statement was not acceptable as usage of island made of earth, as per original provision, was economically more viable than pontoon. Hence, use of pontoon in place of connecting service road at such higher cost is not acceptable.

In the exit meeting Departmental officials from the Central region viz SE, R&B Central circle, Aluva and EE, Roads Division, Ernakulam stated that if formation of island was possible, pontoon was not necessary and *vice versa*. CE, NH opined that all divisions should take a uniform stand in this regard to reduce expenditure.

#### **➤ Insufficient provision for defect liability period in contracts**

The Government issued an order (April 2013) making the specifications of MoRTH mandatory for Roads and Bridges works in the State from October 2013. So in all roads and bridges works undertaken in the State, the DLP of the contractor is to be specified in the agreement according to MoRTH specifications. The DLP is defined by MoRTH as : "Three years as per specifications of MoRTH in respect of road works executed on NHs using Central Road Fund, if they are provided with bituminous thickness of 40 millimetres (mm) or more".

The Security Deposit is to be retained till the date of expiry of DLP.

Audit noticed that the Department did not provide sufficient DLP in agreements executed for eight road works<sup>41</sup>. It was observed that in one of these eight works on an NH, the contractor had to execute two layers of bitumen viz, bituminous macadam and bituminous concrete, which had a minimum thickness of 80 mm as per the contract. In accordance with the extant orders of Government on adoption of specifications of MoRTH, the required DLP in this case was three years but the Department provided DLP of only one year.

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<sup>40</sup>Construction of Kottakeel Pattuvam Kadavu Bridge in Kannur District.

<sup>41</sup>IRQP 2013-14 from km. 569/000 to 593/500 of NH 47 in the State of Kerala, Agreement Nos. EE/PL/56/2015-16 dated 04/03/2016, EE/PL/55/2015-16 dated 04/03/2016, EE/PL/52/16-17 dated 16/06/2016, EE/PL/51/16-17 dated 16/06/2016, EE/PL/43/16-17 dated 14/06/2016, EE/PL/44/16-17 dated 14/06/2016 and No. EE/PL/66/16-17 dated 30/09/2016.



CE, NH replied that in respect of the aforementioned NH work, DLP for one year was provided as mentioned in the technical note of the work and as per MoRTH circular in April 2012. In respect of the other seven works, CE, R&B accepted the observation and stated that it was a mistake while executing the agreement.

The fact, however, remains that the Government issued the order in April 2013 stating that MoRTH specifications were to be adopted henceforth, but the Department did not follow the specifications and allowed the contractor to avail DLP of only one year. Audit observed that the omission resulted in undue benefit to the contractors by exempting them from the liability of maintaining the road for the required period.

➤ **Granting of exemption from payment of royalty and resultant undue benefit to contractor**

In terms of Schedule-I of the Kerala Minor Minerals Concession Rules, 2015 (KMMC Rules), royalty of ₹40 per cum is payable for quarrying ordinary earth. According to contract conditions all taxes are to be borne by the Contractor.

The Government entrusted a work<sup>42</sup> to M/s ULCCS, and exempted<sup>43</sup> (March 2016) them from paying royalty for the earth supplied by them. Audit noticed that the unit rate for filling earth was inclusive of cost of royalty at the rate of ₹45.27 per cum<sup>44</sup>. Hence, the exemption granted by the Government resulted in undue benefit of ₹1.73 crore<sup>45</sup> to the contractor.

In the exit meeting CE, NH confirmed that provision of royalty as per DSR with cost index was included in the rate analysis. Hence, the contractor got the compensation for royalty and exemption from payment of royalty to the Government, which resulted in extending double benefit to the contractor.

➤ **Removal of earth to contractor's premises without paying royalty**

In terms of rule 106 of the KMMC Rules, 2015, royalty is payable on minor minerals removed from work sites.

Audit noticed that in a road work,<sup>46</sup> 44,965.67 cum of earth was removed from work site to the contractor's premises on the plea that the earth was not suitable for use in the work. Audit noticed that the Department did not collect royalty amounting to ₹17.99 lakh from the contractor before it was removed. After this was pointed out, the EE replied that the amount would be deducted from the final bill of the contractor.

<sup>42</sup>Construction of Calicut Bypass – II Phase – II Reach- from 0/000 to 5/000 of NH 17.

<sup>43</sup>Government issued an order dated 01/03/2016 vide. GO (MS) No. 43/2016/IND, wherein exemption of royalty was accorded to ULCCS.

<sup>44</sup>Royalty @ ₹30 per cum plus cost index of 27 per cent on royalty amounting to ₹8.10 per cum plus overhead charges of eight per cent amounting to ₹3.05 plus tax and other overhead charges amounting to ₹4.12 totalling ₹45.27 per cum.

<sup>45</sup>Royalty at the rate of ₹40 per cum for a quantity of 4,32,400 cum. equals to ₹1,72,96,000.

<sup>46</sup>Widening of 6/4 lane from Karamana ch 570/200 to Kaliyikkavila 599/000 of NH 47.

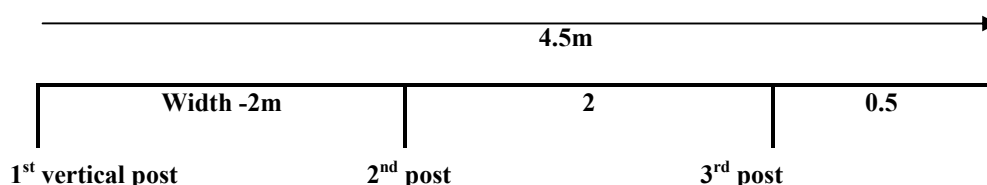
➤ **Benefit extended to contractor in excess of the work executed**

The specification given by the Department for installing W/Thrie -metal beam crash barriers in two works<sup>47</sup> stipulated that metal beams were to be fixed to vertical posts anchored in soil using cement concrete<sup>48</sup> at intervals of two meters, centre to centre.

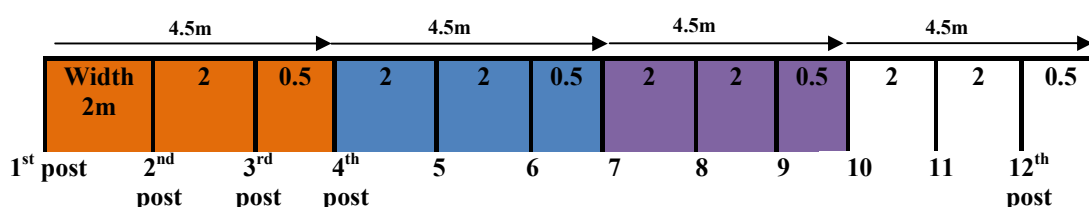
The unit rate for installing the crash barriers, including cement concrete, was calculated in rate analysis for a length of 4.5 m and each unit consisted of three vertical posts. JPV revealed that vertical posts of crash barriers were being provided at two meter intervals over a continuous length, without break. Hence, while a crash barrier for a continuous length of 18 m consisted of 12 vertical posts as per the unit rate reckoned by the Department, actual requirement was only 10. The excess provision of vertical posts is illustrated in the diagrams shown below. Thus, for every 18 m length, the contractor stood to receive payment for cement concrete for 12 posts even though only 10 posts were actually anchored by him. This resulted in undue benefit of ₹92.01 lakh<sup>49</sup> to the contractor.

**Diagram showing excess provision of vertical posts**

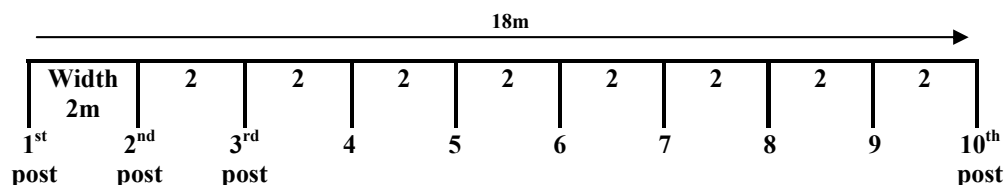
**Figure A: Length of 4.5 m crash barrier (as per rate analysis)**



**Figure B: Requirement of vertical posts for 18 m long crash barrier as per rate analysis**



**Figure C: Requirement of vertical posts for 18 m long crash barrier on actual execution**



<sup>47</sup>CRF work 2013-14 improvements to Danapady – Karthikapally – Muthukulam- Pullukulangara – Kayamkulam NH to NH, Providing traffic safety measures between Km. 67/000 to 97/070 of CVG road.

<sup>48</sup>As per clause 811.3 of MoRTH specification for road and bridge works, fifth revision issued in April 2013 vertical posts can be fixed in cement concrete.

<sup>49</sup>Requirement of cement concrete for excess number of vertical posts alone was considered.

➤ **Understating of out-turn resulting in excess payment**

According to SDB of MoRTH, out-turn of boring for 1.2 m diameter pile foundation is nine metres per day and for a one metre diameter pile, the out-turn is 10 m per day.

Audit noticed that in a bridge work<sup>50</sup> in Ernakulam district, the out-turn reckoned in the estimate for providing bored cast in-situ pile for foundation was only 1.4 m per day for 1.2 m diameter pile and 2.5 m per day for one meter diameter pile. Verification of measurement books and log book of boring revealed that the progress of boring on actual execution was even higher than the MoRTH data. Since MoRTH data was not adopted, lower out-turn reckoned in rate analysis led to an avoidable excess cost of ₹1.73 crore.

CE, R&B replied that they adopted data based on the rates arrived for similar other works where the soil strata is similar. Further, MoRTH SDB was adopted after issuing technical sanction of this work. It was also stated that the boring operations were carried out continuously on a 24 hour schedule without any interruption and were not deviated from the out-turn provided in the rate analysis.

The reply is not acceptable as MoRTH SDB was already adopted for other items in this work also. Further, pile driving register revealed an out-turn of 39.30 m in one day in respect of one meter diameter pile instead of 7.5 m<sup>51</sup> per day. As per the measurement book, 1.2 m diameter pile having a length of 74 m was measured within eight days from the date of commencement of work whereas the out-turn adopted by the Department was 4.2 m<sup>52</sup> per day.

This revealed a much higher out-turn for boring of pile than adopted by the Department for estimation.

Thus, adoption of different method deviating from MoRTH SDB resulted in undue benefit to the contractor.

➤ **Favouritism shown by departmental officials to a contractor violating contract condition**

As per contract conditions, arrangement of extra items<sup>53</sup> in an ongoing work requires inviting of quotations from the contractor who executes the work concerned. While inviting quotations, the rates calculated by the Department for the items of work being confidential are not to be disclosed to the contractor.

The SE NH North Circle, Kozhikode arranged a work<sup>54</sup> in February 2016. The rates quoted (26 May 2016) by the contractor<sup>55</sup> for 16 extra items in this work

<sup>50</sup>Construction of Kannangattu – Willington Island Bridge across Kumbalam Kayal.

<sup>51</sup>Considering three shifts per day i.e. 2.5 m per shift multiplied by three shifts equals to 7.5 m per day.

<sup>52</sup>Considering three shifts per day i.e.1.4 m per shift multiplied by three shifts equals to 4.2 m per day.

<sup>53</sup>Items of work, which were not included in the original agreement.

<sup>54</sup>Road safety estimate – Providing traffic safety measures between km 15/000 to 57/000 of Calicut – Kollagal road in NH 766 (old NH 212) in the state of Kerala (Agreement No. 22/2015-16/SE/NH/KKD dated 29/02/2016).

were found to be higher than those calculated by the Department. The SE requested (26 May 2016) the contractor for reduction of rates and he obliged (27 May 2016). The original as well as reduced rates were recorded<sup>56</sup> in the Distribution Register (Inward Register) maintained in the office of the SE. The Department subsequently detected some errors in the calculation of departmental rates for extra items, which resulted in upward revision of the rates.

Scrutiny of the relevant records by Audit revealed that the contractor submitted another set of identical quotation documents after the corrected upward calculation by the Department, which was inserted in the file record with the same inward numbers as of the previous quotation. The first negotiated quote of the contractor conformed to the pre-corrected rates of the Department while the second quote conformed to the revised rates. Accordingly, supplemental agreement was executed (September 2016) by the contractor based on the revised rates.

The additional financial commitment by reckoning the second set of documents containing the revised rates came to ₹16.05 lakh, of which ₹0.65 lakh was already paid (March 2017) to the contractor.

On this being pointed out, the SE stated that (August 2017) he directed the contractor to reduce the rates in the supplemental agreement on the basis of the audit observations, and that the contractor expressed willingness to execute extra item No.11 on the earlier offered rate (₹1,435.40 per cum) instead of the rate agreed later (₹2,747 per cum), which would result in reduction in the value of the extra items by ₹13.44 lakh and also execute a new supplemental agreement accordingly.

It is, therefore, evident that the records were manipulated by substituting the quotation originally submitted by the contractor with another set matching the upward revised rates of the Department and assigning the same inward numbers, resulting in extending undue benefit to the Contractor.

### **3.1.6.3 Lapses in monitoring and supervision of works**

In terms of the Manual, the Assistant Engineer (AE) shall be responsible for proper execution of all works in his Section in general and for ensuring the execution of works as per approved plans, in particular.

Audit noticed that in the following instances, the field officers failed to ensure that the contractors complied with the agreed specifications/plans during execution of works:

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<sup>55</sup>M/s K Ravindran, Kozhikode.

<sup>56</sup>As serial numbers 922 dated 26/05/2016 and 923 dated 27/05/2016 respectively.

➤ **Non-use of specified material in road works**

Bituminous emulsion based construction is very efficient in avoiding the wearing of ingredients of the mix. The items of work for providing prime coat and tack coat<sup>57</sup> for road works stipulates use of bitumen emulsion.

It was observed that in six works<sup>58</sup> arranged by the EE, Roads Division, Palakkad, against the agreed specification of bitumen emulsion for executing prime coat and tack coat, the contractor used ordinary bitumen (VG 30). The field officers did not ensure compliance with the agreed specification, which could affect the durability of the road adversely.

In the exit meeting, the concerned EE stated that VG 30 was used in lieu of bitumen emulsion due to non-availability of the material at departmental stores.

Thus, non-usage of the approved material poses risk of damage to the life of roads.

➤ **Inferior quality of work due to non-adherence to agreed specifications**

As per the Manual, every work has to be properly supervised to ensure that it is carried out in accordance with the required specifications.



- In four completed works having provision for W/Thrie-beam metal crash barriers, adequate quantity of cement concrete was not provided for fixing the vertical posts as required by the specifications as detailed in **Table 3.1.2**, which was confirmed after excavation around the vertical posts in the presence of Departmental officers. This indicated failure in supervision by Departmental authorities.

<sup>57</sup>Prime coat and tack coat are thin bituminous liquid layer to provide bonding between existing pavement and new layer pavement.

<sup>58</sup>Agreement Nos.: EE/PL/29/16-17 dated 03/06/2016, EE/PL/28/16-17 dated 03/06/2016, EE/PL/15/16-17 dated 29/04/2016, EE/PL/16/16-17 dated 29/04/2016, EE/PL/52/16-17 dated 16/06/2016, and EE/PL/51/16-17 dated 16/06/2016.

**Table 3.1.2: Quantity of cement concrete not provided as per specifications**

SI No.	Name of work in which JPV conducted	Size of cement concrete foundation of vertical post of W/ Thrie metal beam crash barrier (length x breadth x depth) in cm	
		Required	Observed during JPV
1	CRF 2013-14 improvements of Daanapady-Karthikappally-Muthukulam-Pullukulangara-Kayamkulam (NH to NH) road.	45 x 45 x 120 (with a volume of 0.243 cum)	Excavation conducted at two locations -At one location of vertical post the top layer of cement concrete foundation was of oval shape with a depth of up to 58 cm and volume of 0.148 cum and in the second post cement concrete was provided up to 60 cm with a volume of 0.140 cum.
2	Providing traffic safety measures between km 67/000 to 97/070 of CVG road	60 x 60 x 120	Excavation conducted at two locations. At both the locations top dimension was the same as that of specification and at a depth of 38 cm, the perimeter was 212 cm and 211 cm instead of 240 cm.
3	CRF 2014-15 Improvements to Koothattukulam-Mulanthuruthy road (Koothattukulam-Edayar-Piravam -Vettikkal-Mulanthuruthy).	45 x 45 x 125	Excavation conducted around three vertical posts. At one post though the top dimension was 45 x 52 cement concrete was not found after a depth of 50cm. In second and third locations, though top dimension was 45 x 45, cement concrete was not found after a depth of 30 cm.
4	Improvements to 12 roads leading to games village and karyavattam stadium	45 x 45 x 120	Excavation conducted at two locations. At first location, the top dimension was of irregular shape with average dimension of 55 x 25 cm but cement concrete was not found after a depth of 43cm. In the second location, excavation was done up to a depth of 60 cm, it was found that top perimeter was 170 cm, middle having 168cm and bottom 135 cm.

Source: Joint Physical Verification Reports and Departmental records.

- In another work<sup>59</sup>, the samples analysed by the quality control wing of the Department on a JPV of the site showed the content of bitumen in the bituminous layers to be less than the agreed specifications.

In the exit meeting, CE, NH while agreeing to lack of supervision by the field officers stated that recovery from those responsible would be effected.

### **3.1.7 Conclusion**

- Planning and estimation were done without conducting proper investigation and ensuring availability of fund and land.
- Specification of work items in the estimates were not in accordance with those prescribed in SDB/specifications of MoRTH.
- The tendering process followed by the Department contained irregularities such as inadequate provision for time of completion of works, violation of financial powers delegated and delay in awarding of works.

<sup>59</sup>Improvements to Edappally-Muvattupuzha road from km. 8/000 to 11/020 (Kuzhivelipady to Pukkattupady).

- Works were awarded violating the guidelines issued by the Finance Department and also violating the Constitutional provisions.
- Preparation of defective estimates without proper analysis of the requirements led to unnecessary revision of estimates resulting in extension of undue benefit to contractors and consequent additional financial burden to the Government.

The matter was referred (January 2018) to Government and their reply is awaited (March 2018).

## 3.2 Functioning of the Kerala Road Fund Board

### 3.2.1 Introduction

The Kerala Road Fund Board (KRFB), a statutory body was established (February 2002) by Government of Kerala (Government) pursuant to the Kerala Road Fund Act, 2001 (the Act). The Act provides for the establishment of a Fund for investments in transport facility projects in the State and to constitute a Board for administration of the said Fund and to monitor and supervise the activities financed from the Fund. The Act prescribed proceeds from various sources to be credited to the Fund. The Secretary to Government, Public Works Department (PWD) is the Member Secretary (MS) and administrative head of the KRFB. There is an executive committee (EC) for the Board and the Chief Executive Officer (CEO), appointed on contract basis, is the head of office controlling technical and ministerial functions of the Board. The organisational structure of the Board and the Executive Committee is given in **Table 3.2.1**.

**Table 3.2.1: Organisational structure of the Board and the Executive Committee**

	Board	Executive Committee
Chairman	Chief Minister	Minister for works
Vice Chairman	Minister for works	Secretary to Government/PWD
Ex-officio Members	Minister for finance	Secretary to Government/Finance
	Minister for transport	
	Secretary to Government/PWD (Member Secretary)	Secretary to Government /Law
	Secretary to Government /Law	Chief Engineer/Roads and Bridges
	Chief Engineer/Roads and Bridges	
Nominated Members	Three persons nominated by Government among the heads of financial institutions engaged in the business of infrastructure, scheduled banks or technical or engineering personnel working in national level institutions.	Two members nominated by the Board from among the nominated members of the Board

Source: Kerala Road Fund Act

### 3.2.2 Audit objectives and scope

The objectives of audit were to ascertain whether:

- (a) the Kerala Road Fund was established and properly administered by the Board in compliance with the provisions of the Act;
- (b) transparent procedures were adopted in selection of project proposals and Concessionaires for Public Private Partnership (PPP) projects, and the projects were implemented observing canons of financial propriety; and



- (c) supervision and monitoring of the projects by KRFB were in compliance with the provisions of the Act.

As the first project undertaken (March 2004) by KRFB, viz. Thiruvananthapuram City Roads Improvement Project (TCRIP) was still continuing, the activities of the Board from March 2004 were covered in audit. The only other PPP project, Kozhikode City Roads Improvement Project (KCRIP) was commenced in 2015 of which phase-IA was nearing completion.

### Audit Findings

#### 3.2.3 Poor achievement of objectives

Section 6(2) of the Act prescribed various sources of funds to be credited to the Road Fund which included:

- all moneys received from the Central Road Fund established under the Central Road Fund Act, 2000;
- 10 *per cent* of the Motor Vehicle Tax (MVT) collected as per provisions of the Kerala Motor Vehicles Taxation Act, 1976;
- all fees, fines and other amount collected by the Government as per the provisions of the Kerala Highway Protection Act, 1999; and
- all amounts standing to the credit of the Bridges Fund established under Section 12 of the Kerala Tolls Act, 1976;

KRFB received no fund in compliance with the above provisions except the share of MVT, which was also far below the prescribed share as per the Act. The total amount of MVT collected by the State during the period 2000-01 to 2015-16 was ₹16,456.62 crore out of which ₹1,645.65 crore was to be released to KRFB. The Government released only ₹895.23 crore (up to June 2017). The Government was yet to reply regarding the reason for the shortfall in crediting the prescribed share of MVT to KRFB.

Section 4 of the Act authorised the Board to formulate criteria for financing transport facility projects, but the Board did not formulate any such criteria. The CEO stated that financing of projects was based on the decision of the Government from time to time.

KRFB undertook only two City Road Improvement Projects—TCRIP and KCRIP improving 64.318 km of road during the last 15 years. Other than this, there were seven City Road Improvement Projects (CRIPs) proposed under KRFB, the present position of which is shown in **Table 3.2.2** :

**Table 3.2.2: Present position of CRIPs**

Name of city	DPR <sup>60</sup> submitted to government in	Present position (January 2018)
Alappuzha (phase-I)	January 2017	Administrative sanction (AS) obtained (May 2017), tendering in process
Alappuzha (phase-II)		Final DPR under preparation
Kannur	November 2013	AS obtained (August 2017)
Kollam	March 2017	Final DPR approved and AS awaited
Kottayam	November 2013	DPR approval awaited
Malappuram	November 2014	DPR approval awaited.
Thrissur		Final DPR under Scrutiny

Source: Records of KRFB

The gross total expenditure incurred by KRFB during the 15 year period ending 2016-17 comes to ₹803.56 crore as detailed in **Table 3.2.3**:

**Table 3.2.3: Expenditure details of KRFB**

Amount paid to M/s TRDCL <sup>61</sup> towards annuity for TCRIP	₹181.40 cr.
Amount paid to M/s TRDCL towards arbitration award <sup>62</sup>	₹124.95 cr.
Expenses for other projects including preparation of DPRs	₹173.07 cr.
Administrative expenses	₹ 11.80 cr.
Funds provided to PWD/other agencies for implementation of works under SPEEID Kerala Programme	₹312.34 cr.
<b>Gross total expenditure</b>	<b>₹ 803.56 cr.</b>

Source: Accounts of KRFB

The DPR of Kannur CRIP submitted in 2013 was approved only in 2017 and that of Kottayam (2013) and Malappuram (2014) are not yet approved. The CEO claimed (October 2017) that the primary objectives of KRFB were achieved by implementing seven CRIPs besides funding a few projects of other wings of PWD by spending ₹312.34 crore for Sustainable and Planned Efforts for Effective Infrastructure Development (SPEEID) Kerala Programme. But, the fact remains that only two CRIPs were undertaken during the last 15 years. In respect of SPEEID, the role of KRFB was only funding without involvement in monitoring and supervision of the activities so funded.

Thus, the achievement of KRFB in formulating and implementing projects for improving the transport facilities in the State was poor.

### **3.2.4 Injudicious application of funds**

#### **3.2.4.1 Lending of ₹53.69 crore outside the purview of prescribed functions/activities**

The Act and Rules do not provide for lending from the fund except assistance in the form of loans secured by borrower's assets. KRFB advanced an amount of ₹53.69 crore (**Appendix 3.2.1**) to Roads and Bridges Development Corporation

<sup>60</sup>Detailed Project Report.

<sup>61</sup>Thiruvananthapuram Road Development Company Ltd.

<sup>62</sup>This aspect was commented in para 3.4.6 of C&AG's Audit Report (Civil) for the year ended 31 March 2011 (Report No.2 Government of Kerala).

Kerala Ltd (RBDCKL), a PSU, during the years 2007 and 2008, in different spells with varying rates of interest as low as 6 *per cent* per annum. KRFB lent the amount for meeting the working capital requirements<sup>63</sup> of RBDCKL which did not repay any amount towards principal or interest till date (August 2017). The EC sanctioned the loan during the period when the Board did not meet for four and half years from 17 May 2007 to 08 November 2011 and the decision of the EC was ratified (09 November 2011) by the Board. Lending of money was outside the purview of the prescribed functions/activities of KRFB and not in conformity with the provisions of the Act and Rules.

The total amount due from RBDCKL including interest of ₹33.69 crore accrued up to 31 August 2017 worked out to ₹87.38 crore (**Appendix 3.2.1**). CEO stated (January 2018) that the matter was taken up with RBDCKL and the Government for settling the outstanding amount. The Government had already directed (September 2016) RBDCKL to repay the amount of loan with interest stating that KRFB did not have substantial income of its own for lending.

#### 3.2.4.2 Undue favour to contractors by way of mobilisation advance

As per the Government (Finance Department) orders<sup>64</sup>, no mobilisation advance (MA) would be given to agencies which are not executing works directly. The Government, accorded<sup>65</sup> administrative sanction to ten projects under SPEEID Kerala Programme to be funded through KRFB. As recommended by KRFB, the Government (PWD) sanctioned MA to the implementing agency for two works as shown in **Table 3.2.4**:

**Table 3.2.4: Details of mobilisation advance**

Particulars	Improvements and Heavy maintenance to Ramapuram- Nalambalam Darsanam road	Upgradation of Kanjikuzhy-Vettathukavala-Karukachal road
Project cost	₹67.00 cr.	₹67.26 cr.
Implementing agency	KSCC <sup>66</sup> Ltd	KSCC Ltd
Name of contractor	M/s EKK&Co	Sri. Sony Mathew
MA released	₹10.15 cr.	₹9.07 cr.
Date of release of MA	17 January 2015	16 January 2015

Source: Records of KRFB and KSCC

The CEO stated (September 2017) that the Government sanctioned the advances to the implementing agencies for onward transmission to the contractors. But, Kerala State Construction Corporation Ltd. (KSCC), in their tender notification clearly mentioned that no MA would be allowed. KRFB, while recommending the MA and PWD while sanctioning it, did not reckon the ineligibility of the contractors for advance with reference to the tender conditions. The CEO stated (January 2018) that such instances would be avoided in future.

<sup>63</sup>For enabling the company to meet the expenditure related to works already undertaken by them: to pay interest on bonds already issued by the company; for redeeming the bonds; for repaying the bridge loan taken from Bank and for paying the overdue liabilities to HUDCO.

<sup>64</sup>Para 12 in Annexure II of the GO (P) No.311/14/Fin dated 30/07/2014.

<sup>65</sup>G.O.(MS) No.18/2014/PWD dated 22/02/2014.

<sup>66</sup>Kerala State Construction Corporation Ltd.

### **3.2.4.3 Irregular expenditure for publishing magazine**

None of the provisions of the Act and Rules provide scope for spending from the Fund for any publication on behalf of the administrative department. The EC in its 17<sup>th</sup> meeting (March 2012) decided to provide funds for publishing an in-house journal for PWD. KRFB incurred ₹23.025 lakh during the period from 2012 to 2015 for publishing the magazine 'Rajaveedhi' through a private press. The CEO stated that in order to highlight the activities and achievements of KRFB and other organisations under PWD an exclusive journal was necessary. Spending on publishing of magazine on behalf of the PWD was beyond the scope of functions of KRFB and hence, irregular. The CEO assured that steps would be taken for observing financial propriety in future.

### **3.2.4.4 Expenditure of ₹0.90 lakh for the purchase of a painting**

KRFB spent (October 2014) ₹0.90 lakh for the purchase of a painting by the renowned artist Shri B.D. Dethan, which was kept in the store room of KRFB. The CEO stated that the painting was purchased under orders of the then Member Secretary, Shri.T.O. Sooraj to furnish his office at the Government Secretariat. It was returned to KRFB on his relief from the post of Secretary, PWD and kept in the cellar safely. The Act or Rules do not provide for incurring of such expenditure by the Board and the action also violated the provisions of the Kerala Financial Code, which stipulates that purchase of portraits for public buildings requires sanction from the Government. Thus, the utilisation of ₹0.90 lakh from the Kerala Road Fund for furnishing the office of the Secretary, PWD at the Government Secretariat was irregular. The CEO stated (January 2018) that steps would be taken for valuation and disposal of the painting.

### **3.2.5 Irregularities in administrative matters**

#### **3.2.5.1 Irregular exercise/delegation of financial powers**

The Board resolved (March 2003) to fix the monetary limit delegated to the EC as ₹10 lakh. The Member Secretary (MS) ordered<sup>67</sup> (August 2010) that (i) administrative sanction for original works up to ₹3 lakh would be issued by Chief Finance Officer (CFO); (ii) up to ₹5 lakh by the Chief Operating Officer (COO); and (iii) Cheque operations of above ₹5 lakh up to ₹50 lakh for which approval of MS has been obtained would be carried out by the CFO and COO jointly. This order was further modified<sup>68</sup> to the effect that the financial powers delegated to all other officers were withdrawn and fully vested with the COO. Accordingly, cheque drawals of up to ₹50 lakh were being done solely by the CEO (COO was re-designated as CEO in November 2011). The CEO stated that the Board meeting held on 05 March 2003 authorised the MS to delegate his financial powers to any person/persons with the approval of the EC. But as the financial powers delegated to EC by the Board was ₹10 lakh only, that exercised by the MS above ₹10 lakh and subsequent delegation of the same to the COO was beyond the competency of the MS. The CEO stated that he was not aware of the

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<sup>67</sup>vide order No.1803/A3/KRFB/2010/Estt dated 20/08/2010.

<sup>68</sup>vide order No.1803/A3/KRFB/2010/Estt dated 23/11/2010.

matter till it was pointed out by Audit and would place it before the Board for regularisation.

### **3.2.5.2 Irregular continuation of CEO without approval by Government**

The EC in its meeting held on 03 December 2009 decided to appoint a COO on contract basis and appointed Shri Harikesh PC to the post and re-designated (November 2011) it as CEO. As decided by the EC (May 2013) the MS extended the term of the CEO up to June 2016. The Government ratified the action in February 2015. Though the Board sanctioned further extension for three years, government sanction for the same was not obtained. The incumbent was continuing in office - from July 2016 onwards without government approval. This was in contravention to the government order (November 2013) which directs that prior permission of the Government was required for recruitment of personnel to administrative/financial/legal posts of Public Sector Undertakings and Autonomous Bodies. The CEO stated that based on the audit observation, Government was addressed (January 2018) to issue necessary orders sanctioning the extension.

### **3.2.6 Irregularities in implementation of PPP Project-TCRIP**

TCRIP was implemented for improvement of 42.067 km of city roads in 17 corridors. The project was arranged under BOT mode and the Concessionaire of the project was TRDCL. The concession agreement was executed on 16 March 2004 between KRFB, State PWD and the Concessionaire. As per the agreement, the Concessionaire shall construct the project facilities within a period of 32 months and on completion, operate and maintain the project facilities as per project requirements for 15 years. The amount of half-yearly annuity payable to the Concessionaire was fixed at ₹17.749 crore. Due to various reasons, the project could not be completed as per the agreed date of completion. It was mutually agreed to complete the work in a phased manner and pay the annuity proportionately. The project was carried out in four phases and Commercial Operation Dates (COD) were declared with effect from January 2008, February 2012, February 2015 and May 2016 respectively.

#### **3.2.6.1 Non-compliance to Operation & Maintenance requirements**

As per Article 5.5 of the Concession Agreement, the Concessionaire shall be responsible to operate and maintain the project facilities in accordance with the Operation & Maintenance (O&M) requirements. On scrutiny of periodical reports of the Independent Engineer (IE), Audit observed that the project facilities were not maintained as per the agreement conditions and O&M requirements. KRFB did not take proper action to repair and maintain the project facilities.

As per Clause 3.1.A(c) of Schedule-I of the Concession Agreement, the road roughness value shall be measured at least twice a year with a properly calibrated Bump Integrator (BI)<sup>69</sup> device and the Concessionaire shall ensure that at no point during the operation period the roughness of the road surface shall fall below the

<sup>69</sup>BI –A device for quantitative integrated evaluation of surface irregularities on a digital counter.

prescribed acceptable roughness value. As per the BI tests conducted in December 2016 and June 2017 under the supervision of the IE, most<sup>70</sup> of the corridors did not fall within the acceptable value. The CEO replied (September 2017) that these results differed from those produced by the Concessionaire and therefore KRFB would measure the road roughness through a third party. This was beyond the scope of the concession agreement and it undermined the role of IE. The CEO later stated (January 2018) that the BI tests conducted by the third party confirmed the evaluation by the IE based on which the Concessionaire was directed for rectification.

As per Appendix I-1 of the O&M Requirements in the concession agreement, timelines ranging from 24 hours to one month were fixed for each type of rectification work. As per Article 5.5(b), in the case of failure to meet O&M requirements, KRFB may cause to repair at the risk and cost of the Concessionaire and the Concessionaire shall be liable to reimburse one and a half times the cost to KRFB. Audit observed that the Concessionaire did not rectify the defects pointed out in monthly/half yearly reports of the IE in time, as evident from subsequent monthly/half-yearly inspection reports. During the joint site verification conducted (July and August 2017) by the Audit team along with the Site Engineer/Deputy Manager of KRFB, it was observed (six photographs are given as **Appendix 3.2.2**) that restoration/rectification works in respect of cutting on road, paved footpath, etc. were not carried out by the Concessionaire at various points along 16 corridors (out of 17). The CEO stated (January 2018) that there were practical difficulties such as frequent road cuttings, delay in completion of works by utility agencies, high technology involved etc. in carrying out immediate restoration works and informed that notice was issued to the Concessionaire for remedial measures and in case of non-compliance, the work would be done at the risk and cost of the Concessionaire.

It is apparent from the above that the reports on the non-compliance of O&M requirements furnished by the IE in December 2016 to June 2017, many of which were confirmed in joint verification by Audit, were not acted upon, and penal provision as per Article 5.5 (b) not invoked (January 2018).

#### **3.2.6.2 Failure in engagement of independent Project Engineer**

As per Article 1.1 of the Concession Agreement, Project Engineer (PE) means “a reputed person being a firm, company or a body corporate appointed in accordance with Article 4, for supervision and monitoring of compliance by the Concessionaire as per the project requirements, more particularly to undertake, perform and carryout the duties, responsibilities, services and activities set forth in Schedule-L”. The role of PE *inter alia* includes,

- independent review, monitoring, and approval of activities associated with the Design, Construction, O&M of project facilities to ensure compliance by the Concessionaire with the DPR/project requirements; and

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<sup>70</sup>12 out of 17 (December 2016) and 14 out of 17 (June 2017).

- report to the parties on the various aspects of the project based on inspections, site visits and tests.

As per Article 4.1 of the Concession Agreement, ‘for the appointment of PE, the Board shall forward a list consisting of names with profile in brief of up to five persons who are willing to act as PE for the project. The Concessionaire shall select one person out of the list forwarded by KRFB together with its consent for appointment, and KRFB shall appoint within 15 days, such person as PE’.

But without following this procedure, KRFB posted Engineers from PWD as PE treating them as employees of the KRFB. Later KRFB appointed M/s Egis (India) Consulting Engineers Pvt. Ltd. (October 2012 to February 2016) and M/s Satra Infrastructure Management Services Pvt. Ltd., Secunderabad (September 2016 onwards) as Independent Engineers (IE). But the procedure prescribed under Article 4.1 was not followed in these appointments also.

The CEO stated that KRFB engaged the IEs for assisting in the monitoring of O&M activities of TCRIP. This was not true as the provisional certificate in respect of Phase III was issued by M/s Egis (India) Consulting Engineers Pvt. Ltd. in the capacity of ‘PE’ as envisaged in Article 5.4. The CEO admitted (January 2018) that the procedure prescribed as per Article 4.1 was not followed strictly for appointment of PE/IE, but it did not affect their performance as prescribed in the concession agreement. This was contrary to their earlier statement (September 2017) that the IE was posted to assist the PE. In effect, this loophole enabled the Concessionaire to discard the observations of the IE. The CEO assured that based on the audit observation, steps would be initiated for appointing an IE for TCRIP.

### **3.2.6.3 Excess expenditure of ₹10.74 crore due to exorbitant rates allowed as differential cost for substituting material for pavement of foot path**

The approved DPR of TCRIP as well as the agreement provide for construction and maintenance of footpath paved with 18mm cobble stones laid over 150mm thick sub grade on 18 mm cement mortar wherever necessary. Based on a proposal, the EC meeting held on 25 August 2008 approved in principle substitution of the cobble stones with Polymer coated Interlocking Blocks (PCIB) and directed PE to prepare a detailed note showing cost implication. As per the agenda notes of the EC meeting held on 31 December 2008, the differential cost worked out based on observed data and market rates was ₹211.36/m<sup>2</sup> whereas that demanded by TRDCL was ₹304/m<sup>2</sup>, which was excess by 43 per cent.

The EC resolved (31 December 2008) that the rates would be negotiated and fixed by the Chief Engineer (CE), the then head of office, and additional commitment would be reported to the Committee. But TRDCL demanded (19 February 2009) enhanced rate of ₹1,398.80/m<sup>2</sup>, which was accepted by the CE who directed (02 April 2009) the Concessionaire to proceed with the work. The Concessionaire was allowed to carry out the work without the consent of the EC. Audit observed that the EC held on 31 December 2008 directed the CE to negotiate with TRDCL for reducing the differential cost from ₹304/m<sup>2</sup> but the CE accepted the rate of ₹1,398.80/m<sup>2</sup>. The EC, which met on 03 December 2009 approved the rate and

ratified the action in having proceeded with the work. An analysis of the approved rate revealed that the rate was exorbitant as evident from the following.

- (a) Cost of laying the PCIB originally proposed (December 2008) by TRDCL was ₹711/m<sup>2</sup>, but it was enhanced to ₹1,705/m<sup>2</sup> (excess 139.80 per cent).
- (b) An additional amount of ₹250/m<sup>2</sup> was added presumptively towards the cost of outer kerbs.

Hike in price of materials, need for purchase from outside the State and cost of establishment and overheads etc. were the reasons adduced for enhancement. This was not tenable as the differential rate demanded earlier by TRDCL itself was in excess of the then prevailing market rate.

The total amount paid (up to May 2016) towards differential cost was ₹13.73 crore (**Appendix 3.2.3**) and a claim of ₹97.25 lakh<sup>71</sup> was pending payment. The excess expenditure incurred by KRFB on account of the executed quantity worked out to ₹10.74 crore<sup>72</sup>.

The CEO replied (September 2017) that as per the concession agreement, change of scope as agreeable to both the parties was admissible, which was approved by the EC. It was further stated (January 2018) that change in specification was made not to favour the Concessionaire. Audit observation was not regarding the change of scope/specification, but on the fact that, while sanctioning the change, KRFB allowed differential cost amounting to ₹13.73 crore, which was far in excess of the rates originally demanded by the Concessionaire, which happened due to want of diligence on the part of the KRFB authorities.

#### **3.2.6.4 Unwarranted payment of ₹79.50 lakh for engaging traffic wardens during construction**

Clause 3.1(ii) of Schedule-H of the Concession Agreement says that the Concessionaire should ensure construction with minimal inconvenience to traffic using the existing road and providing detours required. As per Article 5.8(k), the Concessionaire shall, at its own cost, make payments to the Police Department or any government body, if required, for provision of such services as are not provided in the normal course or are available only on payment. The Board shall assist the Concessionaire in obtaining police assistance against payment of prescribed charges (Article 6.2.c). No provisions in the Act/Rules enable the Board to expend for a service for which the Concessionaire was responsible. But, KRFB incurred an expenditure of ₹79.50 lakh (**Appendix 3.2.4**), during the period from 2009 to 2015 for providing traffic wardens to regulate traffic at various project sites of TCRIP. As the agreement contains clear provisions entrusting the responsibility of traffic management during implementation period, with the Concessionaire, expenditure incurred by KRFB on this account was irregular and an undue favour to the Concessionaire.

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<sup>71</sup>For a quantity of 6,952.41 m<sup>2</sup>.

<sup>72</sup>(₹1,398.80-₹304) x 98,138.79 m<sup>2</sup> excluding VAT.



The CEO stated (January 2018) that the traffic wardens were engaged to regulate traffic at various locations in areas adjacent to project corridors where traffic congestion was observed due to works carried out for TCRIP. As the expenditure required for regulation of traffic in connection with the work was to be borne by the Concessionaire, shouldering of the same by KRFB was unwarranted.

### 3.2.6.5 Irregular calculation of proportionate annuity resulting in undue gain to the Concessionaire on account of interest ₹1.53 crore

The EC resolved (April 2012) to calculate the proportionate annuity for phase-II based on the quantum of work completed and the proposal was submitted to the government. This action was ratified (June 2012) by the Board. Accordingly, the proportionate annuity was fixed at ₹6.018 crore. But, in the next meeting (October 2012) EC decided to release ₹6.59 crore based on the length of the road completed. Details are tabulated in **Table 3.2.5** below:

**Table 3.2.5: Details of calculated proportionate annuity**

Proportionate annuity based on quantum of work completed		Proportionate annuity based on length of road completed	
Estimated project cost	₹105.60 crore	Total length of road considered	42.402 km
Cost of work completed in phase-II	₹35.81 crore	Length of road completed in phase-II	15.739 km
Percentage of completion	33.91	Percentage of completion	37.12
Proportionate annuity (17.749* x 33.91/100)	₹6.018 crore	Proportionate annuity (17.749 x 37.12/100)	₹6.59 crore

\* Total half yearly annuity. Source: Records of KRFB

Proportionate annuity paid was in excess by ₹0.572 crore (₹6.590 crore - ₹6.018 crore). Considering ₹0.572 crore was paid in advance, undue gain to the Concessionaire on account of interest for the period from November 2012 to May 2017 worked out to ₹1.53 crore (**Appendix 3.2.5**)

The CEO stated that payment for phase-I was made based on the length of the road completed and this method was followed in subsequent phase also. The reply is not acceptable since the part annuity in respect of phase-I was fixed as one-third of the total annuity based on mutually agreed terms and not based on the length of the road completed.

### 3.2.6.6 Payment of annuity in advance resulting in undue gain to the Concessionaire ₹2.45 crore

As per Article 8.3(f) of the Concession Agreement, the Board's obligation to pay annuity shall arise subject to and only upon occurrence of Commercial Operations Date (COD). Article 1.1 defines COD, as the commercial operations date of the project, which shall be the date on which the PE issued the Provisional Certificate (PC) or the Completion Certificate. PC shall have appended a list of outstanding

items (punch list) signed jointly by the PE and the Concessionaire, which shall be completed within 90 days of the date of issue of the PC.

The PC with punch list for phase-II was issued in September 2012 based on which the commencement of annuity was due only in March 2013. In the PC it was stated that substantial completion was achieved in February 2012 itself and KRFB fixed half-yearly schedule for payment of annuity commencing from August 2012<sup>73</sup>. This resulted in payment of annuity in advance ranging from three to six months in subsequent instalments. The undue financial gain to the Concessionaire worked out to ₹2.45 crore (**Appendix 3.2.6**).

The CEO stated that the delay on the part of KRFB in issuing the PC cannot be treated as a counter claim in denying the right of the Concessionaire to claim annuity from six months of completion of works and opening the road to traffic. However, had the works been completed in February 2012 itself, there would not have been appended a punch list with the PC issued in September 2012. Hence the reply was not tenable.

#### **3.2.6.7 Undue benefit to Concessionaire on account of extra length of road claimed as constructed**

Total length of the road completed and COD issued in four phases was 42.385 km as against 42.069 km as per DPR, showing an extra length of 0.316 km. While calculating the amount due to the Concessionaire on account of the extra length of road constructed, the total length was reckoned as 42.676 km with a length of 0.291 km which was not covered in the length of road for which CODs were issued. This resulted in undue benefit to the Concessionaire to the tune of ₹1.164 crore at the rate of ₹4 crore per km<sup>74</sup>. CEO stated that the matter would be examined and recovery made.

#### **3.2.6.8 Exorbitant rates for restoration works**

Restoration work is meant for restoring project facilities to their original position consequent on cutting by utility agencies/public. As per Article 3.2(d) of the concession agreement, restoration works shall be carried out by the Concessionaire and the amounts collected from utility agencies/public as restoration charges would be reimbursed. The rates for restoration charges proposed by TRDCL and approved in the 11<sup>th</sup> meeting of the EC when compared with the rates prevailing in State PWD based on IRC/MoRTH<sup>75</sup> specifications, were as shown in **Table 3.2.6**:

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<sup>73</sup>First instalment was paid in November 2012.

<sup>74</sup>As per the technical audit report cost per km worked out was ₹4 crore.

<sup>75</sup>IRC-Indian Roads Congress. MoRTH-Ministry of Road Transport and Highways.

**Table 3.2.6: Comparison of rates with that of State PWD**

Restoration charges realised by KRFB from 01 April 2008 onwards (₹per m <sup>2</sup> )		Prevailing rates of restoration in PWD (NH) from 2012 onwards (₹per m <sup>2</sup> )	
Completed carriageway	7562.30	BT Surface	3854.00
Uncompleted carriageway	5504.72		
Unpaved footpath	1713.00	Berm	264.00
		shoulder	946.00

Source: Records of KRFB and government circulars

As per Schedule-G of the Agreement, the pavement was to be designed as per IRC/MoRTH specifications, and only if the codes and standards applicable were silent on any aspect, alternate standards proposed by the Concessionaire could be adopted. Disregarding this, the Concessionaire put forth its own methodology for restoration works by including excessive quantities, costlier materials, unnecessary items etc., which was accepted by KRFB. The rates were boosted up by including unnecessary provisions like plain cement concrete below flexible pavement, trenching in excessive depths, costlier river sand in place of sand for filling, excavation and filling with river sand under paved footpath generally constructed over drains etc. The irrational measure resulted in fixing exorbitant rates for restoration works entailing financial burden to the utility agencies/public and bestowing undue benefit to the Concessionaire.

The justifications given by TRDCL were urgency of works, excessive cost due to lesser quantities and need for safety arrangements. Though the concession agreement stipulates prompt restoration of the project facilities, the inspection reports of the IE and the notices issued by KRFB revealed that TRDCL did not attend to the restoration works in time. Joint site verification conducted (July 2017) by the Audit team also revealed that restoration works in 20 locations along various corridors reported by the IE during the period November 2016 to May 2017 were still lying unattended. The CEO stated (January 2018) that the surface could not be restored to its original condition since proper compaction could not be achieved for small cuttings resulting in settlement of carriageway and so the Concessionaire had to undertake several restoration works at its cost. This indicates that the restoration works carried out by the Concessionaire were sub-standard, which cannot be adduced as a reason for excessive rates for restoration.

### 3.2.7 Conclusion

- Out of the several sources of fund specified in the Act, only the share from MVT was provided, that too partially.
- KRFB deployed its funds for purposes, which were not included in its objective.
- The execution of the PPP project was without ensuring financial propriety.
- KRFB failed in ensuring timely restoration of project facilities.

**Chapter IV**  
**Compliance Audit Paragraphs**

## CHAPTER-IV

### COMPLIANCE AUDIT PARAGRAPHS

#### FORESTS AND WILDLIFE DEPARTMENT

#### 4.1 Irregularities in procurement of boats for tourism activities by Forests and Wildlife Department

**Lapses in adhering to the tender and agreement conditions, selection of incompetent suppliers, non-observance to provisions of Stores Purchase Manual and poor contract management resulted in non-delivery of two boats intended for tourism activities despite paying ₹68.34 lakh**

The Forests and Wildlife Department (the Department) placed supply orders for procurement of two boats, with seating capacity of 25 and 15 from M/s Nautical Lines, Thiruvananthapuram and the Kerala Small Industries Development Corporation Limited (SIDCO)<sup>1</sup> respectively. Audit noticed several irregularities/deviations from tender/agreement conditions and provisions of Stores Purchase Manual 2013 in the purchase as discussed below.

##### 1. Purchase of 25 seater Fibre Reinforced Plastic Boat for Neyyar Wildlife sanctuary

Wildlife Warden, Thiruvananthapuram (WLW) invited (December 2011) tenders under two-cover system for fabrication and supply of a 25 seater Fibre-Reinforced Plastic (FRP) boat for water safari programme in Neyyar Wildlife Sanctuary.

According to the tender notification, the vessel was to be designed and built under class of Indian Register of Shipping (IRS)<sup>2</sup>. The tenderer was to have five years of experience in manufacturing/fabrication and supply of FRP boat and was required to have manufactured and supplied more than three FRP boats to various Government Departments (State and Central)/Public Sector Undertakings. The tender was cancelled as there was only one response to it.

The WLW retendered (January 2012) the work. Out of the three bids received, the Technical Evaluation Committee (TEC) disqualified one bidder on the ground that the dimensions were not compatible with the drawings provided. The work was awarded (June 2012) to M/s Nautical Lines, (the Supplier), being the lowest bidder, at their quoted rate of ₹62.50 lakh and the agreement was executed (June 2012). The boat, which was to be delivered within eight months from the date of agreement, was not delivered so far (November 2017).

Audit observed that the Department made the following significant deviations from the tender and agreement conditions:

<sup>1</sup>A Government of Kerala owned Company.

<sup>2</sup>Indian Register of Shipping is an internationally recognised independent ship classification society in India and a member of the International Association of Classification Societies.

- The Supplier firm was registered as a manufacturer (a micro unit) only in 2011 and so, did not qualify the tender conditions regarding five years experience in manufacturing/fabrication and supply of FRP boats. The tender documents furnished by the supplier also did not show any previous experience. The TEC technically qualified the Supplier overlooking these facts.
- As per Clause 3 of the agreement, the article supplied should be as per the supply order attached to the agreement. But the Department did not issue any supply order specifying the item to be supplied, its price, etc.
- The Supplier requested (October 2014) the Department for an amendment in the agreement condition regarding 'IRS approval' to 'IRS or any International Association of Classification Societies member approval' eighteen months after the due date of supply, stating that the delay in supply was due to delay in getting IRS approval. The Department acceded to the request and extended the time of supply up to 10 September 2015 by executing (10 June 2015) a codicil (i.e. supplemental) agreement. The Supplier was aware of the requirement of IRS approval while agreeing to the original date of supply. Hence, the extension of time of supply by 31 months was unwarranted.
- The agreement conditions provided for a down payment of 30 *per cent*, 30 *per cent* on completion of hull, 20 *per cent* on engine installation and balance 20 *per cent* on delivery and acceptance of the boat. The down payment of ₹18.75 lakh was released in June 2013. Inspection was conducted (November 2013) and it was certified that only 30 *per cent* of the hull was constructed. Despite this the Department released subsequent instalment of ₹18.75 lakh in November 2013, which was an undue favour to the Supplier.
- The Department was yet (November 2017) to recover the amount of ₹37.50 lakh paid to the Supplier even after a lapse of more than 26 months from the expiry of the extended (September 2015) date of supply.

The WLW stated (November 2017) that a complaint against M/s Nautical Lines for cheating the Government was filed with the City Police Commissioner.

## **2. Purchase of 15 seater boat for Shendurney Eco Tourism Project**

According to the Government of Kerala (Government), Stores Purchase Manual 2013 (SPM), all purchases exceeding ₹10 lakh must be made through open tender. The period of delivery of the ordered stores is to be properly specified in the contract with definite dates. Payments for supplies made should be released only after the supplies are made. Advance payments to firms are admissible only in the cases of maintenance contracts, fabrication contracts or turn-key contracts, when demanded by the firms, after obtaining adequate safeguards in the form of bank guarantee (BG), etc. from the supplier. Such advance should not exceed 40 *per cent* of the contract value if the supplier is a State or Public Sector Undertaking.

The Government accorded (31 March 2015) Administrative Sanction (AS) for the purchase of a 15 seater Double Hull<sup>3</sup> boat with double engine at a cost not exceeding ₹38 lakh for Shendurney Eco Tourism Project. Principal Chief Conservator of Forests & Chief Wildlife Warden (PCCF&CWW) sanctioned (31 March 2015) an estimate of ₹38.25 lakh for the purchase. The Wildlife Warden, Shendurney Wildlife Division (Division) without inviting open tenders, issued (31 March 2015) two supply orders to SIDCO, one for the supply of a 15 seater boat and the second for supply of two 40 HP Engines for the 15 seater boat. The Department executed separate agreements for the supplies and paid an advance of ₹30.84 lakh to SIDCO. No date of delivery was mentioned either in the supply orders or agreements. But the Department unilaterally fixed (December 2015) the dates of delivery retrospectively as 23 May 2015 which was not confirmed by SIDCO. Audit noticed significant deviations from provisions of SPM and agreement conditions as below:

- There was undue haste in placing supply orders as could be seen from the fact that obtaining of AS, approval of estimate by PCCF&CWW, issue of supply orders, execution of agreement and release of advance payments were done on 31 March 2015 itself. Further, the supply orders, which were referred to in the agreements for detailed information on the supplies, did not contain essential details like the description/specification of the items, price, date of delivery and the terms of payment, necessary to safeguard the financial interest of the Government.
- According to para 7.20 of the SPM, purchase by obtaining quotation by issuing single tender is to be resorted to only in unavoidable situations such as when articles required are manufactured by only one manufacturer; when it can achieve substantial economy; in the case of emergency and for standardisation of machineries to be compatible with existing sets. This purchase of boats for eco-tourism project did not qualify any of the above conditions. Hence, placing of supply order worth ₹37.79 lakh with SIDCO without inviting open tenders lacked transparency and was not in the best financial interest of the Government.
- Para 12.17 of the SPM stipulated that while making advance payment, adequate safeguards in the form of BG, etc. should be obtained from the supplier. Further, such advance payments should be generally interest bearing. The agreements for supply of the boat provided for payments in three instalments of 40, 40 and 20 *per cent* of the cost on completion of various stages. Contrary to this, the Department released 71 *per cent* (₹16.87 lakh) of the total cost of the boat in advance along with the supply order itself. Similarly, in the case of the engines, the agreement stipulated 40 *per cent* advance payment but the Department paid the total

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<sup>3</sup>Double hull is a ship hull design and construction method where the bottom and sides of the ship have two complete layers of watertight hull surface: one outer layer forming the normal hull of the ship, and a second inner hull which is some distance inboard, typically by a few feet, which forms a redundant barrier to water in case the outer hull is damaged and leaks.

cost (₹13.97 lakh) in advance. Both the payments were made without obtaining security in the form of BG. The action lacked financial propriety since the Department interests were not safe guarded.

- Further, SIDCO sub-contracted the work to a private contractor, M/s Nautical Lines, Thiruvananthapuram even though Clause 9 of the Agreement prohibited underletting or subletting the execution of the contract or any part thereof without the consent of the Government.
- Although due date of delivery was 23 May 2015, the boat remains undelivered even after a lapse of 30 months (November 2017) despite incurring ₹30.84 lakh.

The Department stated that a challan was issued to SIDCO for return of the paid amount with 18 *per cent* interest as penal interest.

Non-adherence to the tender and agreement conditions, lapses in selection of competent suppliers, non-observance to provisions of SPM and poor contract management resulted in non-delivery of two boats intended for tourism activities despite paying ₹68.34 lakh<sup>4</sup>.

The matter was referred to the Government in February 2018. The Government is yet to reply to the audit observations.

## **PUBLIC WORKS DEPARTMENT**

### **4.2 Avoidable extra expenditure on three unwarranted works and payment on fictitious measurements**

**Non-exercise of propriety by departmental authorities in arranging road work resulted in execution of three unwarranted works costing ₹74.99 lakh. Besides, fictitious measurements and admission of irregular claims by departmental authorities resulted in payment of ₹15.78 lakh.**

The Kerala Public Works Department Manual, Revised Edition 2012 (Manual) stipulates that a road once renewed with Chipping Carpet is to be taken up for renewal normally after three years. The Government of Kerala (Government) issued (August 2013) orders fixing the defect liability period (DLP) of different types of works in Public Works Department (Department), according to which, DLP of the work of surface renewal with 20 mm chipping carpet is 12 months.

1. The Government accorded (June 2014) Administrative Sanction (AS) to a work<sup>5</sup> for ₹3.50 crore, which included providing 50 mm BM<sup>6</sup> and 30 mm BC<sup>7</sup> in two layers. The Chief Engineer (Roads & Bridges) (CE) issued (October 2014) Technical Sanction (TS) for ₹3.50 crore. Superintending Engineer (Roads & Bridges) Central Circle, Aluva (SE) tendered the work twice (October 2014 &

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<sup>4</sup>₹37.50 lakh for Neyyar + ₹30.84 lakh for Shendurney.

<sup>5</sup>Budget work 2014-15: Improvements to Edappally-Muvattupuzha road from Kuzhivelipady to Pukkattupady chainage 8/000 to 11/020 km.

<sup>6</sup>Bituminous Macadam.

<sup>7</sup>Bituminous Concrete.



November 2014), but evoked no response from contractors. Subsequently SE invited (December 2014) limited quotations and received two offers. The lowest quotation was 39.80 *per cent* above estimate rate. Government accepted (June 2015) the tender at 17.07 *per cent* above estimate rate (₹3.88 crore<sup>8</sup>). The SE issued (September 2015) selection notice to the contractor<sup>9</sup> and the contract agreement was executed (October 2015). The time of completion was nine months (by 10 June 2016). The contractor completed the work on 26 May 2016 and the final bill amounting to ₹3.50 crore was paid in October 2017.

On scrutiny of the records of the offices of R&B Central Circle, Aluva and Roads Division, Ernakulam and joint site verification conducted on 31 October 2017, it was observed that:

- The length of the reach on which BM and BC work were actually done was 3,030 m. But as per the measurement records 3,100 m was measured for payment. This resulted in excess payment of ₹4.87 lakh<sup>10</sup> on account of the excess measurement of 70 m.
- The measurement of 3,100 m also included 301.60 m long road which was paved with 10 cm thick heavy duty interlocking tiles in place of bituminous surface. However, the Department paid contractor for executing BC over 3,100 m, without excluding tiled portion. This led to excess payment of ₹8.39 lakh.<sup>11</sup>
- Eleven sign boards indicating direction and place were measured and ₹0.58 lakh paid to the contractor. But Audit was unable to find any of the sign boards during a joint physical verification conducted along with departmental officials.
- The Department permitted the contractor to discount (13 April 2017) a bill of ₹1.94 lakh relating to purchase of bitumen, stated to be for the work, made four months after completion of the work.

On these being pointed out, the Executive Engineer, Roads Division, Ernakulam (EE) replied (November 2017) that the exact amount of excess payment made would be calculated after obtaining clarification from the officers concerned.

Recording of fictitious measurements and admission of irregular claims amounting to ₹15.78<sup>12</sup> lakh indicate serious possibilities of fraud and malpractice.

2. While the tender process of the above work was underway, the EE, proposed (April 2015) three estimates of ₹24.99 lakh each under Renewal Programme, for rectification of damages in different chainages<sup>13</sup> of the same reach of road mentioned above, on the plea that there was demand from the public and the local MLA to do the work urgently. The CE accorded (23 June 2015) AS

<sup>8</sup>This excludes tender variation on cost of bitumen.

<sup>9</sup>Shri Subin George.

<sup>10</sup>Approximate cost for 70 metre excluding tender excess.

<sup>11</sup>Approximate cost for 301.60 metre excluding tender excess.

<sup>12</sup>₹4.87 lakh + ₹8.39 lakh + ₹0.58 lakh + ₹1.94 lakh.

<sup>13</sup>Ch.8/000 to 8/950, 9/210 to 10/000 and 10/150 to 11/020.

to the works which consisted of Bituminous levelling course with 36 mm metal and open graded premix<sup>14</sup> surfacing of 20 mm thickness subject to the condition that the tendering authority should ensure that no part of the works should be duplicated with any of the works already sanctioned within the reach. EE issued (24 June 2015) TS and invited (24 June 2015) limited tenders for the works. Two tenders each were received (24 June 2015) and the lowest rate quoted (estimate rate) in all three works was by entities promoted by Shri Subin George. The EE awarded (July 2015) all three works at a total cost of ₹74.99 lakh<sup>15</sup>. The SE ratified (09 July 2015) the action of the EE in having arranged the works by waiving tender call although it was beyond his delegated powers. The site for the works were handed over (04 July 2015) to the contractor who completed the works (31 August 2015).

Scrutiny of the records at the offices of R&B Central Circle, Aluva and Roads Division, Ernakulam revealed the following:

- Proposals for the renewal works were submitted by the Division to the CE who accorded (23 June 2015) AS despite the fact that tender process of the Improvement work on the same stretch of road was under way. The proposal for renewal works was, therefore, unwarranted.
- The CE was aware that the tender approval of the improvement work was under consideration with Government. In spite of this, he accorded AS for the renewal works.
- The EE showed undue haste in awarding the three renewal works by not ascertaining the status of the improvement work which was already under tender process, thus contravening the CE's direction in the AS order that works should not be duplicated with any of the works already sanctioned.
- As per Section 2012 of the Manual, CE and SE were competent to waive tender calls of the value up to ₹25 lakh and up to ₹10 lakh respectively. Waiving tenders of more than ₹25 lakh by EE and ratification by SE were beyond their respective delegated financial powers, which were irregular as per the instructions issued by the Government.

Thus, awarding three renewal works on the same stretch of road when it was clearly evident that it would get submerged in the ensuing improvement works lacked financial propriety and caused the department to incur an avoidable expenditure of ₹74.99 lakh.

The matter was referred to the Government in December 2017. The Government is yet to reply to the audit observations.

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<sup>14</sup>Material used for surfacing of roads which consists of small-sized aggregates pre-mixed with bitumen and laid on a previously prepared surface.

<sup>15</sup>₹24,99,989 + ₹24,99,256 + ₹24,99,990 = ₹74,99,235.

### 4.3 Extra liability of ₹70 lakh due to post contractual changes

#### Post contractual changes made to compensate a contractor for the price of bitumen resulted in extra liability of ₹70 lakh to the Government

As per Section 2104 of Kerala Public Works Department Manual, Revised Edition, 2012, departmental material would not be issued to contractors. This meant that the rates quoted by the contractors are to be inclusive of the cost of material including bitumen supplied by the contractor. Subsequently, Government issued directions (January 2014) to reimburse the actual cost of bitumen to the contractors as per original invoice subject to the condition that the total cost of work should be limited to the technical sanction (TS) amount.

The Superintending Engineer (Roads & Bridges), North Circle, Kozhikode (SE) awarded (December 2013) a work<sup>16</sup> to a contractor<sup>17</sup> for which the Chief Engineer (Roads & Bridges) (CE) issued TS for ₹7.60 crore.

During execution, the CE revised (September 2014) the estimate to ₹9.48 crore by deleting the items containing bitumen from the schedule of works and re-admitted the same in the estimate as extra items at enhanced rate. The rates of re-admitted bituminous items were arrived at reckoning the cost difference of bitumen between departmental rate and refinery cost. The SE subsequently executed (September 2014) a supplementary agreement with the contractor. The contractor completed (December 2014) the work and a total of ₹8.30 crore was paid to the contractor including final payment of ₹3.49 lakh (March 2017).

Audit observed the following:

- As per Government directions of January 2014, actual cost of bitumen as per original invoice was to be admitted limiting the total cost of work to the TS amount. Instead, the department paid the contractor ₹8.30 crore which was in excess of the TS amount by ₹70 lakh<sup>18</sup>. As such, execution of supplementary agreement to benefit the contractor was irregular.
- Further, revising the rates of items in the tender estimate after entering into a contract was a violation of the contract condition that rate once agreed shall not be varied on any account.

The action of the CE and SE was a post-contractual change benefitting the contractor, causing extra liability of ₹70 lakh to the Government.

The matter was referred to the Government in February 2018. The Government is yet to reply to the audit observations.

<sup>16</sup>Improvements to Mathurumba-Chapparpadavu-Perumbadavu-Kuttoor Road, km 0/000 to 10/285.

<sup>17</sup>M/s. Kerala State Construction Corporation Limited, Kochi.

<sup>18</sup>₹8.30 crore less TS amount of ₹7.60 crore.

#### 4.4 Incorrect pledging of pending bill as security deposit and performance security deposit

**Executive Engineer enabled a contractor to execute works of more than ₹4.56 crore without remitting security deposit and performance security deposit of ₹72.50 lakh, thus failing to indemnify the Government against future liabilities.**

In terms of Section 2009.7 of the Kerala Public Works Department Manual, Revised Edition, 2012, read with Government of Kerala (Government) orders<sup>19</sup>, the selected bidder shall produce a Security Deposit (SD) equal to five *per cent* of the contract amount for executing contracts, which is to remain valid till the expiry of the Defect Liability Period (DLP) of the work. Earlier (March 2003), the Government permitted contractors through a circular<sup>20</sup> to adjust the amounts due to them on account of completed works as SD of new contracts awarded to them. Additionally, Section 2009.7 also stipulates that if the bid of the successful bidder is unbalanced<sup>21</sup> in relation to an estimate, the difference in cost should be deposited as Performance Security Deposit<sup>22</sup> (PSD) for unbalanced price and kept valid until the completion date of the work.

The Superintending Engineer, Public Works Department (PWD), Roads & Bridges, Central Circle, Aluva (SE) awarded (May 2016) two works<sup>23</sup> costing ₹2.90 crore and ₹1.66 crore to a contractor<sup>24</sup> at 23.50 *per cent* below estimate rate. While executing the contract, the contractor requested (May 2016) the SE to adjust the deposit amount stipulated in the Selection Notice from the pending bill due to him on account of another work<sup>25</sup>. The Executive Engineer, PWD Roads Division, Ernakulam (EE) reported that (May 2016) the first and part bill of the contractor on the said work amounting to ₹73.35 lakh was pending payment with the Division, as stated in the contractor's request. Accordingly, the SE permitted (May 2016) the contractor to adjust ₹72.50 lakh, from the pending bill of ₹73.35 lakh as SD (₹22.84 lakh) and PSD (₹49.66 lakh)<sup>26</sup> towards the two newly awarded works.

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<sup>19</sup>GO(P) No.104/2014/Fin dated 14/03/2014, GO(P) No.3/15/Fin dated 05/01/2015 and GO(P) No.429/15/Fin dated 28/09/2014.

<sup>20</sup>No.4583/H3/2003 dated 07/03/2003.

<sup>21</sup>Unbalanced means works quoted below 10 *per cent* of the estimate rate vide GO(P) No. 429/15/Fin dated 28/09/2015.

<sup>22</sup>Alternatively termed as Additional Performance Guarantee for unbalanced price, vide GO(P) No. 429/15/Fin dated 28/09/2015.

<sup>23</sup>Budget work 2015-16: Improvements to Thadikkakadavu-Manjali road (Agreement No. 42/SECCA/2016-17 dated 27/05/2016) and Budget work 2015-16: Improvements to Shurakkad-Ayiroor church road (Agreement No. 45/SECCA/2016-17 dated 27/05/2016).

<sup>24</sup>Shri Subin George, Edathala House, Neeleswaram PO, Kalady, Ernakulam District.

<sup>25</sup>B/W 2013-14-Improvements to Edappally Muvattupuzha road from Kuzhivelipady to Pukkattupady ch. 8/000 to 11/020 (Agreement No. 109/SECCA/2015-16 dated 03/10/2015).

<sup>26</sup>Both works awarded at the rate of 23.50 *per cent* below estimate rate, and hence PSD was required.

Audit scrutiny (October 2017) of the connected documents maintained at PWD Roads Division, Ernakulam and PWD Roads Sub division, Aluva, revealed the following:

- The Government did not permit pledging of pending bills in lieu of PSD for unbalanced price. Hence, it was irregular on the part of SE to permit the contractor to pledge the pending bill in lieu of PSD which led to the contractor escaping from remitting the PSD of ₹49.66 lakh, which he was supposed to provide before taking up the aforesaid new work.
- The newly awarded works were road improvement works costing ₹4.56 crore having a DLP of two years from the date of completion. The pledged bills were to be released only after completion of the DLP. But the EE allowed the contractor to discount the first and part bill pledged by him and all subsequent pending bills<sup>27</sup> due to him which were pending at the time of pledging (May 2016). Consequently, the contractor discounted those bills in October 2016 itself, although the works were incomplete (March 2018).

Thus, the EE enabled the contractor to execute works of more than ₹4.56 crore without depositing SD and PSD of ₹72.50 lakh. Further, as the works were incomplete as of March 2018, the Government was not indemnified against future liabilities in the absence of the mandatory deposits in its possession.

The matter was referred to the Government in January 2018. The Government is yet to reply to the audit observations.

## WATER RESOURCES DEPARTMENT

### 4.5 Procurement of sub-standard dredgers resulted in their underutilisation

**Failure of the departmental technical committee in ensuring that the dredgers supplied by the contractor matched the required specifications and configuration resulted in supply of sub-standard dredgers unfit for the intended purpose, making ₹7.58 crore spent on their purchase unfruitful.**

The Government accorded (January 2008) administrative sanction for purchase of a cutter suction dredger (CSD) model ‘IHC Beaver 300 C’ for the use of the Irrigation Department at an estimated cost of rupees four crore. The Chief Engineer, Irrigation (Mechanical) (CE) invited (April 2008) tenders, against which only one response was received. The Technical Committee (TC) constituted by the Government (August 2008) to evaluate the tender, rejected (December 2008) the bid since the important parameter on dredger output “minimum 100 m<sup>3</sup> of solids per hour at a distance of 500 meters with static head of 7.5 meters” was not met.

<sup>27</sup>₹84,72,948 (First & Part Bill) + ₹3,17,982 (Hand Receipt) + ₹53,93,123 (Second and Part Bill) = ₹1,94,89,896.

Meanwhile, the Managing Director of Kerala Shipping and Inland Navigation Corporation Ltd (KSINC), a State owned Public Sector Undertaking, approached (November 2008) the Secretary to the Chief Minister, who also happened to be the Chairperson of KSINC, stating that KSINC was capable of constructing the dredger required by the Department and requested for award of the work to them. KSINC also made the same request to the Additional Chief Secretary, Water Resources Department, who forwarded it to the Irrigation Department for remarks (December 2008). The CE in his reply (February 2009) observed that KSINC did not have experience in the field of design or construction of CSD, but recommended the purchase directly from KSINC in relaxation of the provisions of Store Purchase Manual citing time constraints provided they made a tie-up with a firm having proven experience in the field.

The Government reconstituted (June 2009) the TC to evaluate the bid and allied matters regarding the purchase of CSD. The TC studied (August 2009) the proposal of KSINC and sought some clarifications regarding specifications.

After evaluation of the clarification furnished (September 2009) by KSINC, which was silent on the solid discharge per hour, TC unanimously recommended (September 2009) the proposal of KSINC for approval to the Government. The Government issued (February 2010) AS and TS for the purchase of two CSDs at an estimated cost of ₹3.79 crore each. The Irrigation Department issued (March 2010) supply order to KSINC and executed an agreement which also contained the following specifications.

- Main Engine – Caterpillar 3406C 298 KW (400 HP) @ 1800 RPM with fresh water cooling system with least fuel consumption.
- Dredge pump – METSO 2MM, Capacity 1500 m<sup>3</sup>/hour. Dredging capacity minimum 100 m<sup>3</sup> of solids per hour at a distance of 500m with static head 7.5m.

KSINC requested (November 2010 and January 2011) departmental approval for changing the specification of the main engine and dredge pump citing recommendation of the manufacturers who stated that the engine as per the original specification was not suitable for dredging application and that the dredge pump mentioned in the original specification was meant for mining purpose only.

KSINC claimed (April 2011) that the alternate pump recommended was capable of discharging 1500 m<sup>3</sup>/hour. The TC recommended the alternatives suggested by KSINC and the Government accepted the recommendations and issued (June 2011) the order. Audit observed that there was no cost reduction despite change in specifications.

KSINC delivered the dredgers on 20 June 2012 and 30 June 2012 respectively after trial runs (22 March 2012 and 29 March 2012) by the Irrigation Department, without ascertaining their dredging capacity.

Following reports (January 2013) from the Executive Engineer, Irrigation Mechanical Division, Alappuzha on the under-performance of the new dredgers, the CE decided (February 2013) to conduct a performance trial and directed

(14/06/2013) that the same be conducted while the dredgers were working for any departmental works. Accordingly, the Department conducted the performance trial in February 2015 i.e. two years after the decision to do so was made by the CE, when a suitable site for testing was available. The test confirmed the dredge output to be 50 m<sup>3</sup> of solid/hour at a distance of 250m, which was half the required capacity. Meanwhile, the warranty period of the dredgers already expired in June 2013.

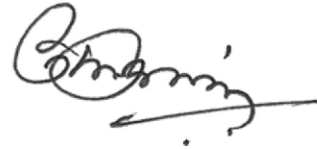
A Technical team constituted (October 2015) by the Government to evaluate the performance of the dredgers, in their report (August 2016) observed that the design configuration of components provided by KSINC was not satisfactory. They found the dredgers to be under-performing and stated that modifications were neither economical nor feasible.

Scrutiny of the relevant records revealed the following:

- The TC failed to critically examine the suitability of the design components proposed by KSINC. The clarification given by KSINC to the TC on the dredge pump did not contain any information on the “solid content of discharge per hour”, for want of which the same committee rejected the earlier single bid. Despite this, the TC unanimously recommended (September 2009) the proposal of KSINC to the Government.
- KSINC claimed that the pump recommended by it was capable of discharging 1500 m<sup>3</sup>/hour, while the manufacturer’s data sheet mentioned a capacity of only 790.10 m<sup>3</sup>/hour.
- As per Clause (b) of the agreement signed by KSINC, during the warranty period if the goods supplied by the contractor were discovered not to conform to the description and quantity specified in the order attached to the agreement, the Government was entitled to reject the goods at the contractor’s risk. The Irrigation Department did not conduct detailed performance trial covering the dredging capacity before accepting the dredgers and so failed to enforce the agreement clause to its advantage.
- Due to the reduced output, dredging works undertaken were found not to be economically viable. After confirmation of their reduced dredge output (March 2015), till 31 December 2017, the two dredgers were used only for 30 and 55 days respectively for dredging purpose as against the initial projection of 20 days per month.

The entrustment of work to KSINC with no proven capability is indicative of poor exercise of diligence in conducting technical evaluation and selection of supplier. Thus, failure of the TC in assessing the feasibility of the specifications proposed by KSINC resulted in supply of sub-standard dredgers at a cost of ₹7.58 crore which did not serve the intended purpose. The department forfeited the opportunity of rectifying defects of the dredgers at the expense of KSINC by not conducting their performance trial before taking them over from KSINC before expiry of the guarantee period.

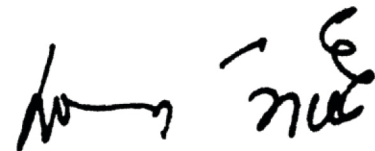
The matter was referred to the Government in December 2017. The Government is yet to reply to the audit observations.



**Thiruvananthapuram,  
The**

**(KP ANAND )  
Accountant General  
(Economic and Revenue Sector Audit)  
Kerala**

**Countersigned**



**New Delhi,  
The**

**(RAJIV MEHRISHI)  
Comptroller and Auditor General of India**



# Appendices

**Appendix – 1.1**

**Year-wise break up of outstanding Inspection Reports (IRs) as on 30 June 2017**

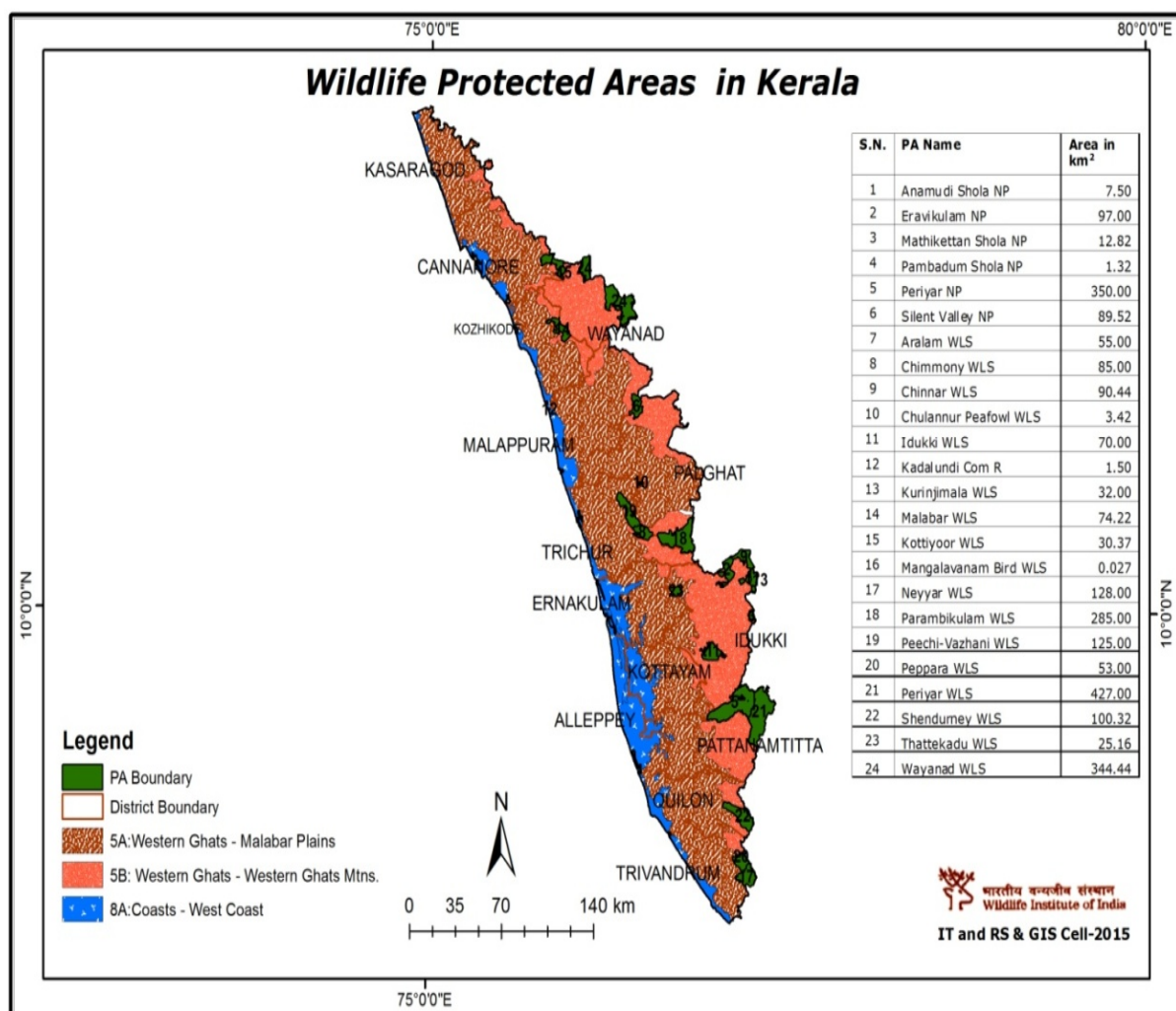
(Reference: Paragraph 1.7.1 - Page: 7)

Year	Up to 2013-14	2014-15	2015-16	2016-17	2017-18 (Upto 30 June 2017)	Total
<b>PUBLIC WORKS DEPARTMENT (ROADS AND BRIDGES)</b>						
Number of IRs	57	20	10	17	3	<b>107</b>
Number of paragraphs	302	175	120	139	37	<b>773</b>
Number of IRs for which initial reply has not been received (number of paragraphs)	NIL	NIL	NIL	13 (109)	NIL	<b>13(109)</b>
<b>IRRIGATION DEPARTMENT</b>						
Number of IRs	45	31	23	NIL	NIL	<b>99</b>
Number of paragraphs	123	106	99	NIL	NIL	<b>328</b>
Number of IRs for which initial reply has not been received (number of paragraphs)	NIL	1(2)	4(21)	NIL	NIL	<b>5(23)</b>
<b>AGRICULTURE AND FARMERS' WELFARE DEPARTMENT</b>						
Number of IRs	14	87	60	NIL	NIL	<b>161</b>
Number of paragraphs	28	202	150	NIL	NIL	<b>380</b>
Number of IRs for which initial reply has not been received (number of paragraphs)	1(5)	7(43)	15(58)	NIL	NIL	<b>23(106)</b>
<b>FORESTS AND WILDLIFE DEPARTMENT</b>						
Number of IRs	37	46	25	19	2	<b>129</b>
Number of paragraphs	88	208	97	158	12	<b>563</b>
Number of IRs for which initial reply has not been received (number of paragraphs)	3(14)	5(20)	10(41)	14(115)	NIL	<b>32(190)</b>

**Appendix – 2.1**

**Map of wildlife protected areas in Kerala**

(Reference: Paragraph 2.1-Page: 9)



Source: Website of Wildlife Institute of India



**Appendix – 2.3**

**Details of wildlife offences registered at the Divisions**

**(Reference: Paragraph 2.6.2.3 - Page: 18)**

Name of Division	No. of Cases registered	No. of Cases disposed			Pending at Court	Pending at Division	Percentage of pendency at the Division to cases registered
		Convicted	Acquitted	Dropped/ Compounded			
Ranni	61	0	3	14	42	2	3.30
Periyar East	31	0	0	13	14	4	13
Vazhachal	59	2	4	10	31	12	20
Kothamangalam	59	1	4	4	28	22	37
Malayattoor	Data not furnished						
Munnar	160	1	10	9	59	81	51
WLW Idukki	70	1	4	52	12	1	0.10
WLW Wayanad	180	14	46	39	40	41	23
Silent Valley National Park	10	1	0	3	4	2	20
<b>Total</b>	<b>630</b>	<b>20</b>	<b>71</b>	<b>144</b>	<b>230</b>	<b>165</b>	<b>26</b>

Source: Compiled from the information furnished by the Divisions

**Appendix – 2.4****Non-compliance to working/management plan prescriptions****(Reference: Paragraph 2.6.2.11 - Page: 27)**

Sl No.	Division	Weeds present	Prescription suggested as per respective Plan	Observations
1	Ranni	Lantana, Eupatorium and Mikania	Uprooting and removal.	No activity carried out in the Division during period from 2012-13 to 2016-17.
2	Konni	Mikania, Lantana and Eupatorium	No prescriptions provided in Management Plan for 2012-13 to 2014-15. In the Working Plan of the Division for the period 2015-16 to 2024-25, uprooting during monsoon three years was suggested.	No activity was carried out in the Division during the last five years from 2012-13 to 2016-17.
3	Periyar East	Lantana, Eupatorium, Mikania, Pteridiumaquilineum, Mimosa invisa	A study proposed in the first year of conservation plan to identify weed infested areas. Weed management was to be carried out in the identified areas as per the study report, on assessment of weed cover and its impact.	No study, as proposed in TCP, was conducted.
4	Periyar West	Lantana, Eupatorium, Mikania, Pteridiumaquilineum, Mimosa invisa	The prescription for eradication of Lantana was to cut below the collar where the shoot and root joins. TCP also proposed a study in the first year of conservation plan to identify weed- infested areas.	The eradication was carried out merely by uprooting. Thus, the prescription as per the TCP was violated. No study was also seen conducted.
5	Malayattoor	Mikania, Lantana, Eupatorium	Uprooting before flowering, slash burning, conduct the work studies, uprooted pits to be seeded with seeds of palatable grasses, chopping the main stem of Lantana below the shoot proliferating zone.	No activity carried out in the Division during the last five years from 2012-13 to 2016-17.

Source: Records of Territorial and Wildlife Divisions

**Appendix – 2.5**

**Deficiencies in watershed management activities**

**(Reference: Paragraph 2.6.2.11-Page: 27)**

<b>Sl. No.</b>	<b>Division</b>	<b>Prescription as per plan period</b>	<b>Observations</b>
1	Periyar West	TCP suggested conducting a study during the first year of the TCP to identify the waterholes to be maintained or established to ensure judicious distribution of water sources and suggest interventions.	No study conducted.
2	Ranni	Working Plan recommended preparation of a Strategic Plan (after detailed perambulation of the area by the concerned DFO) for watershed with the main objective of conservation of bio-diversity.	Strategic Plan not prepared.
3	Malayattoor	Working Plan suggested deepening of water holes which dry up in February, March and April to ensure water availability throughout the year, construction of small check dams in upper reaches at two km intervals to retain water and to ensure availability of water in lean period.	The Plan prescriptions not complied with.
4	Munnar	Working Plan for the period 2010-11 to 2019-20 provided for construction of six check dams.	Construction/ works not carried out.

Source: Records of Territorial and Wildlife Divisions

**Appendix – 2.6****Conditions stipulated by CZA****(Reference: Paragraph 2.6.2.13 - Page: 29)**

Sl. No.	Conditions Stipulated	Time period to comply
1	Domestic ducks, geese, white mice, guinea pigs, Mithun to be removed from exhibit area	With immediate effect
2	Star tortoise to be provided with soft substrate instead of gravel	One month
3	Lion tailed macaque should be transferred to Zoological Garden, Thiruvananthapuram	With immediate effect
4	Sand to be provided for Gharial for basking along with ramp for climbing	With immediate effect
5	Bonnet Macaques to be housed in enclosures that meet minimum standards prescribed by CZA and the excess population to be released to the wild habitat.	Six months
6	Exhibits of Tigers, Lions, and Leopards do not meet minimum standards prescribed by CZA. Hence they should be shifted to a recognised zoo having appropriate housing facility.	With immediate effect
7	Stand-off barrier to be provided for Porcupine & Barn owl	With immediate effect
8	Enrichment to be provided to snakes.	One month
9	Screening of staff against zoonotic diseases to be done	With immediate effect
10	Number of Jackals should be reduced by shifting to recognised zoo or released in the wild	Six months
11	Surplus Sambar & Hog Deer either to be shifted to recognised zoo having sufficient carrying capacity or released in the wild	Six months

Source: Joint Verification Report



**Appendix – 3.1.1**

**Idle expenditure on incomplete works  
(Reference: Paragraph 3.1.3.1 – Page: 32)**

Sl. No.	Division	Name of work/Agreement Number and date	Agreed Probable Amount of Contract (₹ in crore)	Details of work pending completion	Expenditure so far incurred (₹ in crore)	Remarks
1	Wayanad	Stimulus package – Construction of Cheekkalloor bridge on Koodothummal-Nadavayal-Veliyambam road in Wayanad District (SE(K)164/2009-10 dated 23/02/2010).	8.83	Approach road	3.08	The land owners has filed an O.S. vide No. 185/2010 and an injunction order was issued by the Hon'ble Court.
2	Ernakulam	Construction of Mattathankadvu Bridge across Konothupuzha connecting Amballoor and Udayamperoor Panchayaths in Ernakulam District (84/SECCA/2011-12 dated.17/01/2012).	4.82	Approaches on both sides of the bridge	3.49	Due to delay in acquisition of land and the delay in arranging the balance work even after getting land acquired, the completed bridge is standing without proper approaches on both sides over the past four years.
3	Muvattupuzha	Bridge across Kuroor thodu and approach road (91/SECCA/2009-10 dated 01/01/2010).	2.92	Approaches on both sides of the bridge	0.47	Bridge work was completed. The acquisition process was not completed even after 12 years of initiating the process and the amount ₹6.98 crore incurred became unfruitful as the acquisition could not be done.
4	Muvattupuzha	Construction of Koramkadavu Bridge across Muvattupuzha River at Karukappilly in Ernakulam district (100/SECCA/2010-11 dated 26/11/2010).	7.90	Piers P1 to P5 and abutment cap of A2 (Aikkaranad South side) completed. Abutments of the other side and other works are to be completed.	2.66	Initially, land owners expressed their willingness to handover the site. The same did not happen due to delay in payment of compensation.

## Appendix 3.1.1 (Cont'd....)

Sl. No.	Division	Name of work/Agreement Number and date	Agreed Probable Amount of Contract (₹ in crore)	Details of work pending completion	Expenditure so far incurred (₹ in crore)	Remarks
5	Iduki	B/W 2009-10: Construction of Mariyil Kalungu bridge across Thodupuzha river in Idukki (31/SECCA/2013-14 dated 01/06/2013)	5.18	Scrutiny of Google map and discussion with department officials revealed that bridge proper completed and work for approach road could not be commenced due to non-availability of land.	2.85	As per GO (Rt)No.1185/09/PWD dated 14/08/2009, the Government directed that work shall be tendered only if hindrance free land is available. Audit with the aid of Google Map identified the bridge to be in an idle condition after constructing the bridge proper. To an audit query, Department stated that the land acquisition for approach road was still going on.
6	Alappuzha	Construction of cartable bridge in Kakkathuruthu in Aroor LAC (97/SESC/2011-12 dated 06/03/2013)	4.48	Balance work other than four groups of piles.	1.84	Out of seven group of piles (28 Nos), as per agreement schedule, the contractor executed four groups (16 Nos), and then the work was held up due to land dispute.
7	Alappuzha	Construction of Vaisyam Bhagam Bridge (90/SESC/2013-14 dated 07/09/2013)	20.91	For want of NOC from IWAI since the bridge is across National Water Way No.3.	17.21	Clarification sought by the CE, Designs- as to whether the river is a part of the National waterway so that the deck slab can be designed accordingly- was not properly attended to before finalisation of design of the bridge.
8	Kottayam	Plan work 2011-12 Construction of Chamappana-Teakoy Estate Marmalaruvi Road- Ch.0/000 to 2/900 km (129/SESC/2012-13 dated 12/07/2012)	4.94	Bridge was completed. Road could not be completed due to dispute of the title of the Teakoy Estate through which major part of road was proposed.	1.74	Work was foreclosed.
<b>Total</b>			<b>59.98</b>		<b>33.34</b>	

Source: Department records.

**Appendix – 3.1.2**

**List of works arranged during defect liability period**

(Reference: Paragraph 3.1.3.3– Page: 33)

Sl.No	Name of original works	Amount (₹)	Date of completion and DLP	Other Work arranged during DLP in the same road	
				Name of work	Amount (₹)
1	VVIP Visit- O/R 2015-16; Providing strip BC surfacing to UC college Edayar road from ch 0/000 to 0/250. Agt No.84/AEE/ALY/2015 dated 29/02/2016.	4,98,965	13/12/2015 and 12/12/2017	Improvements and BM & BC UC college – Edayar Road (Balance Portion) ch. 0/000 to 1/300 Agt.No.216/SCCCA/2015- 16 dated 03/03/2016.	1,84,18,867
2	VVIP Visit- O/R 2015-16; Providing strip BC surfacing to UC college Edayar road from ch 0/600 to 0/800. Agt No.86/AEE/ALY/2015 dated 29/02/2016.	4,99,056	13/12/2015 and 12/12/2017		
3	VVIP Visit– O/R 2015-16; Providing strip BC surfacing to UC college Edayar road from ch 0/850 to 1/050. Agt No.83/AEE/ALY/2015 dated 29/02/2016.	4,99,222	13/12/2015 and 12/12/2017		
4	VVIP Visit- O/R 2015-16; Providing strip BC surfacing to UC college Edayar road from ch 1/100 to 1/300. Agt No.58/AEE/ALY/2015-16 dated 29/02/2016.	4,98,994	13/12/2015 and 12/12/2017		
	<b>Total</b>	<b>19,96,237</b>		<b>Total</b>	<b>1,84,18,867</b>

Source: Department records.

**Appendix – 3.1.3****List of works where provision for cutting off of pile head and conducting pile load test were provided separately****(Reference: Paragraph 3.1.3.5- Page: 36)**

SI No.	Name of work	Agreement No. & Date	Amount involved (₹ in lakh)
1	NABARD RIDF XX construction of Perumkadavu bridge across Chaliyar river in Malappuram District.	SE(K) 173/2016-17 Dated 31/01/2017	5.45
2	Construction of bridge at Ayamkadavu across Vavadukkam river on Perladukkam-Ayampara-Periya road	SE(K) 172/2016-17 Dated 31/12/2016	7.71
3	DFIP construction of flyover at Ramanattukara.	SE(K) 25/2015-16 Dated 04/03/2016	13.36
4	Construction of Mundakkal bridge across Pampa river at Kainakary in Alappuzha District.	155/SESC/2016-17 Dated 10/08/2015	7.86
5	Construction of bridge at Keezharookadavu across Neyyar river	38/SESC/2016-17 Dated 10/08/2015	2.61
6	NABARD RIDF XX construction of Keezhmurikadavu bridge across Muvattupuzha river in Ernakulam District	127/SECCA/2016-17 Dated 16/12/2016	1.83
7	Construction of Anjilimoottilkadavu bridge at Kozhipalam across Pampa river in Pathanamthitta District.	230/SESC/2016-17 Dated 17/02/2017	12.65
8	Construction of parallel bridge to Kodimatha bridge across Kodoor river at Kodimatha in Kottayam District.	104/SESC/2014-15 Dated 26/12/2014	11.04
9	Construction of Kannangattu – Willington island bridge across Kumbalamkayal in Ernakulam District	29/SECCA/2014-15 Dated 10/10/2014	196.48
<b>Total amount</b>			<b>258.99</b>

Source: Department records.

**Appendix – 3.1.4**

**List of works where unit rates higher than MoRTH rate were provided for superstructure**

(Reference: Paragraph 3.1.3.5- Page: 37)

Sl No.	Name of work	Agreement No. & Date	Rate adopted by Department per cubic meter (in ₹)	Rate as per MORTH SDB per cubic meter (in ₹)	Quantity of cement concrete superstructure (in cum)	Cost difference (₹ in crore)
1	Construction of Calicut Bypass phase II reach II from Ch.0/000 to 5/000 of NH 17 (New NH 66)	No. 08/14-15/SE/NH/KKD Dated 04/08/2014	24,468	13,363.78	5,707	6.34
2	Construction of Mundakkal Bridge across Pampa River at Kainakary in Alappuzha district	No. 155/SESC/2015-16 Dated. 30/12/2015	25,187	12,592	814	1.03
3	Construction of bridge at Keezharoorkadavu across Neyyar river	No. 38/SESC/2016-17 Dated 10/08/2015	26,071	15,010	289	0.32
4	NABARD RIDF XX construction of a bridge across leading channel at Muthalakurichickal in Nedumudi – Karuvatta road in Alappuzha district	No. 226/SESC/2016-17 Dated. 02/02/2017	24,665.52	16,983.85	479	0.37
5	Construction of Elanthakadavu Bridge across Iruvazhanjipuzha in Kozhikode district.	No. SE (K) 125/2014-15 Dated 31/03/2015	25,016	9,764	464	0.71
6	Construction of bridge at Ayamkadavu across Vavadukkam river on Perladukkam - Ayampara-Periya road.	No. SE(K) 172/2016-17 Dated 31/12/2016	22,452	15,785.86	800	0.53
7	Budget work 2015-16 construction of Parappuram-Vallamkadavu bridge across Periyar River in Ernakulam District.	No. 123/SECCA/2016-17 Dated 25/11/2016	21,730.17	10,973.28	1,260	1.36
					<b>Total</b>	<b>10.66</b>

Source: Department records.

## Appendix – 3.1.5

## Excess cost incurred due to non-finalisation of tender process within firm period

(Reference: Paragraph 3.1.4.3- Page : 41)

Sl No	Name of work	Agreement No. & Estimate PAC	First tender		Agreed PAC		Excess cost (₹ in crore)	Remarks
			Tender percentage	Quoted amount (₹ in crore)	Tender percentage	Amount (₹ in crore)		
1	Improvements to Hill highway from Karikottakari-Edoor-Aralam-Palpuzha - Manathara-3 <sup>rd</sup> reach from km. 71/690 to 90/315 in Kannur District.	SE (K)286/2015-16 Dated 27/01/2016 & ₹20.54 crore.	16.62 per cent below estimate rate (ER)	17.13	23.20 per cent above ER	24.53	7.40	Re-tendered and awarded to L1 at 23.20 per cent above ER based on tossing as the quoted rate of both bidders were same.
2	Construction of approach road to Kothi-Pallikandi bridge in Kozhikode District.	SE (K) 69 / /2014-15 Dated 16/10/2014) & ₹14.24 crore	4.90 per cent below ER	13.59	18.80 per cent above ER	16.76	3.17	Awarded to L2 at his quoted rate of 18.80 per cent above ER.
3	Construction of Mundakayam Bypass.	110/SESC/2015-16 Dated 03/10/2015 & ₹12.78 crore	15.01 per cent above ER	14.64	22.50 per cent above ER	15.56	0.92	Re-tendered and awarded to L1 at 22.50 per cent above ER.
4	Improvements to Kandankali road km. 0/000 to 3/00 in Pathanamthitta District.	09/SESC/2016-17 Dated 23/05/2016) & ₹5.68 crore	8.90 per cent above ER	6.16	27.99 per cent above ER	7.18	1.02	Re-tendered and awarded to L1 at 27.99 per cent above ER.
5	Providing BM&BC work to Arunassery- Kattampakkal - Kuravilangadu road km. 2/000 to 8/800.	101/SESC/2015-16 Dated 01/10/2015 & ₹3.44 crore	6.60 per cent above ER	3.59	31.77 per cent above ER	4.17	0.58	Work was retendered on 15/07/2014 as there was no response, work was awarded through negotiated quotation.
6	Budget speech 2012-13 improvements to Vandiperiyar – Spencer Junction to Sathram road from km. 0/000 to 13/800.	30/SECCA/2014-15 Dated 10/10/2014 & ₹11.65 crore	5.30 per cent below ER	11.10	17.11 per cent above ER	13.45	2.35	Awarded to L2 at quoted rate of 17.11 per cent above ER.
7	CRF- 2014-15 improvement to Chovva Anjarakakandi Mattannur road from km. 0/00 to 23/213.	09 /2015-16/ SE/ NH /KKD Dated 22/08/2015 & ₹6.63 crore	18.74 per cent below ER	5.39	10.33 per cent below ER	5.95	0.56	Re-tendered and awarded to L1 at 10.33 per cent below ER.
8	Construction of Murikkallu bridge across Muvattupuzha river in Ernakulam District.	52/ECCA/2014-15 Dated 06/11/2015 & ₹10.68 crore	6 per cent Below ER	10.07	45 per cent above ER	15.26	5.19	The work was tendered twice. As the tender process could not be completed within the firm period, this was awarded by quotation.
<b>Total</b>							<b>21.19</b>	

Source: Department records.

**Appendix – 3.1.6**

**List of works for which part bills of incomplete works were pledged as security deposit**

(Reference: Paragraph 3.1.5.2 – Page: 43)

Sl No.	Name of work and Agreement No.	Name of work and Agreement No. of bill of incomplete work pledged as SD	Amount of SD (₹)
1	Construction of Mundakkal Bridge across Pampa River at Kainakary in Alappuzha district. Agreement No. 155/SESC/2015-16 dated 30/12/2015.	Design & construction of foot bridge to Aluva sivarathri manappuram from Kottarakkadavu. Agreement No. 105/SECCA/2015-16 dated 01/10/2015.	1.29 crore
2	O/R 2015-16: Urgent BT patch repairs to UC college Edayar road Ch. 4/000 to 4/500. Agreement No. 35/AEE/ALY/2015-16 dated 25/05/2016.	Budget Work 2013-14 Improvements to Edappally – Muvattupuzha road from Kuzhivelipadi to Pookkattupadi Ch. 8/000 to 11/020 Agreement No. 109/SECCA/2015-16 dated 03/10/2015.	25,000
3	OR 2015-16: Urgent BT patch repairs to Kadungalloor- Eloorkara road ch.5/000 to 5/500. Agreement No.33/AEE/ALY/2016-17 dated 25/05/2016.	Budget Work 2013-14 Improvements to Edappally – Muvattupuzha road from Kuzhivelipadi to Pookkattupadi Ch. 8/000 to 11/020 Agreement No. 109/SECCA/2015-16 dated 03/10/2015.	25,000
4	OR 2015-16: Urgent BT patch repairs to UC College Edayar road ch.0/000 to 1/000 Agreement No.29/AEE/ALY/15-16 dated 22/05/2016.	Budget Work 2013-14 Improvements to Edappally – Muvattupuzha road from Kuzhivelipadi to Pookkattupadi Ch. 8/000 to 11/020 Agreement No. 109/SECCA/2015-16 dated 03/10/2015.	25,000
5	OR 2015-16: Urgent BT patch repairs to Kadungalloor Eloorkara road ch.5/750 to 6/126. Agreement No.27/AEE/ALY/2016-17 dated 25/05/2016.	Budget Work 2013-14 Improvements to Edappally – Muvattupuzha road from Kuzhivelipadi to Pookkattupadi Ch. 8/000 to 11/020 Agreement No. 109/SECCA/2015-16 dated 03/10/2015.	25,000
6	OR 2015-16: Urgent BT patch repairs 3rd mile AA Road to Thadikkakadavu and worst reaches. Agreement No.68/AEE/ALY/2016-17 dated 29/02/2016.	Budget Work 2013-14 Improvements to Edappally – Muvattupuzha road from Kuzhivelipadi to Pookkattupadi Ch. 8/000 to 11/020 Agreement No. 109/SECCA/2015-16 dated 03/10/2015.	25,000
7	VVIP Visit -O/R 2015-16: Providing strip BC surfacing UC College Edayar Road Ch.1/100 to 1/300 in connection with the visit of Hon'ble PM of India. Agreement No.58/AEE/ALY/2016-17 dated 29/02/2016.	Budget Work 2013-14 improvements to Edappally – Muvattupuzha road from Kuzhivelipadi to Pookkattupadi Ch. 8/000 to 11/020 Agreement No. 109/SECCA/2015-16 dated 03/10/2015.	25,000

Source: Department records.

### Appendix – 3.1.7

#### List of works in which traffic/road safety provisions were reduced

(Reference: Paragraph 3.1.6.1 – Page: 45)

Sl No.	Name of work	Agreement No. & Date	Safety provisions reduced in the work
1	Strengthening the road by providing BM & BC to MES college proposed road Ch. 0/000 to 2/590, Koratty - Kannimala road 0/000 to 2/800 km and Erumely TB road 0/000 to 0/500 km.	No. 66/SESC/14-15 dated 13/11/2014	<i>Thrie</i> metal beam crash barrier, retaining wall and culvert.
2	S/F 2013-14 strengthening the road by providing BM&BC to Thruvalla - Kumbazha road from 16/650 to 33/000.	No. 74/SESC/2014-15 dated 17/11/2014	Culvert, <i>thrie</i> metal beam crash barrier and road signs.
3	Budget work 2011-12 providing BM&BC to Chendrapally - Konni road from 0/000 to 12/500 in Konni Constituency Pathanamthitta District.	No. 03/SESC/2014-15 dated 27/05/2015	Delineators and <i>thrie</i> metal beam crash barrier.
4	Improvements to Vettathukavala - Meenadam road Ch. 0/000 to 7/850 (1 <sup>st</sup> Phase).	No. 63/SESC/2016-17 dated 30/05/2017	Retro reflective traffic signs, road markings, Delineators and crash barrier.
5	Improvements by providing BM&BC to Thiruvathuckkal – Illickal road Ch. 0/000 to 1/770.	No.231/SESC/15-16 dated 02/03/2016	Signboards, Delineators and road studs.
6	Providing BM & BC work to Arunassery – Kattampakkal - Kuravilangad road km. 2/000 to 8/800.	No.101/SESC/15-16 dated 01/10/2015	W Metal beam crash barrier.
7	Improvements to Seethagoli - Puthige-Perla road km. 0/000 to 18/680 & Puthige - Badoor link road km. 0/000 to 3/000 in Kasargode District.	No. SE (K) 22/14-15 dated 21/05/2014	W Metal beam crash barrier and pipe culverts.
8	Improvements to Chingavanam – Kolladu - Kanjikuzhy road (BM&BC).	No. 09/SESC/2014-15 dated 31/05/2014	Retaining wall and sign board.
9	Improving riding quality of Thathamangalam - Nattukal road SH 25 and connected road in Palakkad District.	No. SE (K) 170/16-17 dated 23/12/2016	Side protection works.
10	NABARD RIDF XIX – Improvements to Tirur - Kuttalathani road Ch.3/000 to 10/550, Patternadakkavu – Ezhur road Ch. 0/000 to 8/450, Kanzhipura – Patternadakkavu road Ch. 0/000 to 6/500 in Malappuram District.	No. SE (K) 107/15-16 dated 11/09/2015	Road studs and road markings.

Source: Department records.



**Appendix – 3.2.1**

**Details of loans and accrued interest pending recovery from RBDCK Ltd.**

**(Reference: Paragraph 3.2.4.1– Page: 58, 59)**

<b>Date of receipt by RBDCKL</b>	<b>Amount of loan released (₹)</b>	<b>Due date for completion of repayment</b>	<b>Rate of interest as per MoU</b>	<b>Interest accrued upto 31/08/2017 (₹)</b>
09/08/2007	3,30,00,000	09/08/2010	11.50 per cent (in the case of default)	3,82,66,250
09/08/2007	3,75,00,000	09/08/2013	11.50 per cent (in the case of default)	4,34,84,375
31/12/2007	8,14,44,000	31/12/2012	6 per cent p.a	4,72,37,520
09/09/2008	38,50,00,000	09/09/2013	6 per cent p.a	20,79,00,000
<b>Total</b>	<b>53,69,44,000</b>			<b>33,68,88,145</b>

Source: Accounts of KRFB

**Total amount due from RBDCKL: ₹53,69,44,000 + ₹33,68,88,145 = ₹87,38,32,145**

**Appendix – 3.2.2**

**Photographs taken during joint physical verification  
(Reference: Paragraph 3.2.6.1-Page: 62)**

**Works not completed at Thakaraparambu**



**C-05&06 - CH: 2+070 to 2+170, (RHS)  
(25/07/2017)**



**C-05&06-, Ch: 2+070 to 2+170 (30/08/2017)**

**Damaged carriageway pending restoration**



**C-08-CH: 0+120 (RHS) (26-07-2017)**



**C-05&06- CH: 2+560 (25/07/2017)**

**Appendix 3.2.2 (Cont'd.....)**

Dismantled pavement over foot path pending rectification



**C-03 -CH: 1+230 (LHS) (25/07/2017)**



**C-10-CH: 1+480 (LHS) (24/07/2017)**

**Appendix – 3.2.3****Details of payments made to the Concessionaire as differential cost for laying footpath with PCIB****(Reference: Paragraph 3.2.6.3 - Page: 64)**

Voucher No. & date	Bill No.	Quantity executed (square feet)	Differential cost paid (₹)
570/ 14/01/2010	1	34,239.10	44,51,083
171/ 08/07/2010	2	53,638.95	69,73,063
880/ 26/03/2011	3 & 4	1,30,322.22	1,69,41,889
732/ 28/12/2011	5 & 6	1,55,751.25	2,02,47,663
460/ 28/07/2012		36,333.80	47,23,394
1183/ 06/03/2013	7 & 8	2,04,355.42	2,65,66,205
819/ 26/11/2013	9	1,71,754.87	2,23,28,133
----/ 02/03/2015	10	1,02,865.60	1,33,72,528
418/ 11/08/2015	11	1,02,599.50	1,33,37,935
141/ 13/05/2016	12	64,112.71	83,34,652
		<b>10,55,973.42</b> <b>*(98,138.79 m<sup>2</sup>)</b>	<b>13,72,76,545</b>

\* 1 m<sup>2</sup> = 10.76 sqft.

Source: Payment vouchers of KRFB

**Appendix – 3.2.4**

**Irregular payments for engaging traffic wardens**

(Reference: Paragraph 3.2.6.4 - Page: 64)

Sl No	Date of payment/ month for which due	Amount (₹)
1	03/12/2009/11-2009	87,532
2	05/01/2010/12-2009	84,484
3	02/02/2010/1-2010	82,888
4	03/03/2010/2-2010	85,981
5	31/03/2010/3-2010	1,06,840
6	03/05/2010/4-2010	1,40,800
7	02/06/2010/5-2010	1,36,062
8	11/06/2010/8 wardens (26/10/2009 to 30/10/2009)	6,968
9	01/07/2010/6-10 plus 6 days for 1 warden (26/10/2009 to 31/10/2009)	1,39,271
10	04/08/2010/7-2010	1,31,400
11	04/09/2010/8-2010	1,46,000
12	04/10/2010/9-2010	1,51,200
13	03/11/2010/10-2010	1,59,400
14	03/12/2010/11-2010	1,41,800
15	03/01/2011/12-2010	1,54,400
16	03/02/2011/1-2011	1,53,000
17	04/03/2011/2-2011	1,47,400
18	04/04/2011/3-2011	1,57,800
19	07/06/2011/5-2011	41,200
20	05/07/ 2011/6-2011	80,400
21	04/08/ 2011/7-2011	78,200
22	03/09/2011/8-2011	37,600
23	13/12/2011/11-2011	83,800
24	05/01/2012/12-2011	1,44,000
25	06/02/2012/1-2012	1,72,800
26	06/03/2012/2-2012	1,52,400
27	07/04/2012/3-2012	1,73,200
28	04/05/ 2012/4-2012	2,87,700
29	17/05/2012/ arrear for 1/2012 to 3/2012	3,73,800
30	05/06/2012/5-2012	3,07,300
31	05/07/ 2012/6-2012	2,06,500
32	07/09/2012/8-2012	95,200
33	05/10/2012/9-2012	94,500
34	05/11/2012/10-2012	1,00,800
35	10/12/2012/11-2012	93,100

Sl No	Date of payment/ month for which due	Amount (₹)
36	03/01/2013/12-2012	96,250
37	06/02/ 2013/1-2013	91,350
38	07/03/ 2013/2-2013	78,750
39	04/04/ 2013/3-2013	89,600
40	09/05/ 2013/4-2013	88,900
41	06/06/ 2013/5-2013	88,200
42	05/07/ 2013/6-2013	91,350
43	05/08/ 2013/7-2013	96,950
44	04/09/ 2013/8-2013	94,500
45	05/10/ 2013/9-2013	84,350
46	06/11/ 2013/10-2013	91,000
47	04/12/ 2013/11-2013	87,150
48	06/01/ 2014/12-2013	93,450
49	05/02/ 2014/1-2014	90,300
50	06/03/ 2014/2-2014	91,000
51	08/04/ 2014/3-2014	99,050
52	08/05/ 2014/4-2014	97,650
53	04/06/ 2014/5-2014	1,00,100
54	05/07/ 2014/6-2014	98,000
55	04/08/2014/7-2014	87,850
56	03/09/2014/8-2014	91,350
57	07/10/2014/9-2014	84,000
58	06/11/2014/10-2014	98,000
59	04/12/ 2014/11-2014	92,050
60	07/01/2015/12-2014	97,650
61	06/02/2015/1-2015	90,300
62	09/03/ 2015/2-2015 (8 wardens)	75,250
63	11/03/2015/2-2015 (2 wardens)	14,350
64	06/04/2015/3-2015	99,050
65	06/05/2015/4-2015	95,550
66	05/06/2015/5-2015	1,01,500
67	04/07/2015/6-2015	96,600
68	05/08/2015/7-2015	1,01,500
69	08/09/2015/8-2015	91,350
70	08/10/2015/9-2015	98,000
71	08/12/2015/11-2015	52,500
	<b>Total</b>	<b>79,50,476</b>

Source: Records of KRFB

**Appendix – 3.2.5**

**Undue gain to Concessionaire on account of interest**

**(Reference: Paragraph 3.2.6.5-Page: 65)**

Annuity paid in advance in respect of Phase II: ₹0.572 crore Interest per month @ 11.50 per cent for ₹0.572 crore = ₹54,816/-			
Sl No.	Month and Year of annuity payment	No. of months for which the amount paid in advance (upto date of completion as per completion certificate)	Interest (₹)
1	November 2012	54	29,60,064
2	March 2013	50	27,40,800
3	December 2013	41	22,47,456
4	May 2014	36	19,73,376
5	September 2014	32	17,54,112
6	April 2015	25	13,70,400
7	September 2015	20	10,96,320
8	March 2016	14	7,67,424
9	December 2016	5	2,74,080
10	March 2017	2	1,09,632
<b>Total</b>			<b>1,52,93,664</b>

Source: Records of KRFB

**Appendix 3.2.6**

**Undue gain to Concessionaire on account of interest**

(Reference: Paragraph 3.2.6.6 - Page: 66)

Annuity amount in respect of Phase II- (Provisional Certificate issued on 07/09/2012--COD 22/02/2012) Less: Amount paid in advance due to calculation of proportionate annuity on the basis of length instead of cost of works (para 3.2.6.5)		₹6.590 crore <u>₹0.572 crore</u> ₹6.018 crore	
Month of annuity due	Month of annuity payment	No. of months Annuity paid in advance	Interest @ 11.50 per cent (₹5,76,725) <sup>1</sup>
March 2013	November 2012	4	23,06,900
September 2013	March 2013	6	34,60,350
March 2014	December 2013	3	17,30,175
September 2014	May 2014	4	23,06,900
March 2015	September 2014	6	34,60,350
September 2015	April 2015	5	28,83,625
March 2016	September 2015	6	34,60,350
September 2016	March 2016	6	34,60,350
March 2017	December 2016 ₹5,60,15,000 & March 2017 ₹98,85,000	3 months for ₹5.03 crore	14,45,979 <sup>2</sup>
<b>Total</b>			<b>₹2,45,14,979</b>

Source: Records of KRFB

<sup>1</sup>₹6.018 crore x 11.50 per cent /12 months = ₹5,76,725

<sup>2</sup>Out of the annuity due for March 2017, ₹5.60 crore was paid in December 2016 and the balance ₹0.99 crore paid in March 2017 itself. Therefore interest reckoned only for the amount paid in December 2016 (₹5,60,15,000 - ₹57,20,000 = ₹5,02,95,000 x 11.50 per cent/12 months = ₹4,81,993 x 3 = ₹14,45,979/-