



**Report of the
Comptroller and Auditor General of India
on
Economic Sector
for the year ended March 2016**



Government of Odisha
Report No.5 of the year 2016

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TABLE OF CONTENTS

| <i>Description</i> | <i>Reference to</i> | |
|--|---------------------|-------------|
| | <i>Para</i> | <i>Page</i> |
| <i>Preface</i> | | (v) |
| Chapter I : Introduction | | |
| Introduction | | 1-8 |
| Chapter II : Performance Audit | | |
| <i>WORKS DEPARTMENT</i> | | |
| NABARD assisted Road and Bridge projects | 2.1 | 9-34 |
| Chapter III : Compliance Audit | | |
| <i>DEPARTMENT OF AGRICULTURE AND FARMERS' EMPOWERMENT</i> | | |
| National Horticulture Mission | 3.1 | 35-43 |
| <i>FOREST AND ENVIRONMENT DEPARTMENT</i> | | |
| Implementation of Integrated Coastal Zone Management Project in Odisha | 3.2 | 43-55 |
| Non-realisation of interest on delayed payment of Net Present value | 3.3 | 55-56 |
| Non-disposal of Timber and Poles | 3.4 | 56 |
| Non-levy of interest on belated payment of royalty | 3.5 | 57 |
| <i>DEPARTMENT OF WATER RESOURCES</i> | | |
| Undue payment to contractors | 3.6 | 57-58 |
| Avoidable payment of service tax | 3.7 | 58-59 |
| Extra cost due to provision of excess lead | 3.8 | 59-60 |
| Extra expenditure due to adoption of manual excavation | 3.9 | 61 |
| Non deduction of voids leading to excess payment | 3.10 | 62 |
| <i>WORKS DEPARTMENT</i> | | |
| Extra expenditure and undue benefit to contractor | 3.11 | 63-64 |
| Undue benefit to contractors due to provision of extra lead | 3.12 | 64-65 |

| <i>Description</i> | <i>Reference to</i> | |
|--|---------------------|-------------|
| | <i>Para</i> | <i>Page</i> |
| Extra cost due to inclusion of inadmissible charges | 3.13 | 65-66 |
| Extra expenditure due to unwarranted provision of surface dressing | 3.14 | 66 |
| Avoidable extra expenditure | 3.15 | 67-68 |
| Avoidable extra expenditure | 3.16 | 68-69 |
| <i>FINANCE DEPARTMENT</i> | | |
| Response to audit | 3.17 | 69-71 |

APPENDICES

| <i>Appendix Number</i> | <i>Description</i> | <i>Reference to</i> | |
|------------------------|---|---------------------|-------------|
| | | <i>Para Number</i> | <i>Page</i> |
| 2.1.1 | Details of execution of road projects in piecemeal manner | 2.1.6.5 | 72 |
| 2.1.2 | Details of execution of ODR with excessive width | 2.1.6.6 | 73 |
| 2.1.3 | Details of provision of unwarranted Bituminous Macadam and semi dense Bituminous Concrete | 2.1.8.2 | 75 |
| 2.1.4 | Details of un-warranted provision of surface dressing | 2.1.8.3 | 78 |
| 2.1.5 | Details of un-warranted provision of capping layer | 2.1.8.4 | 81 |
| 2.1.6 | Details of undue provision of sand and GSB | 2.1.8.6 | 84 |
| 2.1.7 | Details of provision of Wet Mix Macadam without considering the existing crust | 2.1.8.7 | 85 |
| 2.1.8 | Details of provision of GSB in excess of IRC specifications | 2.1.8.8 | 87 |
| 2.1.9 | Details of avoidable extra cost on coarse graded instead of close graded aggregates | 2.1.8.8 | 88 |
| 2.1.10 | Details of excess provision of transportation charges and undue payment of stacking charges | 2.1.8.9 | 90 |
| 2.1.11 | Details of extra cost due to excess lead charges | 2.1.8.9 | 93 |
| 2.1.12 | Details of extra cost due to excess lead charges | 2.1.8.9 | 94 |
| 2.1.13 | Details of cost involved for compaction of sand | 2.1.8.9 | 95 |
| 2.1.14 | Details of extra cost involved in transportation of earth | 2.1.8.9 | 96 |
| 2.1.15 | Details of incomplete bridge and road projects | 2.1.9.2 | 98 |
| 3.1.1 | Details of physical/financial targets and achievements | 3.1.2.3 | 100 |
| 3.1.2 | Details of excavation of community tank | 3.1.2.7 | 101 |
| 3.1.3 | Details of excavation of farm ponds without plastic lining | 3.1.2.7 | 102 |

| Appendix Number | Description | Reference to | |
|------------------------|---|---------------------|-------------|
| | | Para Number | Page |
| 3.1.4 | Details of establishment of market infrastructure | 3.1.2.13 | 103 |
| 3.1.5 | Details of receipts and utilisation of fund | 3.1.3 | 104 |
| 3.3.1 | Details of non-realisation of interest on delayed payment of Net Present Value | 3.3 | 105 |
| 3.4.1 | Details of non- disposal of timber and poles | 3.4 | 107 |
| 3.5.1 | Details of non levy of interest on belated payment of royalty | 3.5 | 109 |
| 3.7.1 | Details of unwarranted payment of service tax | 3.7 | 110 |
| 3.9.1 | Details of extra expenditure due to adoption of manual excavation | 3.9 | 111 |
| 3.10.1 | Details of excess payment due to non deduction of voids | 3.10 | 112 |
| 3.12.1 | Details of undue benefit to contractor due to provision of extra lead | 3.12 | 114 |
| 3.13.1 | Details of extra cost due to inclusion of inadmissible charges | 3.13 | 116 |
| 3.14.1 | Details of extra expenditure due to unwarranted provision of Surface Dressing | 3.14 | 117 |
| 3.15.1 | Details of avoidable extra expenditure due to execution of work in violation of Indian Roads Congress specification | 3.15 | 118 |
| 3.16.1 | Details of avoidable extra expenditure due to provision of Dry Lean Concrete | 3.16 | 119 |
| 3.17.1 | Details of Department-wise Inspection Reports/ Paragraphs issued up to March 2016 but not settled by June 2016 | 3.17 | 120 |
| 3.17.2 | Details of year-wise break up of outstanding Inspection Reports/ Paragraphs | 3.17 | 121 |
| 3.17.3 | Details of serious irregularities observed and reported in Inspection Reports | 3.17 | 122 |
| Glossary | | 123-126 | |

Preface

This Report for the year ended March 2016 has been prepared for submission to the Governor of Odisha under Article 151 of the Constitution of India.

The Report contains significant results of the performance audit and compliance audit of the Departments of the Government of Odisha under the Economic Sector including Departments of Agriculture and Farmers' Empowerment, Forest and Environment, Finance, Works and Water Resources.

However, the Departments of Co-operation, Energy, Fisheries and Animal Resources Development, Industries, Micro, Small and Medium Enterprises, Skill Development and Technical Education, Tourism, Handlooms, Textiles and Handicrafts coming under Economic Sector are not covered in this Report.

The instances mentioned in this Report are those which came to notice in the course of test audit for the period 2015-16 as well as those which came to notice in earlier years, but could not be reported in the previous Audit Reports. Instances relating to the period subsequent to 2015-16 have also been included, wherever necessary.

The audit has been 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 (CAG) on Government of Odisha relates to matters arising from Performance Audit of NABARD assisted Road and Bridge Projects and Compliance Audit of Government Departments.

The primary purpose of the Report is to bring to the notice of the State Legislature 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 audit findings are expected to enable the executive to take corrective action as also to frame policies and directives that will lead to improved management of the organisations, thus contributing to better governance.

Compliance Audit refers to examination of the transactions relating to expenditure, receipts, assets and liabilities of the audited entities to ascertain whether the provisions of the applicable Rules, Laws, Regulations, various orders and instructions issued by the competent authorities are being complied with.

Performance Audit examines the extent to which the objectives of an organisation, programme or scheme have been achieved economically, efficiently and effectively.

This chapter provides the audited entity's profile, the planning and extent of audit and a synopsis of the significant audit observations. Chapter II of this Report deals with the findings of Performance Audit and Chapter III deals with Compliance Audit of various departments.

The cases mentioned in this Report are among those which came to notice in the course of test audit of accounts during the year 2015-16 as well as those which had come to light in earlier years but could not be dealt with in previous Reports. Matters relating to the period subsequent to 2015-16 have also been included, wherever necessary.

1.2 Audited Entity's Profile

There are 38 departments in the State at the Secretariat level headed by Additional Chief Secretaries/Principal Secretaries/Commissioner-cum-Secretaries, assisted by Directors and Sub-ordinate Officers. Of these, 17 Departments including PSUs/Autonomous Bodies coming under these Departments are under the audit jurisdiction of the Principal Accountant General (Economic and Revenue Sector Audit).

1.3 Authority for Audit

The authority for Audit by the CAG is derived from Articles 149 and 151 of the Constitution of India and the Comptroller and Auditor General's (Duties, Powers and Conditions of Services) Act (CAG's DPC Act), 1971. The CAG conducts audit of expenditure of the departments of Government of Odisha under section 13¹ of the CAG's DPC Act, 1971. In addition, the CAG conducts audit of Autonomous Bodies substantially funded by the State Government. Principles and methodologies for various audits are prescribed in the Auditing Standards and the Regulations on Audit and Accounts 2007 issued by the CAG.

1.4 Planning and Conduct of Audit

Audit process starts with the risk assessment of the Department / Organisation as a whole and that of each unit based on expenditure incurred, criticality/complexity of activities, level of delegated financial powers, assessment of internal controls, concerns of stakeholders and the likely impact of such risks. Previous audit findings are also considered in this exercise. Based on this risk assessment, the frequency and extent of audit are decided. An Annual Audit Plan is formulated to conduct audit on the basis of such risk assessment.

After completion of audit of each unit, Inspection Reports containing audit findings are issued to the Heads of the entities. The entities are requested to furnish replies to the audit findings within one month of receipt of the Inspection Reports. Whenever replies are received, audit findings are either settled or further action for compliance is advised. The important audit observations made in these Inspection Reports/Performance Audit are processed for inclusion in the Audit Reports which are submitted to the Governor of Odisha under Article 151 of the Constitution of India.

1.5 Significant Observations of Performance Audit

This Report contains one Performance Audit. The focus has been on the audit of specific programmes/schemes/activities and offering suitable recommendations, with the intention to assist the Executive in taking corrective action and improving service delivery to the citizens. Significant audit observations are discussed below:

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

1.5.1 Performance Audit of NABARD assisted Road and Bridge Projects.

Performance Audit conducted for the period 2011-16 showed that the department selected the projects for implementation without approved master plan. As a result, roads were taken up for execution in a piecemeal manner.

Delay in finalisation of tenders led to delay in completion of projects and extra cost on retender. Estimates were prepared in deviation from Indian Roads Congress specifications, Schedule of Rates and Analysis of Rates, which led to extra cost and undue benefit to contractors.

Two sanctioned projects were dropped by NABARD as they could not commence within the stipulated period of 18 months owing to the Department's failure to obtain forest clearance in a road project and its inability to finalise the design for a bridge project. Some of the works taken up for execution by the department also remained incomplete due to delay in acquisition of land and non-finalisation of designs.

There was surrender of funds due to delay in acquisition of land, non-finalisation of designs and delay in completion of works within the stipulated date. The Government had to forgo loan assistance due to delay in completion of works.

Monitoring was not adequate. Lack of regular inspection and maintenance resulted in failure to prevent damage to roads before their design life. Due to poor monitoring, projects could not be completed in time.

(Paragraph 2.1)

1.6 Significant Audit Observations on Compliance Audit

1.6.1 National Horticulture Mission

Audit of National Horticulture Mission (NHM) showed that despite favourable climatic conditions, average productivity per hectare in Odisha in respect of fruits and vegetables was much less than that of neighbouring states of Andhra Pradesh, West Bengal and the all-India average for the period up to 2013-14.

It was observed that no strategic or perspective plan had been prepared. Preparation of annual plan without base line survey led to wide variations between targets fixed and achievements made.

The Government of India had instructed (September 2012) to strengthen technical man power at field level to give adequate guidance to farmers; however, no effective action was taken for appointment of such technical manpower. The monitoring of scheme implementation was weak which led to low survival of plants, payment of undue/excess subsidy for creation of water

sources and handing over of organic farming schemes to private agencies without any follow-up. Quality planting materials had to be procured from other states due to non-establishment of small nurseries. Remedial action was lacking on issues pointed out in the third party evaluation report

(Paragraph 3.1)

1.6.2 Implementation of Integrated Coastal Zone Management Project

Audit of implementation of Integrated Coastal Zone Management Project (ICZMP) in Odisha as of March 2016 showed that agriculture was not considered as an alternative livelihood option under ICZMP for the coastal population of Odisha although it was their major source of livelihood.

For promotion of eco tourism and creation of alternative livelihood, only infrastructures/assets like luxury boats and fish driers were created under ICZMP. However, utilisation of these infrastructures to meet the objective of creation of alternative livelihood and promotion of eco tourism was lacking. Plantation of mangroves to act as cyclone shelters was largely unsuccessful for protection of coastal areas due to low survival rate of plants.

(Paragraph 3.2)

1.6.3 Non-realisation of interest on delayed payment of Net Present Value

The user agencies deposited Net Present Value for diversion of forest land with delays ranging from 42 to 1,469 days. However, interest of ₹ 10.10 crore for the period of delay in payment was neither demanded by the Divisional Forest Officers nor deposited by the user agencies.

(Paragraph 3.3)

1.6.4 Non-disposal of Timber and Poles

Timber and other forest produce valued at ₹ 42.74 lakh seized in 1,119 undetected forest offence cases during 2010-15 remained un-disposed of. On this being pointed out, the Department intimated disposal of 568 cases involving ₹ 19.72 lakh.

(Paragraph 3.4)

1.6.5 Non-levy of interest on belated payment of royalty

Odisha Forest Development Corporation (OFDC) had paid royalty of ₹ 2.83 crore for timber/poles relating to the period 2010-15 with delays ranging from

2 to 39 months. However, interest of ₹10.30 lakh, recoverable from OFDC towards delay in payment, was not levied by the Divisional Forest Officers.

(Paragraph 3.5)

1.6.6 Undue payment to contractors

In Sambalpur Irrigation Division, estimates were prepared adopting the rate applicable for manual means of excavation despite provision in the estimate for execution through mechanical means, thereby inflating the estimated cost. Invitation of tender based on such inflated estimated cost and award of work resulted in undue payment of ₹ 1.04 crore to contractors.

(Paragraph 3.6)

1.6.7 Avoidable payment of service tax

In Drainage Division, Bhubaneswar estimates of three renovation/improvement works of drainage channel and rivers provided for service tax although the irrigation works were exempt from payment of service tax. This led to avoidable payment of service tax of ₹ 2.45 crore

(Paragraph 3.7)

1.6.8 Extra cost due to provision of excess lead

In Aul Embankment Division rate for transportation of earth for five kilometres was adopted in the estimate instead of two kilometres. This inflated the estimated cost of works. Award of works based on these inflated estimates led to extra cost of ₹ 2.81 crore.

(Paragraph 3.8)

1.6.9 Extra expenditure due to adoption of manual excavation

The estimates of works provided that the burrow area was to be arranged by the bidder at his own cost and after excavation, loading and transportation were to be done through mechanical means. However, Executive Engineer, Taladanda Canal Division adopted the rate for excavation by manual means at higher cost instead of mechanical means. The works were awarded after inviting tender with such inflated cost. This led to extra expenditure of ₹ 3.24 crore.

(Paragraph 3.9)

1.6.10 Non-deduction of voids led to excess payment

In three irrigation divisions, the estimate/agreements of 10 works provided for deduction of voids from the measured quantity of stone packing in gabion boxes before making payment to the contractors. However, no deduction was made from the measurement and payments were released to the contractors. This led to excess payment of ₹ 6.44 crore.

(Paragraph 3.10)

1.6.11 Extra expenditure and undue benefit to contractor

In Keonjhar (Roads and Buildings) Division, earth available from road way cutting and drain was not utilised. Further, the bid document forming part of the contract for the work stipulated that the contractor would have to make his own arrangement for the land required for burrow areas, quarries etc. However, the estimate included payment of compensation towards earth from private land though the State Analysis of Rates did not provide for the same. This resulted in extra expenditure and undue benefit of ₹ 7.09 crore to the contractor.

(Paragraph 3.11)

1.6.12 Undue benefit to contractors due to provision of extra lead

As per the State Analysis of Rates, the total distance for transportation of materials from quarry to work site should not exceed the distance from quarry to mixing plant plus distance from mixing plant to work site to carry mixed materials. However, in 12 road works the estimates included extra lead charges from mixing plant to work site in addition to lead charges already provided from quarries to work site for transportation of stone products. This inflated the estimated cost leading to extra cost and undue benefit of ₹ 22.75 crore of which ₹ 12.30 crore had already been paid.

(Paragraph 3.12)

1.6.13 Extra cost due to inclusion of inadmissible charges

The Analysis of Rates prescribe admissible cost elements to be considered to arrive at item rate of various works adding overhead charges on basic cost of materials, labour charges and hire charges of machinery. This basic cost excludes cost of conveyance, royalty and other local taxes. However, in two works, provision of overhead charges and contractor's profit was made on the cost of conveyance of stone products. This led to extra cost of ₹ 5.58 crore.

(Paragraph 3.13)

1.6.14 ***Extra expenditure due to unwarranted provision of surface dressing***

The Indian Roads Congress specifications stipulate that the bituminous surfacing shall consist of either a wearing course or a binder course with wearing course depending upon the traffic. However, in 10 road works provision of surface dressing (wearing course) over and above the binder course and a wearing course was made in violation of Indian Roads Congress specifications leading to extra expenditure of ₹ 17.02 crore.

(Paragraph 3.14)

1.6.15 ***Avoidable extra expenditure***

The Indian Roads Congress specifications recommend using Benkelman Beam Deflection Technique test to assess the existing thickness and calculate additional thickness required for pavement. However, in three road works the required test was not carried out and the estimates/agreements provided for overlaying of wet mixed macadam in violation of Indian Roads Congress specifications. This led to avoidable extra expenditure of ₹ 2.18 crore

(Paragraph 3.15)

1.6.16 ***Avoidable extra expenditure***

The Indian Roads Congress specifications stipulate that for roads with average traffic of 150 to 450 commercial vehicles per day, the required sub-base should be 150 mm thick water bound macadam/wet mixed macadam over 100 mm granular sub-base. However, in eight road works, provision of dry lean concrete was made although the existing sub-base and base of 300 mm thick was available. This led to avoidable extra expenditure of ₹ 5.75 crore.

(Paragraph 3.16)

1.6.17 ***Response to Audit***

A review of IRs issued up to March 2016 pertaining to 12 departments showed that 9,777 paragraphs relating to 3,057 IRs were outstanding at the end of June 2016. Of these, 1,024 IRs containing 2,382 paragraphs were outstanding for more than 10 years. Even first reply from the Heads of Offices, which was to be furnished within one month, have not been received in respect of 312 IRs issued up to March 2016.

Serious irregularities noticed in audit are included in the Reports of the Comptroller and Auditor General that are presented to the State Legislature. The Administrative Departments are required to furnish explanatory notes on transaction audit and performance audit paragraphs etc. included in the Audit Reports within three months of their presentation to the State Legislature. It was observed that in respect of Audit Reports from the year 2007-08 to

2013-14, out of 12 departments, six departments did not submit explanatory notes on paragraphs and four departments on performance audits as of March 2016.

Out of 732 recommendations on Audit Report paragraphs made by the Public Accounts Committee (PAC) from the First Report of Tenth Assembly (1990-95) to Fifth Report of Fourteenth Assembly (2009-14), final actions on 52 recommendations were awaited as of March 2016.

(Paragraph 3.17)

Chapter II

Performance Audit

| Para Number | Topic | Page |
|--------------------|---|-------------|
| 2.1 | Performance Audit of NABARD assisted Road and Bridge projects | 9-34 |

Chapter II Performance Audit

Works Department

2.1 *Performance Audit of NABARD assisted Road and Bridge Projects*

Executive Summary

Works Department is responsible for construction, improvement and maintenance of national highways, state highways, major district roads and other district roads and bridges in the State. The Department implements schemes for construction and maintenance works with funds provided by Government of India (GoI), State Government through budgetary support and loan assistance from Rural Infrastructure Development Fund (RIDF) operationalised by National Bank for Agriculture and Rural Development (NABARD).

Performance Audit of NABARD assisted road and bridge projects covering the period 2011-16 was conducted during April to June 2016. The broad objectives of the Performance Audit were to assess whether the planning process comprehensively identified the constraints in implementation of projects and prioritisation was done suitably and whether financial management and implementation of projects ensured achievement of stated objectives of the projects with economy, efficiency and effectiveness.

We observed in audit that in the absence of an approved master plan, the Department selected projects for implementation on the basis of weightage to requisitions from public representatives. As a result, roads were taken up for execution in a piecemeal and ad-hoc manner. Delay in acceptance and finalisation of tenders led to delay in completion of projects and extra cost on re-tender. Estimates were prepared in deviation from Indian Roads Congress (IRC) specifications, Schedule of Rates and Analysis of Rates prescribed by the Department which led to extra cost and undue benefit to the contractors. The internal control and monitoring mechanism were not adequate since 34 projects were still in progress even after delays up to 1,862 days.

2.1.1 Introduction

Government of Odisha (GoO) in Works Department is responsible for construction, improvement, widening and maintenance of roads and bridges in the State. The Department maintains four types of roads with a total road length of 21,343 km which includes 3,877 km of national highways (NH), 4,840 km of state highways (SH), 2,821 km of major district roads (MDR) and 9,805 km of other district roads (ODR). Improvement/widening of the roads and construction of bridges were taken up under various schemes funded under State Plan, Centrally Sponsored Plan and with loan assistance from NABARD provided out of Rural Infrastructure Development Fund.

The GoI had announced (1995-96) setting up of RIDF for providing loan assistance for implementation of ongoing as well as new projects for rural

infrastructure development. As per policy, NABARD provided loan assistance for rural roads which connected rural areas with the urban marketing centres, central highways, rail-heads, road heads etc., and for ensuring a link between two rural locations. Similarly, assistance was provided for rural bridges as they connected rural areas with main roads leading to urban market centres. RIDF provided loan assistance up to 80 *per cent* of the cost of a project carrying interest at 6.5 *per cent* up to 2011-12 and thereafter at 1.5 *per cent* less than the bank rate². The remaining 20 *per cent* of the project cost was provided by State Government. Funding was by way of reimbursement of expenditure incurred after submission of claims by the State Government.

The Department submitted project proposals to the High Power Committee (HPC) under the chairmanship of Development Commissioner-cum-Additional Chief Secretary. The proposals cleared by HPC were submitted to NABARD through Finance Department (FD) for approval. After approval of the projects by NABARD, the Department implemented the projects and reimbursement claims were submitted to NABARD through FD.

2.1.2 Organisations Set up

Finance Department was the nodal agency for management of loans received from NABARD and for its repayment. Works Department, headed by Engineer-in-Chief-cum-Secretary to the Government of Odisha has been implementing the RIDF projects. Execution was monitored by Engineer-in-Chief (EIC) (Civil), Chief Engineer, World Bank Projects (CE, WBP) who were assisted by 12 Superintending Engineers (SEs) and 44 Executive Engineers (EEs) at the field level.

2.1.3 Audit Objectives

The Performance Audit was taken up to assess whether:

- the planning process comprehensively identified the constraints in implementation of projects and prioritisation was done suitably;
- financial management ensured adequate allocation and utilisation of funds;
- projects were implemented in accordance with NABARD guidelines/codal provisions/Schedule of Rates/Analysis of Rates/IRC specifications so as to achieve economy, efficiency and effectiveness; and
- internal control systems and monitoring were adequate.

2.1.4 Audit Criteria

Audit criteria were sourced from the following:

- NABARD guidelines, Regulations and orders of Government of Odisha;

² Bank Rate refers to the official interest rate at which RBI provides loans to the banking system which includes commercial/ cooperative banks, development banks etc.

- Detailed Project Reports, IRC specifications, Schedule of Rates, Analysis of Rates and contract conditions;
- Policy of Government, norms for implementation of the projects, inspection notes of higher authorities and NABARD;
- Odisha Public Works Department Code; and
- Terms and conditions of NABARD loan agreement.

2.1.5 Scope of Audit and Methodology

The Performance Audit was conducted from April to June 2016 through test check of records/data relating to NABARD assisted RIDF projects for five years up to March 2016. For the above purpose, records and data maintained in the Works Department, office of CE, WBP and 14³ out of 44 divisions implementing 114 projects were selected on the basis of stratified random sampling method. The Audit objectives, criteria, scope and methodology of audit were discussed in an entry conference held with Engineer-in-Chief-cum-Secretary to Government and other senior officers of the Department on 6 April 2016.

Draft Performance Audit Report was issued (July 2016) to Government and findings were discussed in an exit conference held in November 2016. Views of Government have been considered while finalising the report.

2.1.6 Audit Findings

2.1.6.1 Targets and achievements

The details of sanction of roads and bridges *vis-a-vis* achievements of projects during the last five years 2011-16 are detailed below:

Table No. 2.1: Details of sanction and achievements for NABARD assisted road and bridge projects

| Year | Length of road sanctioned by NABARD (in km) | Length of roads in kilometres | | | | Number of bridges sanctioned by NABARD | Bridges in numbers | | | |
|--------------|---|-------------------------------|--------------|--------------------------|---|--|-----------------------------|--------------|--------------------------|---|
| | | Targets fixed by State Govt | Achievements | Shortfall(-)/ Excess (+) | Percentage of achievement against targets | | Targets fixed by State Govt | Achievements | Shortfall(-)/ Excess (+) | Percentage of achievement against targets |
| 2011-12 | 475 | 350 | 365 | (+) 15 | 104 | 9 | 3 | 2 | (-) 1 | 67 |
| 2012-13 | 540 | 350 | 358 | (+) 8 | 102 | 7 | 2 | 3 | (+) 1 | 150 |
| 2013-14 | 196 | 350 | 351 | (+) 1 | 100 | 9 | 4 | 3 | (-) 1 | 75 |
| 2014-15 | 633 | 350 | 477 | (+)127 | 136 | 12 | 3 | 5 | (+)2 | 167 |
| 2015-16 | 307 | 380 | 709 | (+) 329 | 187 | 2 | 12 | 16 | (+) 4 | 133 |
| Total | 2151 | 1780 | 2260 | (+) 480 | | 39 | 24 | 29 | (+) 5 | 121 |

Source: Data provided by EIC (Civil)

Though NABARD had sanctioned roads totaling 1648 km, the Department had fixed the target of 1050 km i.e. 70 per cent of the length of the road

³ (R&B) Division, Bargarh, Balasore, Cuttack, Charbatia, Dhenkanal, Ganjam-I, Koraput, Keonjhar, Nayagarh, Panikoili, Sambalpur, Sundargarh, Rairangapur and Rourkela.

sanctioned. The shortfall in target during 2011-12, 2012 -13 and 2014-15 was 26, 35 and 45 *per cent* respectively. However, the Department had fixed higher targets for 2013-14 (179 *per cent*) and 2015-16(124 *per cent*).

Similarly, in the case of bridge projects the Department had fixed a target of 24 bridges against the sanction of 39 bridges and the achievement was 29 due to completion of bridges taken up in earlier years. The shortfall in achievement in 2011-12 and 2013-14 in respect of bridge projects was due to delay in finalisation of design and handing over of land as discussed in para No. 2.1.6.9.

The Government stated (September 2016) that annual physical targets were set on the basis of the quantum of ongoing works at the beginning of a financial year. However, the fact of achievement of 187 per cent of targets in road projects and 167 per cent of bridge projects indicated that the targets were not fixed on realistic basis.

2.1.6.2 Sanction of Projects by NABARD

The GoO resubmitted to NABARD 262 unsanctioned projects relating to the earlier years along with new projects for sanction. Details of projects (re-submitted and new projects) sent to NABARD and numbers of projects sanctioned with cost during 2011-16 are given below:

Table No. 2.2: Details of project proposals submitted to NABARD and projects sanctioned

(₹ in crore)

| Sl. No. | Year/Tranche | No. of resubmitted project proposals | Cost | No. of new project proposal | Cost | Total number of projects | Total cost | No. of projects sanctioned by NABARD | Cost |
|---------|---------------|--------------------------------------|----------------|-----------------------------|----------------|--------------------------|-----------------|--------------------------------------|----------------|
| 1 | 2011-12/XVII | 44 | 622.60 | 81 | 1184.77 | 125 | 1807.37 | 42 | 584.47 |
| 2 | 2012-13/XVIII | 56 | 840.30 | 98 | 1702.42 | 154 | 2542.72 | 48 | 834.57 |
| 3 | 2013-14/XIX | 40 | 657.93 | 72 | 1035.76 | 112 | 1693.69 | 29 | 405.80 |
| 4 | 2014-15/XX | 90 | 1762.89 | 88 | 1654.48 | 178 | 3417.37 | 58 | 994.77 |
| 5 | 2015-16/XXI | 32 | 773.07 | 118 | 2477.83 | 150 | 3251.00 | 20 | 409.82 |
| | Total | 262 | 4656.79 | 457 | 8055.26 | 719 | 12712.15 | 197 | 3229.43 |

Source: Data provided by the Works Department

During 2011-16, NABARD had sanctioned 197 projects with a value of ₹ 3229.43 crore. Reasons for non-sanction of 522 projects were not on record.

2.1.6.3 Deficiencies in Project Planning

As per NABARD guidelines, the States have to conduct surveys and prepare a master plan with priority index for roads. To the extent possible, these plans should be used for selecting new roads. However, the broad policy parameters, such as connecting rural areas with urban areas should be kept in mind. The NABARD guidelines also stipulate that IRC specifications must be followed in the execution of projects. The GoO had formulated an Institutional Strengthening Action Plan in 2007 with focus on Institutional Strengthening and Capacity Building of Works Department. The Institutional Strengthening Action Plan suggested various activities over the period 2008-18, based on

World Bank suggested Road Sector reforms. In order to have Road Sector Institutional Development, a consultant⁴ was engaged (April 2012) to provide technical assistance for development of core road network and master plan for road management sector for ₹ 12.32 crore⁵ with applicable service taxes for preparation and submission of report by October 2014. The consultant submitted the report on Main Road Network in Odisha in July 2014 and was paid (September 2015) ₹ 14.93 crore⁶ including service tax. Although the master plan was discussed (September 2014) by the steering committee headed by the Development Commissioner-cum-Additional Chief Secretary, final decision on implementation of report was not taken till the date of audit. NABARD guidelines, which lay emphasis on connectivity between rural areas and urban market centres could not be achieved due to absence of a strategic plan.

In the absence of approved master plan for overall development, projects were executed in deviation from NABARD guidelines/OPWD code as discussed in the subsequent paragraphs.

The Government stated (September 2016) that finalisation of road master plan was under process. It was also stated that all the projects were approved by NABARD after assessment of feasibility. However, the delay of over two years in approval of the Report on Main Road Network had resulted in execution of works in piecemeal manner not connecting to market centres and rural locations as discussed in paragraph 2.1.6.5.

2.1.6.4 Poor planning in execution of road works

Works for improvement and widening from 3.66 m to 5.50 m in respect of two⁷ major district roads for a total length of 46 km were awarded (August 2011) to a contractor for ₹ 33.21 crore for completion by August 2013. The contractor could not complete the works in time despite issue of notices. While the works were in progress, the Department decided on widening of the road to 7 m instead of 5.5 m as planned earlier. Since it was not possible to complete 46 km with 7 m width within the agreement value of ₹ 33.21 crore, the scope of the existing contract was restricted (February 2014) to 28 km. The works were not completed till the date of audit. Widening of the remaining 18 km of the two roads were awarded (September 2014 and May 2015) to two contractors at a cost of ₹ 26.19 crore for execution under State Highway Development Programme.

Had the Department planned for widening of the roads up to 7 m at the initial stage, the extra cost of ₹ 9.39 crore, computed with reference to the item rates of the original contract could have been avoided.

The Government stated (September 2016) that the roads were upgraded to state highways on the basis of proposal of CE (DPI & Roads). Accordingly, the roads were improved with double lane carriageway of 7 m width. The

⁴ Intercontinental Consultants and Technocrats Pvt. Ltd (ICT), New Delhi in Joint Venture with Grant Thornton Advisor Pvt. Ltd (GT-APL), UK and in association with Arki techno Consultants (India) Pvt. Ltd, Odisha as sub-contractor

⁵ ₹ 9.04 crore + ₹ 3.28 crore (\$635100 x 51.7047 exchange rate in Indian currency during April 2012)

⁶ ₹ 10.19 crore + ₹ 4.74 crore (\$ 715890.43 x 66.2192 exchange rate in Indian currency during September 2015)

⁷ Improvement to Rayagada-Bhawaniapatna Road and Chhatiguda-Narla-Rampur Road

reply was not acceptable since the Department, without assessing the requirement of the road width, had executed the project initially with lesser width of 5.50 m and increased the same to 7 m thereafter through separate contracts which resulted in extra cost. This is also indicative of improper planning and ad-hoc measures by the Department.

2.1.6.5 Execution of road projects in piecemeal manner

NABARD guidelines (Para-1) stipulate that the roads constructed should connect rural areas with the urban market centres or make a link between the two rural locations. Further, para 6 (i) of the guidelines stipulate that while selecting a road project, connectivity with black topped roads at both the ends of road should be ensured. The Department had taken up 37 road projects at a cost of ₹ 459.83 crore during 2011-16. It was observed from statistical data of roads that the total length of these 37 roads was 1,021 km. Instead of developing the entire 1,021 km, the Department had taken up works for improvement of only 492 km in a piecemeal manner as discussed below:

- Out of 37 roads, 15 roads were taken up from rural locations though there were no market centres or rural locations in the middle or at the other end.
- 19 roads were taken up from the middle portion though there were no market centres or rural locations at either end of the roads.
- Three roads were taken up for execution at both ends leaving the middle portions, which were in a distressed condition e.g. Narasinghpur-Hindol Road.



Narasinghpur-Hindol Road
at RD 9.0 km



Narasinghpur-Hindol Road

Details of partly completed roads and parts of the roads which were not taken up for improvement are given in **Appendix 2.1.1**.

The Government stated (September 2016) that the Department had taken action for improvement of important stretches of the road on priority basis and the entire road was improved subsequently on availability of resources. The reply is not correct as neither the missing link portion of the roads nor the remaining portion of 529 km of the roads have been improved till the date of audit.

2.1.6.6 Execution of ODR with excessive width

NABARD guidelines (Para-2) stipulate that the projects should conform to the IRC specifications. Para 2.6.4 of IRC: SP: 20-2002 for rural roads stipulates that the carriageway width should be 3.75 m for ODR. It was observed that during 2011-16, 73 other district roads (ODRs) with a total length of 1,069 km were taken up at a cost of ₹ 1,186.83 crore with carriageway width of 5.50 m against the width of 3.75m stipulated in IRC specifications. This resulted in avoidable extra expenditure of ₹ 377.63 crore (**Appendix 2.1.2**).

The Government stated (September 2016) that the road had to be designed in a broader perspective looking into individual requirement of the road rather than putting all roads under one format. Government's reply underscores violation of IRC specifications.

2.1.6.7 Construction of bridge with excessive width

Para 6 B (iv) of NABARD guidelines for new works stipulate that design for bridges on a road with two lane carriageway should be as per IRC specifications. Construction of high level (HL) bridge over River Kathajodi from Cuttack to Bhubaneswar was awarded in March 2011 to a contractor for ₹ 94.49 crore for completion within 36 months. The work was in progress with revised cost of ₹ 107.92 crore as of July 2015. It was observed that the bridge was constructed with 10.50 m width with both side footpaths against 7 m prescribed in the NABARD guidelines for two lane carriageway. The unwarranted provision of higher width resulted in extra expenditure of ₹ 35.97 crore.

The Government stated (September 2016) that the wider bridge of three lane carriageway over Kathajodi river was a requirement keeping in view a satellite city development at Trisulia side of Cuttack city as the number of light vehicles would increase, demanding extra lane width. Further, there were plans for four lane roads on either side to which the bridge was connected by its approaches as per design requirement. However, construction of three lane bridge for four lane roads was not in accordance with IRC specifications which prescribe construction of two lane carriage way in such cases.

2.1.6.8 Execution of projects on State Highways/Urban Agglomeration

NABARD guidelines stipulate that the projects taken up should connect the rural areas with urban marketing centres, central highways/rail heads/road heads or link between two rural locations. Similarly, only rural bridges which connect rural areas with the main roads can be taken up.

It was, however, observed from the records of 4 out of 14 test checked divisions that in deviation from the above guidelines, four⁸ state highway (SH) roads were executed at a cost of ₹ 56.41 crore under NABARD assistance. In addition, 10 bridges⁹ in five divisions were also constructed either on SH roads or to provide direct link between two urban agglomerations at a cost of ₹ 214.69 crore. Thus, the Department had utilised NABARD loan assistance of ₹ 271.10 crore, meant for rural infrastructure development for roads and bridges on State Highways in gross violation of the NABARD guidelines.

The Government stated (September 2016) that three out of the four roads were major district roads during NABARD sanction and all the road and bridge projects would cater to the development of farmers as well as rural poor by generating employment and giving market access to their products at

⁸ Dasapalla-Bhanjanagar Road, Chikiti-Surangi-Mandarda Road, Sathipur-Jajpur-Mangalpur-Kayangola Road and Seragada-Nilagiri-Kaptipada-Udala-Baripada-Midnapur Border Road.

⁹ Bridge over Chinchid Nullah, bridge over Mankadokia Nullah, bridge over Adagudi Nullah, HL bridge over Dhobijore Nullah, Amat Nullah, Haradamohan Nullah, Salesingh Nullah, HL bridge over river Kathajodi, HL bridge over river Buddha on SJMK Road and HL bridge over river Bansadhara

reasonable price; there was no question of reduction of assistance for rural development. The reply is not acceptable since NABARD guidelines do not provide for improvement of MDR/SH roads and construction of bridges on SH roads.

2.1.6.9 Commencement of projects without proper survey, land and design

For loan assistance under RIDF, NABARD guidelines stipulated that projects should be selected after comprehensive study of technical, economic, financial and organisational aspects to ensure that the capital resources were used to create productive assets, which were expected to realise benefits over a period. Risk factors in implementation of projects like land acquisition, forest clearance and other bottlenecks were to be identified at the time of project proposal and suitable steps taken for mitigation of risks for timely completion of projects. As per NABARD guidelines, the normal phasing for implementation of projects and drawal of loan sanctioned under RIDF is three years. Instances of non-observance of above requirements and their impact are discussed below:

Commencement of projects without proper design

It was observed that three bridge works were taken up under NABARD assistance without finalisation of design:

- Work for construction of HL bridge over River Panchupada on Haldipada-Solpata Road was awarded to a contractor during 1994-95 for ₹ 2.22 crore for completion by December 2002. As the Department had failed to provide the design of the bridge, the contract was closed in February 2003 after spending ₹ 0.62 crore. The remaining work was awarded to a contractor for ₹ 20.97 crore in February 2014 under NABARD assistance for completion by February 2016. The work was in progress with payment of ₹ 12.84 crore as of March 2016. There was delay of two decades in finalisation of design for the bridge, resulting in escalation of cost and deprivation of the benefit of direct communication to the people.

The Government stated (September 2016) that bridge projects were tendered on the basis of approved general arrangement drawing and detailed design was not required to be done before tendering. However, even after commencement of work, the complete design of the bridge could not be finalised as of March 2016. The reply also did not explain the reasons for delay of two decades in finalising the design.

- Work for construction of HL bridge over River Mantei on Digachhia-Bansada Road under NABARD assistance was awarded for ₹ 19.97 crore in February 2014 for completion by February 2016. Since the Department had failed to finalise the design of the bridge, work was discontinued (March 2015) after spending ₹ 5.39 crore. It was observed that the stretch between Dhamara and Charbatia of NH 5 had been notified as class-III waterways in April 2009 by the Inland Waterways Authority of India (IWAI). As such, the horizontal

clearance for the bridge under construction should be 50 m between bridge piers and vertical clearance should be 7 m above high flood level/high tide level. Without considering the above parameters, the Division had prepared the design with horizontal clearance of 32.33 m and vertical clearance of 1.30 m. The structural design of the bridge was submitted to IWAI in April 2015 and the same was objected to and the department was intimated to adhere to the IWAI design parameters (May 2015). The design with revised parameters has not been finalised (March 2016). It was further observed that the Department had also incurred an expenditure of ₹ 2.09 crore by October 2015 towards improvement of the above road. As the bridge was not completed, intended benefit of all weather road connectivity to the locality could not be achieved.

Accepting the factual position, Government stated (September 2016) that after completion of bridge all weather connectivity would be achieved.

- Due to change in the course of River Bansadhara, the existing HL bridge over the river at 141/300 km of SH-17 near Gumuda was damaged. Concerned over the repeated damage to the bridge and change in river course, a high level task force was constituted which suggested construction of another bridge down-stream of the river with provision of adequate waterway. For construction of the bridge, after survey and investigation, a general arrangement drawing (GAD) recommending 16 spans of 45 metre each with pile foundations under piers and abutments was prepared and was approved by Chief Engineer (CE, DPI& Roads). The work was awarded to a contractor for ₹ 25.96 crore in December 2009 for completion by December 2012. The work was in progress with payment of ₹ 38.60 crore as of February 2016. As the rock strata of selected area were in variation with borelog data taken prior to GAD, the number of piles was revised (December 2012) from 125 to 282 and the overall cost was increased from ₹ 25.96 crore to ₹ 49.67 crore. Thus, the inadequate/inaccurate survey and investigation at the planning stage delayed the completion of the bridge for over 39 months (March 2016).

The Government stated (September 2016) that the tender was invited on the basis of approved GAD prepared on borelog data at certain points but not at all points. However, para 3.4.17 (ii) of OPWD Code, stipulates that before detailed estimates for bridges are made, as many trial pits or borings as are considered necessary for borehole data for preparation of design should be taken for each pier and abutment which was not done in this case.

Execution of bridge projects without land for approach roads

Para 3.7.4 of OPWD Code stipulates that no work should be commenced on land which has not been duly made over by a responsible officer. Para 7 of Office Memorandum of Finance Department (January 2010) on implementation of RIDF Projects inter-alia requires that before finalisation of bids, Administrative Departments should ensure acquisition of land.

- Work for construction of HL bridge over River Mahendratanya at first kilometre of the Parlakhemundi-Patapatnam Road was awarded (June 2005) to a contractor for ₹ 2.42 crore for completion by May 2006. The contractor stopped the work in October 2008 after spending ₹ 1.16 crore due to non-availability of required land. The contract was closed in November 2009. Before acquisition of the land, the remaining works of ₹ 1.26 crore were awarded (June 2013) to another contractor for ₹ 2.87 crore for completion by May 2014. The contractor had executed and was paid for work valued at ₹ 2.14 crore as of March 2016. As the division had not made payment to the Land Acquisition Officer (LAO), the required land had not been acquired (February 2016). As a result, the remaining works could not be executed.

Thus, the construction of the bridge was delayed by more than 10 years due to delay in land acquisition which resulted in extra expenditure of ₹ 1.98 crore¹⁰ including extra cost of ₹ 0.37 crore towards land acquisition.

Accepting the factual position Government stated (September 2016) that the progress of the bridge was delayed due to want of land.

- To provide all weather connectivity between two block headquarters at Barachana of Jajpur District and Mahanga of Cuttack District, construction of two HL bridges at 3rd km and 11th km of Barachana-Balichandrapur Road was taken up under NABARD assistance between March 2011 and March 2014 at a cost of ₹ 32.60 crore for completion between March 2013 and December 2015. The HL bridge at 3rd km was abandoned in July 2013 after spending ₹ 5.47 crore and the other bridge at 11th km was completed in December 2015 at a cost of ₹ 18.35 crore. Though, the land acquisition proposal was submitted to LAO, Jajpur in December 2009 and notification was issued in November 2010, the land was, however, not acquired as of June 2016. It was observed that the contractor had abandoned (July 2013) the work due to non-availability of required land for abutment and approach road on either side of the bridge. As the division had failed to provide the required land, the bridge at 3rd km remained incomplete with expenditure of ₹ 5.47 crore. As one bridge was not completed, there was a missing link on the above road and the desired connectivity could not be provided even after spending ₹ 23.82 crore.



HL bridge at 3rd km of Barachana-Balichandrapur Road

Accepting the factual position, Government stated (September 2016) that the contract had been rescinded with penalty as there was need for some land acquisition.

¹⁰ (₹ 2.87 crore - ₹ 1.26 crore) + ₹ 0.37 crore.

2.1.6.10 *Loss of loan assistance*

NABARD in its letter of June 2012 to Finance Department had stated that in cases where land was yet to be acquired or clearances were pending, the implementing department should submit a certificate that the above requirement would be completed within three months from the date of sanction of the project. It was further stipulated that if the project did not commence within 18 months from the date of sanction (non-starter), the sanction would lapse and such project could not be proposed again for assistance.

NABARD had sanctioned ₹ 139.92 crore (2012-13) for two works of improvements to Kupari-Sarisua Road from 4.100 km to 7.350 km (including Sarisua hill ghat portion from 5.300 km to 7.350 km) and construction of high level bridge over River Mahanadi at 5th km of Ramnagar. As the Department had failed to obtain forest clearance for the road work and could not finalise the design for the bridge, the works could not be commenced within the stipulated period of 18 months from the date of sanction. State Government proposed (2015-16) dropping of the above two projects sanctioned for ₹ 139.92 crore. As a result, these projects were categorised by NABARD as non-starter projects, and thus cannot be proposed for loan assistance again.

Accepting the factual position, Government stated (September 2016) that the projects had been dropped by NABARD.

2.1.6.11 *Delay in finalisation of tender*

Para 3.5.18 (iv) of OPWD Code stipulates that the currency period of any tender should not be more than three months from the last date prescribed for receipt of tender. If delay in deciding the tender was inevitable, consent of the tenderer to keep the offer open for a further period absolutely required should be obtained. Detailed Tender Call Notice (DTCN) issued by the Department invariably stated that bids for work should remain open for acceptance for a period of 90 days from the last date of receipt of bids. Instances of delay of over 90 days in acceptance of bids and their impact are discussed below:

- Tender for “Improvement to Matruagaon-Belghar-Jhiripani Road including nine bridges” with estimated cost of ₹ 42.64 crore was invited in March 2013 by CE (WBP). Last date for receipt of tender was 24 April 2013. In response, two bids were received. When there was a delay in finalisation of tender beyond three months at the Government level, the lowest bidder, who had quoted ₹ 45.32 crore, refused to extend the validity and took back the earnest money deposited. After cancellation of the above tender, the work was retendered with revised estimated cost of ₹ 45.25 crore. The work was awarded (June 2014) for ₹ 48.88 crore. Thus, delay in finalisation of tender resulted in extra cost of ₹ 3.56 crore.

The Government in September 2016 accepted the factual position. However, the reply was silent about reason for the delay.

- Tender for the work of improvement of Belghar-Ambadola Road was invited with estimated cost of ₹ 24.75 crore with the last date for

receipt of bid on 4 February 2013. Two bids were received and both the bidders qualified in the technical evaluation. Their financial bids were opened and the lower bid was for ₹ 23.86 crore. The higher bidder, who had quoted ₹ 25.86 crore, objected in February 2013 to it on the ground of non-fulfillment of technical qualification by the lower bidder. The allegation of the higher bidder was rejected by the CE, WBP on 29 June 2013. The CE, WBP submitted the lower bid to State Government for approval. The Department, however, failed to finalise the bid within the extended validity period (22 August 2013). When the Department requested the lower bidder for extension of validity, the lower bidder refused to extend the validity further. As a result, the tender was cancelled. The work was retendered with revised estimated cost of ₹ 27.15 crore and the work was awarded for ₹ 28.99 crore in February 2014 to the bidder who had quoted higher rate in the initial tender. Thus, delay in acceptance of tender resulted in extra cost of ₹ 5.13 crore.

The Government reiterated (September 2016) the reply of CE (WBP) that the extra cost was due to cancellation of original tender and recast of estimate with revised SoR. However, the reply was silent on the reasons for delay in finalisation of the tender.

2.1.7 Financial Management

The Department received funds by way of budgetary support from GoO and in the form of loan assistance from NABARD for execution of road and bridge projects.

2.1.7.1 Allocation and utilisation of funds received from Government of Odisha

In respect of projects for which loan assistance was received from NABARD, GoO provided funds only to the extent of 20 *per cent* of the project cost. Details regarding initial budget provision, supplementary provision through re-appropriation, expenditure incurred and surrender of funds during 2011-16 are given below:

Table No. 2.3: Details of budget provision vis-à-vis expenditure during 2011-16

(₹ in crore)

| <i>Year</i> | <i>Budget Provision</i> | <i>Supplementary Provision through Re-appropriation</i> | <i>Total</i> | <i>Expenditure</i> | <i>Amount surrendered</i> |
|--------------|-------------------------|---|----------------|--------------------|---------------------------|
| 2011-12 | 330.00 | (+)21.05 | 351.05 | 328.79 | 22.26 |
| 2012-13 | 405.10 | (-) 19.56 | 385.54 | 381.47 | 4.07 |
| 2013-14 | 510.00 | 0 | 510.00 | 484.24 | 25.76 |
| 2014-15 | 800.00 | 0 | 800.00 | 800.00 | 0 |
| 2015-16 | 950.00 | (+) 35.00 | 985.00 | 985.00 | 0 |
| Total | 2995.10 | 36.49 | 3031.59 | 2979.50 | 52.09 |

Source: Data provided by Works Department

The Department had utilised ₹ 2,979.50 crore out of ₹ 3,031.59 crore allocated by the GoO. The surrender of ₹ 52.09 crore during 2011-14 was due to delay in acquisition of land and finalisation of design besides non-completion of projects within the stipulated period as discussed in the earlier paras.

The Government stated (September 2016) that the budget estimate was made on the basis of projected expenditure for a year. During execution of works, land acquisition and design issues arose which were inevitable. The reply should be viewed in the light of the fact that the Department had failed to identify all the major risk factors for individual projects at the time of project formulation, as stipulated in the NABARD guidelines and as discussed in the para 2.1.6.9.

2.1.7.2 Availing of loan assistance from NABARD

The details regarding number of projects sanctioned, total sanctioned cost, NABARD assistance at the initial stage, reimbursement claim submitted by GoO to NABARD and amount of loan assistance received till March 2016 are given below.

Table-No. 2.4: Details of sanctioned cost of NABARD loans and amount reimbursed

(₹ in crore)

| Year/ Tranche | No. of projects sanctioned | Total Sanctioned cost of projects | NABARD assistance at initial stage | Reimbursement claims submitted by GoO | Amount released by NABARD | Remarks | |
|------------------|----------------------------------|--|---|--|---------------------------------|--|---|
| | | | | | | Shortfall in submission of reimbursement claims | Shortfall in receipt of loan assistance from NABARD |
| Up to 2010-11 | 382 | 2645.50 | 1957.27 | 2454.83 | 1776.42 | 190.67 | 180.85 |
| 2011-12/XVII | 42 | 584.47 | 467.58 | 526.05 | 404.43 | 58.42 | 63.15 |
| 2012-13/XVIII | 48 | 834.57 | 667.66 | 620.80 | 475.02 | 213.77 | 192.64 |
| 2013-14/XIX | 29 | 405.80 | 324.64 | 270.24 | 205.26 | 135.56 | 119.38 |
| 2014-15/XX | 58 | 994.77 | 795.82 | 622.86 | 491.64 | * | 131.22 |
| 2015-16/XXI | 20 | 409.82 | 327.86 | 95.84 | 61.26 | * | 34.64 |
| Total | 579 | 5874.93 | 4540.83 | 4590.62 | 3414.03 | 598.42 | 721.88 |

Source: Data provided by CE (WBP)

*Time for submission of reimbursement claim was still available

Department had submitted reimbursement claim of ₹ 2,454.83 crore to NABARD for the period up to 2010-11 against the sanctioned cost of ₹ 2,645.50 crore. Against the committed loan assistance of ₹ 1,957.27 crore, NABARD released ₹ 1,776.42 crore only, leaving a balance of ₹ 180.85 crore. The reasons for short release was not on record. Similarly, for the period from 2011-12 to 2013-14, against the assistance of ₹ 1,459.88 crore, only ₹ 1,084.71 crore were released by NABARD. The State Government had also not submitted reimbursement claim for ₹ 598.42 crore due to delay in completion of projects.

The Government stated (September 2016) that there was no shortfall in submission of any reimbursement claims. Claims were submitted according to the expenditure and NABARD released admissible claims in respect of the project. The fact remained that the department could not complete the projects

as per commitment to NABARD and hence had to forgo the balance loan assistance.

2.1.8 Implementation of Projects

Indian Roads Congress has prescribed standards and code of practices for construction of roads and bridges which were to be followed in preparation of estimates and execution of works. This apart, the Department had to follow the OPWD Code, Schedule of Rates and Analysis of Rates so that economy, efficiency and effectiveness in execution could be achieved.

2.1.8.1 Preparation of estimates in deviation from IRC Specifications

NABARD guidelines stipulated that eligible road and bridge projects should be executed as per IRC specifications. IRC prescribed that geometric design of pavements and quality materials are to be used in the work so that the design life period of the road could be maintained. In case of deviations from IRC specifications, reasons for the same should be spelt out in the Detailed Project Report.

Design of roads as per IRC specifications is made on the basis of load bearing capacity of soil expressed as California Bearing Ratio (CBR) and the number of commercial vehicles expected to ply on the road is denoted as Million Standard Axles (msa). Review of estimates, however, showed that in disregard of IRC specifications for rural roads, unwarranted higher specifications were recommended by Divisional Officers and approved by Chief Engineer. Details of deviations from IRC specifications and the resultant extra expenditure incurred on excessive provisions are discussed below:

2.1.8.2 Provisions of unwarranted Bituminous Macadam and excessive Semi Dense Bituminous Concrete

As per IRC-SP -20-2002 for rural roads with traffic upto 450 commercial vehicles per day (CVPD), only 20 mm premix carpet or 20 mm Semi Dense Bituminous Concrete is required to be provided for wearing course in the pavement. It was observed that in 58 roads, 50 mm Bituminous Macadam and 25 mm Semi Dense Bituminous Concrete were provided for Other District Roads with traffic of less than 450 CVPD. The above deviations from IRC specifications inflated the estimate by ₹ 154.13 crore and with tender premium, the extra expenditure worked out to ₹ 146.44 crore (**Appendix 2.1.3**).

The Government stated (September 2016) that IRC-SP: 20-2002 was not for PWD roads. However, as per NABARD guidelines, IRC-SP: 20-2002 was to be adopted for upgradation of ODR by the Department.

2.1.8.3 Unwarranted provision of surface dressing

As per IRC specification (37-2001), pavement layers are to consist of granular sub base, granular base and bituminous surface only. Further, bituminous surface is to consist of either a wearing course or a binder course with a wearing course depending upon the traffic carried. Review of estimates of 63 roads showed that after having provided for a wearing course, provision was

made for another wearing course of surface dressing. The above excess provision inflated the estimates by ₹ 19.42 crore and with tender premium, the extra expenditure worked out to ₹ 18.30 crore (*Appendix 2.1.4*).

The Government stated (September 2016) that the surface dressing had been provided for allowing traffic during construction stage. The reply is not tenable since the provision of surface dressing in addition to semi dense bituminous concrete is not admissible as per IRC specifications. Further, as per conditions in detailed tender call notice forming part of the agreement, traffic management was to be done at the risk and cost of the contractors.

2.1.8.4 Unwarranted provision of capping layer

Para 4.2.1.5 of IRC: 37-2001 specification stipulates that the sub-grade soil should have load bearing capacity, expressed in terms of California Bearing Ratio (CBR) of 2 per cent and, where CBR value of sub-grade soil is less than 2 per cent design should be based on sub grade CBR value of 2 per cent and a capping layer of 150 mm thickness of materials with a maximum CBR of 10 per cent should be provided in addition to sub-base. It was observed that though CBR values of sub-grade soil were above 2 per cent, estimates of 23 works provided for unwarranted capping layer of sand. This inflated the estimates by ₹ 14.14 crore and with tender premium, the extra cost worked out to ₹ 13.24 crore (*Appendix 2.1.5*).

The Government stated (September 2016) that the sand layer was provided in lieu of GSB thereby reducing the requirement. The reply is not acceptable since capping layer was provided in addition to the required thickness of GSB, which was unnecessary.

2.1.8.5 Erroneous calculation of traffic intensity

As per IRC specifications, design for pavement of road is to be done on the basis of soil condition and traffic intensity. To determine traffic intensity, factors like number of commercial vehicles presently plying on the road, growth of traffic in 10 years, vehicle damage factor, single lane or double lane are to be taken into account. As per NABARD guidelines, the projects taken up should have design life of 10 years. It was observed that for two¹¹ major district roads, viz. improvement to Ranapur-Siko-Jankia Road and Kirei-Bamara Road, calculation of traffic was done with undue provision of design life for 15 years in place of 10 years, as specified in the NABARD guidelines. The traffic intensity was erroneously calculated as three and five msa against the correct traffic intensity of one and two msa. This inflated msa led to provision of higher pavement thickness in the estimate valued at ₹ 10.91 crore and, with tender premium, the extra expenditure worked out to ₹ 10.65 crore.

The Government stated (September 2016) that as per IRC:37-2001, for other category of roads, a design life of 10 to 15 years might be adopted. However, as per the NABARD guidelines, the roads were to be constructed with design life of 10 years.

¹¹Improvement to Ranapur- Siko- Jankia Road and Kirei- Bamra Road

2.1.8.6 Undue provision of sand and GSB

IRC -15-2002, detailing specification for construction of concrete roads stipulates that sub-base may be composed of either granular material or stabilised soil or semi-rigid materials like dry lean concrete (DLC). It was observed that the estimates of 20 road projects provided all three materials in the sub-base (granular materials, sand and DLC). As DLC was provided in all the roads, there was no need for provision of granular materials or sand for construction of sub-base. However, the department had provided 51,221 cum of sand/granular material in addition to DLC. This inflated the estimate by ₹ 4.79 crore and, with tender premium, the extra expenditure worked out to ₹ 4.46 crore (*Appendix 2.1.6*).

The Government stated (September 2016) that the rigid pavement was constructed over a sub-base. Again a sub-base was laid over a sub grade. Besides, the existing crust was disturbed and damaged which might be considered as sub grade. The reply was not acceptable since the Department had chosen to treat the crust consisting of stone products as sub grade in the form of compacted earth. As a result, sub-base in the form of GSB and another sub-base consisting of DLC were provided in the estimate, which was unwarranted.

2.1.8.7 Provision of Wet Mix Macadam without considering existing crust

In case of improvement of existing roads, IRC: 81-1997 recommends using Benkelman Beam Deflection Technique (BBDT). This technique would assess the existing thickness and help to calculate additional thickness required for pavement. It was observed that for widening and improvement of 15 existing roads, BBDT was not conducted to assess the thickness of existing crust. Further, estimates for the above projects provided for overlaying of Wet Mix Macadam (WMM) at the same thickness for the entire width of the roads, although WMM was already there on the existing roads. Non-deduction of WMM quantity available in the existing roads inflated the estimates by ₹ 13.57 crore and with tender premium, the extra expenditure worked out to ₹ 12.93 crore (*Appendix 2.1.7*).

The Government stated (September 2016) that BBDT was adopted for evaluating bituminous overlays. All the roads were improved with widening and the base courses were inadequate. The reply was not acceptable since WMM was provided for the entire width of the roads without considering the base course available in the existing roads.

2.1.8.8 Provision of GSB in excess of IRC specifications

IRC specifications (IRC: 37-2012) stipulate that granular sub base of 300 mm was to be provided in excess of the required width on both sides of the existing road. For improvement of single lane (3.66 m) to intermediate lane (5.50 m), extension of road is required by 1.22 m¹² on both sides. It was,

¹² $(5.5 \text{ m} - 3.66 \text{ m} + 0.3 \text{ m} + 0.3 \text{ m})/2$

however, observed that for improvement and widening of two roads¹³ from single lane to intermediate lane, the Department had provided GSB ranging between 1.305 m and 5.40 m on both sides of the existing road against the actual requirement of 1.22 m which inflated the estimates by ₹ 3.11 crore and, with tender premium, the extra expenditure worked out to ₹ 3.10 crore (*Appendix 2.1.8*).

The Government stated (September 2016) that provision of GSB was made in the estimate as per design of the roads. However, provision of GSB was made on either side of the existing road ranging between 1.305 m to 5.400 m against the designed requirement of 1.220 m.

Similarly, in the analysis of rates of 23 works, the Department had provided coarse graded GSB for 3.74 lakh cum at a higher rate in place of close graded GSB although no analysis was available for coarse graded GSB in the State AoR. This had resulted in extra cost of ₹ 8.09 crore. With tender premium, the extra expenditure worked out to ₹ 7.90 crore (*Appendix 2.1.9*).

In reply, the Government stated that provision of close/coarse graded GSB was to be decided by the technical sanctioning authority for a specific project based on proposal of field offices. This was not acceptable as there was no analysis of rate of coarse graded GSB in the State AoR and, as such, provision of the same in these works by the technical sanctioning authority was irregular.

2.1.8.9 Preparation of estimates in deviation from OPWD Code, Schedule of Rates and Analysis of Rates

OPWD Code (para 3.4.10) stipulates that estimates should be prepared using Schedule of Rates (SoR) and providing for the most economical and safe way of executing the work. Instances of preparation of estimates in deviation from the above provisions are discussed below:

- As per SoR, rates allowed for transportation of materials are exclusive of void of materials. In disregard of the above conditions, estimates had been prepared by the Department with provision of transportation charges of 1.28/1.32 cum of WMM/GSB against one cum which led to excess provision of transportation charges of 0.28/0.32 cum of stone products. In respect of 68 road works, the Department allowed transportation charges for 32.47 lakh cum materials against the admissible quantity of 24.92 lakh cum taking into account the related void. The excess provision of transportation charges made in the estimate was ₹ 36.49 crore. After tender premium, undue benefits of ₹ 34.72 crore were extended to the contractors (*Appendix 2.1.10*).

The Government stated (September 2016) that while analysing the rates of any item of work, quantity of materials and rates were taken as per provision made in the Analysis of Rate. The reply was not acceptable since as per SoR, the cost of transportation was exclusive of voids.

¹³ Prataprasad-Darpanarayanpur Road and Buxibarigaon-Bayapandadhar Road

- SoR stipulates that the rate for transportation of materials (stone products) includes stacking charges. In respect of 68 road works, the contractors had utilised 32.47 lakh cum of materials without stacking. As such, payment of stacking charges amounting to ₹ 8.44 crore was irregular and resulted in extension of undue benefit to the contractor (*Appendix 2.1.10*).

The Government stated (September 2016) that the rates for conveyance of materials in SoR were finalised based on inputs for transportation cost only and stacking charges were not included in conveyance of materials. The reply was factually incorrect since SoR stipulated that the cost of transportation of materials was inclusive of stacking charges.

- In respect of stone products for Granular Sub Base, the estimate for construction of Kuanrmunda-Purunapani-Nuagaon Road provided a higher rate of ₹ 996 per cum including transportation cost of ₹ 323.50 per cum on basic cost of ₹ 672.50 per cum as per SoR 2013. The inflated estimate with additional provision of transportation cost led to undue benefit of ₹ 1.16 crore to the contractor.

The Government stated (September 2016) that the matter was being examined and the course of action would be intimated to audit.

- For construction of HL bridge over the river Panchupada on Haladipada-Solapata Road, the item for concreting and launching of girder was unduly loaded with cost of inadmissible items, viz. barge, crane and floating caisson of ₹ 1.34 crore. Similarly, royalty payable towards 63,288 cum of earth was provided at ₹ 127.44 per cum against ₹ 27.44 per cum leading to extra cost of ₹ 0.64 crore including one *per cent* cess. This resulted in undue benefit of ₹ 1.98 crore to the contractor.

The Government stated (September 2016) that estimate for a work had to be made on a realistic manner. Provision of barge crane and floating caisson was a requirement for the specific project. The reply was not acceptable since these items were not admissible as per State AoR/SoR. Further, the reply was also silent about inclusion of royalty at ₹ 127.44 per cum against actual rate of ₹ 27.44 per cum.

- As per the estimate of four¹⁴ road/bridge works, the minimum lead distances for transportation of stone products from quarry to work site ranged between 11 and 106 km. However, in the analysis of rate of these works, the maximum lead distance for transportation of stone products ranging between 54 and 135 km was taken. The adoption of excess lead distances ranging from 19 to 68 km inflated the estimates by ₹ 8.33 crore for transportation of 2.50 lakh cum of minor minerals. This resulted in undue benefit of ₹ 7.82 crore to the contractors including tender premium (*Appendix 2.1.11*).

¹⁴ Chhenapadi-Hadagarh Road, Lephripada-Balishankara Road, HL bridge over River Brahmani at Jenapur and Chatiguda-Narla-Rampur Road

The Government stated (September 2016) that the lead provided for transportation of minor minerals was based on the minimum lead certificate of the concerned EE and that the contractors had quoted the tender amount on the basis of their assessment. The reply was not acceptable since the EE had adopted lead in excess of actual lead distance and this was in violation of the para 3.4.10 of OPWD code.

- Though the OPWD Code (para 3.4.10) stipulated preparation of estimates in the most economical manner, it was observed that in respect of four¹⁵road works, estimates provided for average lead distances ranging between 97 and 114 km. It was seen from the estimates of these works that the shortest lead distances were ranged between 30 and 85 km. Provision of excess lead distances ranging between 29 and 70 km inflated the estimates by ₹ 4.95 crore towards conveyance of 1.95 lakh cum of stone products which led to undue benefit of ₹ 4.79 crore to the contractors including tender premium (**Appendix 2.1.12**).

The Government stated (September 2016) that average leads suggested by EE were based on their assessment regarding availability of materials from different quarries. The reply is not acceptable since adoption of average lead was in violation of OPWD code.

- There is no provision in the SoR/AoR for compaction of sand. It was however, observed from the estimates of 21 road projects that provision was made for compaction of 6.42 lakh cum of sand. This undue provision of compaction of sand inflated the estimate by ₹ 1.15 crore leading to extra expenditure of ₹ 1.07 crore including tender premium (**Appendix 2.1.13**).

The Government stated (September 2016) that sand needed compaction just like GSB materials. However, compaction of sand was not required as it was void free and accordingly, no provision had also been made in the SoR/AoR for compaction.

- In the execution of works for widening of roads, earth excavated from the side of existing road is kept aside to reuse it for embankment of widened road. The estimates of 44 works provided for conveyance of excavated earth from a distance up to one kilometre. The above unwarranted provision inflated the estimates by ₹ 4.77 crore and undue benefit of ₹ 4.41 crore was extended to the contractors (**Appendix 2.1.14**).

The Government stated (September 2016) that excavated earth was proposed for use within one km and hence provision was made for mechanical transportation. The reply was not acceptable as the excavated materials were required to be used for the shoulder of the road throughout its entire length under construction as provided in the estimates.

¹⁵ Improvement to Kanjiasole-Turumunga Road, Satakutunia-Patna Road, Phulbani-Gochhapada and Phiringia-Gochhapada Road.

- It was observed from the estimates of four out of six road works executed with NABARD assistance that Rourkela (R&B) Division had provided for slag which was cheaper for construction of sub base. For other two works,¹⁶ estimates provided for use of costly coarse graded GSB resulting in extra expenditure of ₹ 5.88 crore without any justification.

The Government stated (September 2016) that the matters were being examined and course of action would be intimated to audit.

- For construction of approach road to HL bridge over Brahmani River at Lalei, the estimate included unwarranted provision of sand at the higher rate of ₹ 246.20 per cum in place of burrow earth at ₹ 107.50 per cum. Utilisation of 82,104 cum of sand in place of burrow earth resulted in extra expenditure of ₹ 1.23 crore.

The Government stated (September 2016) that the matter was being examined and course of action would be intimated to audit.

2.1.8.10 Execution of work in deviation of contract terms

Contracts between the Department and the successful bidder were entered into after due consideration of sanctioned estimates of higher authorities. It was, however, observed that methods of execution of work, specifications and increased quantum of works were allowed by departing from contract terms in the following cases.

- Work for construction of HL bridge over River Kathajodi from Cuttack to Bhubaneswar was awarded in March 2011 to a contractor for ₹ 94.49 crore for completion by March 2014. In November 2013, when 89 per cent of contract period was over, only 30 per cent of contract work was completed. At this stage, the contractor proposed major change in design from cast-in-situ box girder to precast pre-stressed concrete (PSC-I) girder of M50 grade without any financial implication. The designs and drawing on precast PSC-I girder submitted by the contractor was approved (September 2014) by CE, WBP with revised cost of work for ₹ 107.92 crore.



Kathajodi Bridge, Cuttack

Scrutiny of the original sanctioned estimate showed that in the bill of quantity, provision was made for construction of cast-in-situ box girder with PSC M40 in superstructure. Though the contractor proposed the new items without any financial implication, the Department paid ₹ 13.43 crore extra due to the above revision which was irregular. Due to change in design with new additional items like precast PSC-I M50 girder and bearings, the Department paid ₹ 13.43 crore which could have been avoided had the Department stuck to the original contract specifications. Against the original target for completion of bridge by March 2014, the contractor completed 69 per cent of works and received payment of ₹ 74.80 crore as of March 2016.

¹⁶ Improvement to Gurundia-Jarada Road and Kuanmunda-Purunapani Road

The Government stated (September 2016) that the contractor's proposal for execution by precast pre-stressed girder launching method had been approved by CE (WBP). Further, the bridge had been taken up on P1 contract based on approved general arrangement drawing of Department. During execution of work, any deviation from the contract based on design requirement had been finalised within the scope of the contract and no extra cost had been allowed. However, the fact remained that the extra cost had been allowed and that too despite the contractor not asking for it.

- The work for construction of HL bridge over the river Brahmani on Bhuban-Nilakanthapur Road was awarded (February 2008) to a contractor for ₹ 40.14 crore for completion by August 2010. The work could not be completed in time as land was not made available. It was observed that until completion of the stipulated contractual period, the contractor had been following the general arrangement drawing (GAD). As per conditions of agreement, arranging the materials was the responsibility of contractor. The contractor, however, sought and obtained approval for use of higher quality steel of Fe-500 grade on the plea of non-availability of steel of Fe-415 grade, and executed concrete work with reinforcement concrete (RCC) M35 in place of RCC M30 which resulted in extra expenditure of ₹ 9.48 crore.

The Government stated (September 2016) that the payment of ₹ 9.48 crore was within the purview of contract which might not be treated as extra expenditure as deviation from contract on design requirements was within the purview of contract. However, it may be noted that as per the terms and conditions of the contract, though deviation from the design was within the purview of the contract, arranging the required materials was the responsibility of the contractor. As such, the decision of the Department to pay the contractor an extra amount of ₹ 9.48 crore to use Fe-500 grade in place of Fe-415 grade on the ground of non-availability of the same was irregular.

- Improvement of Baladialamal-Dharamgarh Road was awarded to a contractor for ₹ 20.24 crore in May 2013 for completion by May 2015. In the sanctioned estimate, provision of GSB was made in the widening portion for 8,708 cum for 14.510 km as required under IRC specifications. It was, however, observed that the contractor was allowed to lay GSB for the entire width of the road. The contractor had used 18,223 cum leading to excess use of 9,515 cum of GSB which resulted in extra expenditure of ₹ 1.09 crore.

The Government stated (September 2016) that as per IRC-37-2001, GSB should be laid for the entire width of the road formation. This would facilitate drainage criteria. The reply was not acceptable as in this case an existing road was taken up for improvement and since the estimate was prepared by deducting the existing GSB, execution of GSB on the entire road was unwarranted and this led to avoidable extra expenditure.

2.1.8.11 Payment of escalation charges

Condition 31 of the contract stipulated that contract prices should be adjusted for increase or decrease in price of labour, cement, steel, bitumen, POL and other material components. Further, no escalation charges were to be paid to the contractor on material/POL and labour where the stipulated completion period was 18 months. Instances of payment of escalation charges due to lapses of the department are discussed below.

- The work of construction of HL bridge over the River 'Under' on Ghudar-Marlad Road was awarded to a contractor in September 2009 for completion by September 2011. The contractor could not complete the work due to Department's delay in acquisition of land for approach road and hence the contractor was given extension of two years beyond the agreed time for completion. The work was completed (September 2013) after acquisition of land which led to payment of escalation charges of ₹ 2.75 crore in March 2014.
- For execution of any extra/substituted item of work in addition to the original work, the Department was to enter into supplementary agreement with the contractor. The rate for such extra items of work was approved on the basis of current market rate of materials and labour and hence no escalation was to be paid to the contractor for execution of such items of work. It was, however, observed that for construction of HL bridge over the River Kathajodi, ₹ 2.68 crore were paid towards labour escalation charges. The above amount included ₹ 0.61 crore towards labour escalation charges paid for the work of sinking of well executed under a supplementary agreement in which applicable labour charges for subsequent period were already included.
- For improvement to Sunki-Ampavalli-Ekaguluru Road, an amount of ₹ 4.18 crore towards labour escalation charges was paid in August 2014. As per agreement condition, the contractor was required to engage 1,589 labourers. Review of muster roll submitted by the contractor showed that only 42 labourers were engaged for the work for two years. For engagement of 42 labourers, payment of escalation charges of ₹ 4.18 crore against the admissible amount of ₹ 0.18 crore was irregular and resulted in extension of undue benefit to the contractor.
- It was observed that for widening of intermediate lane (5.50 m) to double lane (7 m) road of 39 km from Godbhaga to Turum with an estimated cost of ₹ 50.75 crore, only 18 months were provided. On the contrary, for a smaller work of widening of single lane (3.66/3.75m) to intermediate lane (5.50 m) road of 24.3 km from Bijepur to Dubulabahal with an estimated cost of ₹ 21.05 crore, 24 months were provided. Further, no escalation charges were to be paid to the contractor on material/POL and labour where the stipulated completion period was 18 months. Audit verification showed that though both the works were in the same district and plain terrain, the Department had unnecessarily provided time beyond 18 months which led to avoidable payment of ₹ 0.69 crore towards escalation on materials/POL component. Besides, incentive of ₹ 1.14 crore was also payable to the contractor for early completion of the work

(completed in August 2015 before the stipulated date of completion i.e. 19 November 2015).

The Government stated (September 2016) that payment of escalation charges/incentives was made as per contract conditions. The reply should be viewed in the light of the fact that the completion of the projects was delayed, necessitating the escalation charges, owing to the department's failures.

2.1.8.12 Lack of maintenance of roads completed with NABARD assistance

NABARD's terms and conditions for grant of loan stipulated that State Government should make adequate arrangements for maintenance of roads. As per IRC specifications, roads are to be constructed with life span of 10 years. It was, however, observed that NABARD assisted roads, which had not completed their design life of 10 years, were proposed for improvement as these were stated to be worn out. Details of cases for improvement of NABARD assisted roads before the expiry of their design life are discussed below:

- Six kilometres of Harishankar-Udyanbandha Road (0-6 km) were completed at a cost of ₹ 2.53 crore in October 2007. Periodical renewal of the above road such as providing semi dense bituminous concrete was done in August 2012. Work for improvement and widening of this road was taken up at a cost of ₹ 12.17 crore in February 2015. The project proposal indicated that there was no existing crust and hence new road was to be constructed. In the absence of Benkelman Beam Deflection Technique, thickness of pavement already constructed earlier could not be established. Nevertheless, the estimates for roads taken up in 2015 provided for granular sub base, wet mix macadam, bituminous macadam and semi dense bituminous concrete for the entire width of road without considering the existing crust. The above undue provision inflated the estimate which led to avoidable expenditure of ₹ 6.53 crore.

The Government stated (September 2016) that the matter was being examined and course of action would be intimated to audit.

- Five¹⁷ roads of 119 km length had been completed under RIDF between 2008 and 2011 at a cost of ₹ 32.21 crore. Before completion of 10 years, 65 km out of the above mentioned 119 km already completed were stated to be in distressed condition. The department, instead of taking up repair and maintenance of these roads from State fund, had taken up for improvement at a cost of ₹ 68.03 crore with NABARD assistance in 2013-15.

The Government stated (September 2016) that the roads were earlier improved on single lane standard and, in due course, these roads were taken up for widening. The reply was not acceptable since the roads were improved keeping in view the projected traffic growth and the above roads continued to be classified as other district roads only. As such,

¹⁷ Kuakhia-Baruan-Bari-Kalamatia Road, Panikoili-Ragadi Road, Jarada-Tumba Road, Odagaon-Bahadajhola-Nuagaon Road and Ranital-Kupari Road

upgradation of these roads before their design life was in violation of NABARD guidelines.

- Sathipur-Jajpur-Mangalpur-Kayangola Road was completed at a cost of ₹ 22.94 crore with assistance from NABARD between May and August 2010. Within five years, the entire road was again taken up for improvement at a cost of ₹ 54.25 crore in 2014-15 under State Highway Development Project. The estimates of the above road provided GSB and BM without considering the crust in the existing roads.

The Government stated (September 2016) that the matter was being examined and course of action would be intimated to audit.

- Godbhaga-Turum road with 5.5 m width was completed at a cost of ₹ 22.09 crore between August 2012 and August 2015 in two phases. In December 2015, the Department took up the road for widening from 5.50 m to 7 m and for strengthening at a cost of ₹ 44.90 crore under State Highway Development programme. The estimate for the works did not consider pavement thickness of the existing roads as their condition was stated to be below standard. An additional provision for WMM for the existing road, valued at ₹ 5.65 crore, was also provided.

The above facts were indicative of construction of roads without ensuring proper quality.

The Government stated (September 2016) that the matters were being examined and course of action would be intimated to audit.

2.1.9 Internal control and Monitoring

2.1.9.1 Management meetings not held

Contract condition stipulated that either the Engineer or the Contractor might require the other to attend a management meeting to discuss issues or constraints in execution of work and to resolve them. The business of the management meeting would be to review the plans for completing remaining works and to deal with the matters raised for early completion of the projects. No such management meetings were held to sort out the bottlenecks in execution of the projects. This indicated absence of adequate internal control and monitoring mechanism for the projects undertaken with NABARD assistance. In this context it may be pointed out that 34 projects could not be completed in time.

The Government stated (September 2016) that contract management meetings were held wherever situation warranted. However, there were no records of such meetings having been held.

2.1.9.2 Non completion of projects and non levy of penalty

Time being the essence of any project, the Department was to ensure that the projects were completed in time. Further, NABARD guidelines stipulated that the projects should be completed within three years. The details of projects sanctioned, projects due for completion and actual number of projects completed are given in the table below:

Table No. 2.5: Details of projects sanctioned, due for completion and in progress

| Sl. No. | Year/ Tranche | No. of projects Sanctioned | No. of projects due for completion by March 2016 including previous tranches | No. of projects completed | No. of projects in Progress |
|---------|--------------------|----------------------------|--|---------------------------|-----------------------------|
| 1 | 2011-12/XVII | 42 | 42 | 36 | 6 |
| 2 | 2012-13/ XVIII | 46 | 46 | 32 | 14 |
| 3 | 2013-14/XIX | 29 | 29 | 17 | 12 |
| | Total | 117 | 117 | 85 | 32 |
| 4 | 2014-15/XX | 58 | 0 | 20 | 38 |
| 5 | 2015-16/XXI | 20 | 0 | 0 | 20 |
| | Grand Total | 195 | 117 | 105 | 90 |

Source: Data provided by CE (WBP)

It may be seen from the above table that 117 projects sanctioned during 2011-14 were due for completion by March 2016. Out of 117 projects, 85 projects were completed and as of March 2016, the remaining 32 projects with sanctioned cost of ₹ 618.68 crore were at various stages of execution. Only 73 per cent of the projects were completed within five years. It was observed from the test checked divisions that 34 road/bridge projects (including four projects of previous tranches), taken up at an estimated cost of ₹ 579.70 crore between February 2011 and June 2015 for completion between February 2013 and March 2016, were not completed as scheduled and were in progress with payment of ₹ 403.03 crore. As of March 2016, the delay ranged between 13 and 1,862 days. Review of correspondence between the department and contractors showed that the delay in execution of works was attributable only to the contractors. Despite delay by the contractors, the Department had not levied liquidated compensation of ₹ 57.97 crore as per condition 2(a) of the contract (*Appendix 2.1.15*).

The Government stated (September 2016) that the matter would be examined with reference to reasons of hindrances.

2.1.10 Non submission of Project Completion Report

NABARD guidelines stipulated that the State Government should submit Project Completion Report (PCR) in respect of each of the sanctioned project within one month after completion of the project. Tranche-wise details of projects sanctioned, completed and PCR submitted are given below:

Table-No. 2.6: Details of projects completed and PCR submitted

| Sl. No. | Year/ Tranche | No. of projects sanctioned | No. of projects due for completion including previous tranches | No. of projects completed | PCR submitted | Percentage of submission of PCR |
|---------|---------------|----------------------------|--|---------------------------|---------------|---------------------------------|
| 1 | Up to 2010-11 | 382 | 382 | 363 | 244 | 67 |
| 2 | 2011-12/XVII | 42 | 42 | 36 | 8 | 22 |
| 3 | 2012-13/XVIII | 46 | 46 | 32 | 11 | 34 |
| 4 | 2013-14/XIX | 29 | 29 | 17 | 3 | 18 |
| 5 | 2014-15/XX | 58 | 0 | 20 | 2 | 10 |
| 6 | 2015-16/XXI | 20 | 0 | 0 | 0 | - |
| | Total | 577 | 499 | 468 | 268 | |

Source: Data provided by CE (WBP)

The Government stated (September 2016) that PCR's were submitted on financial completion of projects. The remaining PCR's would be submitted in due course.

2.1.11 *Non adherence to environmental guidelines*

As per guidelines, trees uprooted during construction or improvements of a road were to be compensated by planting equal number of trees. Moreover, constructed/improved roads were to be accompanied by road-side plantation of trees to make them eco-friendly. However, it was observed that wherever the trees were uprooted, the EEs had not provided for plantation of trees in the estimate/agreement and there was no provision for road side plantation of trees.

The Government stated (September 2016) that cutting of trees was allowed by the concerned territorial Forest Division after enumerating the trees to be cut. Funds for cutting of trees and plantation were deposited with OFDC and plantation division of Forest Department respectively. However, plantation had not been done till the date of audit.

2.1.12 *Conclusion*

The Works Department did not have any streamlined procedure for selection and prioritisation of road/bridge projects for loan assistance under RIDF from NABARD. Though the Department had prepared a road sector management plan through a consultant, it did not make use of the same because of non-approval by Government. The projects were selected on ad-hoc basis and executed in a piecemeal manner. Though NABARD insisted on construction of road projects as per IRC specifications, there were several instances of gross deviations leading unwarranted extra expenditure. Bridge projects were commenced without ensuring availability of requisite land for approach roads and there were delays due to lack of proper design. There were instances of delay in acceptance of tender leading to retender, delay and extra cost. Inadmissible projects were got sanctioned for loan assistance under RIDF. The internal control and monitoring mechanism were not adequate since 34 projects were still in progress even after delays up to 1,862 days.

2.1.13 *Recommendation*

It is therefore, recommended that

- Master plan for prioritisation and selection of road and bridge projects may be approved to avoid selection of projects on ad-hoc basis in future.
- For construction of roads, IRC specification may be scrupulously followed to achieve economy.
- Land acquisition and finalisation of design of bridges may be expedited for timely completion of projects.
- Finalisation and acceptance of bids within the prescribed time limit may be ensured and contract management strengthened.

Chapter III

Compliance Audit

| Para Number | Topics | Page |
|-------------|---|-------|
| 3.1 | National Horticulture Mission | 35-43 |
| 3.2 | Implementation of Integrated Coastal Zone Management Project | 43-55 |
| 3.3 | Non realisation of interest on delayed payment of Net Present Value | 55-56 |
| 3.4 | Non disposal of Timber and poles | 56 |
| 3.5 | Non levy of interest on belated payment of royalty | 57 |
| 3.6 | Undue payment to Contractors | 57-58 |
| 3.7 | Avoidable payment of service tax | 58-59 |
| 3.8 | Extra cost due to provision of excess lead | 59-60 |
| 3.9 | Extra expenditure due to adoption of manual excavation | 61 |
| 3.10 | Non deduction of voids led to excess payment | 62 |
| 3.11 | Extra expenditure and undue benefit to contractor | 63-64 |
| 3.12 | Undue benefit to contractor due to provision of extra lead | 64-65 |
| 3.13 | Extra cost due to inclusion of inadmissible charges | 65-66 |
| 3.14 | Extra expenditure due to unwarranted provision of surface dressing | 66 |
| 3.15 | Avoidable extra expenditure | 67-68 |
| 3.16 | Avoidable extra expenditure | 68-69 |
| 3.17 | Response to audit | 69-71 |

Chapter III Compliance Audit

Compliance audit of Departments of Government and their field formations brought out several instances of lapses in management of resources and failure in observance of regularity, propriety as well as absence of good governance. These have been discussed in the succeeding paragraphs.

DEPARTMENT OF AGRICULTURE AND FARMERS' EMPOWERMENT

3.1 *National Horticulture Mission*

3.1.1 Introduction

The National Horticulture Mission (NHM) was launched during 2005-06 as a centrally sponsored scheme with 100 *per cent* assistance from Government of India (GoI). From 2007-08 it was revised and implemented on sharing basis between the GoI and State at the ratio of 85:15 and, thereafter, at 60:40 from 2015-16 onwards. The objective of the Mission was to enhance horticulture production, improve nutritional security and provide income support to farmers' households through growth of horticulture sector.

NHM was initially implemented in 14 districts during 2005-06 and in all 30 districts from 1 April 2012. The scheme was implemented by the Director of Horticulture (DH) through Odisha Horticulture Development Society (OHDS) assisted by Deputy Director of Horticulture (DDH) and Assistant Director of Horticulture (ADH) under the overall supervision of the Principal Secretary, Department of Agriculture and Farmers' Empowerment.

Audit was conducted from April to July 2016 covering the period 2011-16 in five¹⁸ districts that accounted for the highest expenditure incurred among all districts. As of March 2016, an expenditure of ₹ 400.34 crore has been incurred. Audit objectives were to assess the adequacy of planning and implementation of the programme with economy, efficiency and effectiveness.

3.1.2 Audit Findings

3.1.2.1 Productivity of Fruits and Vegetables in Odisha

As per the Annual Action Plan prepared for implementation of NHM, the agro-climatic conditions in Odisha were suitable for perennial fruit crops¹⁹, annual fruit crops²⁰ and a whole range of vegetables. The productivity of fruits and vegetables in Odisha was 6.10 metric tonne per hectare and 11.60 metric tonne per hectare, respectively, in 2001-02 before introduction of NHM.

Audit observed that despite favourable climatic conditions and, after incurring expenditure of ₹ 400.34 crore under NHM during 2011-16, there was no

¹⁸ Balangir, Boudh, Kandhamal, Mayurbhanj and Sambalpur

¹⁹ Guava, Lime, Litchi, Mango and Orange

²⁰ Banana, Papaya and Pineapple

significant improvement in fruit and vegetable productivity as detailed in the table below:

Table No. 3.1: Productivity of Fruits and Vegetables in Odisha.

(Metric Tonne per Hectare)

| Year | Productivity of Fruits | | | | Productivity of Vegetables | | | |
|---------|------------------------|-------------|-------------------|--------|----------------------------|-------------|-------------------|--------|
| | Andhra Pradesh | West Bengal | All India Average | Odisha | Andhra Pradesh | West Bengal | All India Average | Odisha |
| 2011-12 | 14.70 | 14.10 | 11.40 | 6.50 | 18.20 | 17.60 | 17.40 | 13.80 |
| 2012-13 | 14.80 | 14.40 | 11.60 | 6.70 | 17.60 | 18.90 | 17.60 | 13.80 |
| 2013-14 | 16.40 | 13.00 | 12.30 | 6.60 | 18.50 | 16.70 | 17.30 | 13.90 |
| 2014-15 | NA | NA | NA | 6.59 | NA | NA | NA | 13.88 |
| 2015-16 | NA | NA | NA | 6.52 | NA | NA | NA | 13.48 |

(Source: Indian Horticultural Data Base 2014 published by NHB and information furnished by DH)

During 2011-16, per hectare productivity of fruits ranged between 6.50 and 6.70 MT and that of vegetables ranged between 13.48 and 13.90 MT in Odisha. However, the average production per hectare (productivity) in Odisha in respect of fruits and vegetables was far less than that of neighboring states of Andhra Pradesh and West Bengal and also the all India average as per statistical data issued by the National Horticulture Board for the period up to 2013-14. Seasonal diseases, non-availability of fertilisers, guides to recommend appropriate fertiliser, lack of soil test for suitable crops and lack of high yielding variety of crops were the reasons for low production, as per the impact assessment on NHM conducted during January 2013 to February 2013 by Indian Council of Market Research (ICMR) for the period 2005-12. Though the department had taken action for plantation of high yielding variety of crops from 2014-15, no action was taken to address the other deficiencies.

3.1.2.2 Deficiency in planning

Operational guidelines of NHM stipulate that the State Level Executive Committee must prepare Strategic/Perspective Plan, Annual Action Plan (AAP) and a road map for overall development of horticulture after conducting base line surveys and feasibility studies. It was, however, observed that no base line survey was conducted to ascertain the feasibility of growing horticulture plants and hence no Strategic or Perspective plan was also prepared. In the absence of Perspective/Strategic plan, preparation of Annual Action Plan without base line surveys led to wide variations between targets fixed and achievements thereagainst. The details of above variations and their impact are discussed in the succeeding paragraphs.

3.1.2.3 Project Implementation

Under NHM assistance was given for nurseries, new gardens, rejuvenations, creation of water sources, protected cultivation, organic farming, post harvest management, market infrastructure etc. The physical and financial targets and

achievements under various components of NHM during the five years ending March 2016 are given in *Appendix 3.1.1*.

It may be seen from the appendix that physical achievements in activities like establishment of nurseries, rejuvenation, pollination support through bee keeping and post harvest management were not commensurate with targets. This was also observed by the Department of Agriculture & Co-operation, GoI while assessing (February 2012 and May 2012) the physical and financial progress of NHM in the state. Instructions were also issued by the Mission Director (NHM) to look into the various suggestions made by the Ministry and ensure their effective implementation.

Besides, Annual Action Plans had highlighted uncertainty about market stability and exploitation of farmers by middlemen. Though establishment of market infrastructure was very much essential, there was no significant achievement in establishment of market infrastructure as mentioned in para 3.1.2.13.

3.1.2.4. Establishment of nurseries

As per operational guidelines of NHM, production and distribution of good quality seeds and planting material are an important component of the Mission. Assistance is to be given for establishment of nurseries both in public and private sector. Planting materials for NHM are to be procured from the accredited nurseries.

It was observed that during 2011-16, against the target of 25 model nurseries and 46 small nurseries, 24 model nurseries and 14 small nurseries were established incurring expenditure of ₹ 4.50 crore in the state. The shortfall in establishment of small nurseries was as high as 70 per cent. It was further observed that in five test checked districts, against the target of one model nursery and five small nurseries, only one small nursery was established. Due to shortfall in establishment of targeted model nurseries and small nurseries in five test checked districts, 10.91 lakh saplings were procured for ₹ 1.95 crore during 2011-16 from other states.

3.1.2.5 Establishment of new gardens

NHM guidelines envisage assistance for cultivation of horticultural crops for a maximum area of four hectare per beneficiary spread over a period of three years in the ratio of 60:20:20 in the first, second and third year respectively depending upon the nature of the crop. Assistance for the second and third year would be subject to survival rate of the new gardens/plants. The minimum survival rates in the second and third year are 75 per cent and 90 per cent respectively.

During 2011-16, against a target of covering 22,790 hectares for cultivation of different crops, the department covered 23,602 hectares for ₹ 25.25 crore. It was observed that in four²¹ test-checked districts, mango and K.lime (citrus) were planted in 3,630 hectare in the first year during 2011-14. However, survival of plants was 2,511 hectare during the second year (69 per cent)

²¹ Balangir, Kandhamal, Mayurbhanj and Sambalpur,

against stipulation of 75 per cent and during the third year survival was 1,334 hectare (37 per cent) against stipulation of 90 per cent. As such, during 2011-14, survival of plants was much less than the expected levels.

Deputy Directors of Horticulture stated that lack of proper care by farmers, lack of water sources, damage by cattle in absence of fencing and non-conducting of regular inspection of the plantation due to shortage of staff were the reasons for lower survivals.

The reply should be viewed in the light of the fact that no soil test was conducted to determine suitability of crops, technical man power had not been strengthened for regular inspection of the plantation and no attention was paid to guiding the farmers as instructed by Mission Director, GoI/ MoA in September 2012.

3.1.2.6 Rejuvenation

Under NHM productivity improvement programme through removal of plants more than 20-25 years old and plantation of fresh stock was to be taken up through pruning and grafting. Assistance for the rejuvenation/replacement was at 50 per cent of the cost subject to ceiling of ₹ 15,000 per ha up to 2013-14 and ₹ 20,000 from 2014-15, limited to two hectare per beneficiary.

It was observed that against the target of rejuvenation of 3,250 hectares as per Annual Action Plan, 2,722 hectares (84 per cent) were rejuvenated during 2011-16. In four²² test checked districts, rejuvenation of plants below 12 years was done in 411.51 hectares against the target of 850 hectares and subsidy of ₹ 68.23 lakh was paid. Thus subsidy of ₹ 68.23 lakh was released violating the NHM guidelines. In Kandhamal district, rejuvenation activity was not taken up during 2011-16.

On this being pointed out, Deputy Directors of Horticulture, Balangir and Sambalpur and Assistant Director of Horticulture, Boudh stated that mango plants of 20 years and above were not available and hence canopy management²³ was taken up. The replies were not acceptable since the NHM guidelines stipulate removal of plants of 20-25 years and re-plantation of fresh stock to be taken up through pruning and grafting for more production.

3.1.2.7 Creation of Water Sources

Under NHM, subsidy was provided for creating water sources through construction of tanks and farm ponds with plastic/Reinforced Cement Concrete (RCC) lining. The above subsidy was available to a community of farmers as well as for the individual farmer. The guidelines stipulated that for smaller ponds/tanks, subsidy/cost would be admissible on prorata basis. For community tanks of 100m x 100m x 3m size, subsidy of ₹ 15 lakh, being 100 per cent of estimated cost, was given up to 2013-14 and it was increased to ₹ 20 lakh from 2014-15. During 2011-16, 7042 tanks/ponds of different sizes for communities as well as individual farmers were constructed for which subsidy for ₹ 38.06 crore had been released. It was observed that:

²² Balangir, Boudh, Mayurbhanj and Sambalpur

²³ Canopy management: Removal of un-productive, disease affected, criss-cross branches and water shoots

- In Boudh and Kandhamal districts, though 45 community tanks of smaller size²⁴ were constructed, DDH/ADH released subsidy of ₹ 2.83 crore against subsidy of ₹ 1.29 crore due. This resulted in release of excess subsidy of ₹1.54 crore to the beneficiaries in violation of NHM guidelines (*Appendix 3.1.2*).
- For construction of farm pond of 20m x 20m x 3m size, subsidy at the rate of 50 per cent of estimated cost of ₹ 1.20 lakh (including cost of Plastic/RCC lining) was to be provided upto 2013-14. The department had constructed 1,437 farm ponds in the five test check districts for ₹ 8.20 crore without plastic lining during 2012-14. Scrutiny of records showed that the DDH/ADH did not ensure plastic lining on these ponds as specified by NHM guidelines (*Appendix 3.1.3*).

3.1.2.8 Protected Cultivation

NHM guidelines envisage construction of shade net houses and green houses to increase production and, as per specifications, the structure is to withstand wind velocity up to 150 km/hour. Warranty of minimum one year against any defects should be provided. The scheme provided subsidy at 50 per cent of the cost.

During 2011-16, against the target of covering 11,331 hectares, 28,665 hectares (253 per cent of target) were covered with funding of ₹ 88.09 crore. It was observed that:

- In test-checked districts, 548 shade net houses/green houses were erected with subsidy of ₹ 19.22 crore. However, after erection of structures and commencement of cultivation of horticultural crops, the DDH/ADH had not collected the production particulars from the beneficiaries to assess proper utilisation of subsidy and also to ensure increase in production. On this being pointed out, DDH/ADH stated that production particulars would be collected from the beneficiaries.
- In Mayurbhanj, Boudh and Kandhamal districts, 62 structures erected during 2013-16 with subsidy of ₹ 4.47 crore were damaged between May 2015 and March 2016. DDH, Mayurbhanj reported (April 2016) that the damage to the structure was due to use of materials not conforming to the standard for construction. It was further stated that the erector of the structures had been requested to reconstruct the structures. The structures were not repaired as of June 2016.

3.1.2.9 Organic Farming

NHM guidelines (Para 8.28) stipulate that for organic cultivation of vegetables, maximum assistance of ₹ 10000 per hectare spread over a period of three years would be provided to individual beneficiary farmers. For groups of farmers, financial assistance up to ₹ 5 lakh for an area of 50 hectare would be provided.

²⁴ Size(54m x50m x3m), (37m x 37m x 3m), (35m x 35m x 4m), (40m x 40m x 3.2m) and (65m x 25m x 3.2m)

It was, however, observed that agreements were signed for ₹ 29.00 crore and funds of ₹ 23.80 crore were released to promoting agencies like companies and societies as per the decision taken in Executive Committee meeting of OHDS in January 2011 for organic farming, in violation of NHM guidelines. The schemes failed due to the following reasons.

- The technical promoters of Bhubaneswar Regional Co-operative Marketing Society left the project mid season and disappeared with ₹ 75 lakh.
- Agriculture Financial Corporation Ltd. worked through a technical partner, viz. International Traceability System Ltd. However no work was being carried out since employees were not paid for long period.
- Projects were implemented by the agencies through technical partners leading to irregularities /shortcomings.

It was further observed that no impact study on soil, socio-economic development of farmers, increase in productivity and awareness of farmers of vermi-composting was conducted by the implementing agencies. In reply, Director, Horticulture stated (July 2016) that the report would be submitted after receipt of the same from the field. Thus selection of agency, instead of individual or group of farmers, for organic farming and release of subsidy of ₹ 23.80 crore was in gross violation of NHM guidelines.

3.1.2.10 Vermi beds

As per NHM guidelines (Para 8.29), subsidy was available at 50 *per cent* on the cost of vermi beds subject to a maximum of ₹ 5000. Compost was to be used as organic manure. As per instructions of Director of Horticulture, ADH/DDH in each district was to arrange supply of the above units and also training of groups of farmers.

During 2014-16, in the five selected districts, 3997 vermi beds were supplied to farmers for which ₹ 1.64 crore subsidy was released. It was observed that the DDH/ADH had not conducted verification on functioning of vermi beds and the production and use of organic manure in organic farming. In reply, DDH/ADH stated that due to implementation of a number of schemes and inadequate man power, verification of functioning of vermi beds and production of organic manure could not be done. This indicated that there was total lack of monitoring of implementation.

3.1.2.11 Pollination support through Bee Keeping.

NHM guidelines (Para 8.44) state that to maximise agricultural production, honey bee can be used as an important input for pollination support. Bee colonies in orchards would improve productivity of horticulture crops and increase income of farmers through honey production.

The Executive Committee in their Meeting of OHDS had decided (February 2012) to supply bee boxes with hives to 2000 farmers in eight districts with extensive forest cover at ₹ 2750 per set. From February to May 2012, 1999 sets of beehives with bee colonies of “*Apis Mellifera*” variety and accessories

were purchased for ₹ 54.97 lakh and distributed among farmers. “Apis Mellifera” an Italian bee species, could not survive in Odisha due to climatic condition. It was observed that without conducting any evaluation of survival of the particular bee species, 8714 more sets were purchased for ₹ 1.28 crore from January to April 2013 and distributed among farmers. The bees could not survive and the bee boxes and accessories remained unused by the farmers till date, thereby rendering the entire expenditure unfruitful.

On this being pointed out, it was stated that bee colonies had been developed in 10 Government farms and they produced colonies of two species of bee i.e. Apis Cerena and Indica bee suitable for Odisha state. However, it was observed from the progress report sent to GoI/NHM that achievement of production of bee colonies by bee breeders was shown as “nil” during 2012-16.

3.1.2.12 Post Harvest Management

NHM guidelines (Para 8.54) envisaged creation of network of infrastructural facilities for storage, transportation, marketing, packaging, grading and export of horticultural products. To minimise post-harvest losses and enhance marketability subsidy was provided up to 50 per cent of cost of pack houses (on farm collection and storage units), pre cooling units, mobile cooling units and cold storage units. Against the target of establishing 9999 post harvest units, 5245 units (52 per cent) were established during 2011-16 incurring expenditure of ₹ 63.83 crore. It was observed that while the annual average production of fruits and vegetables was 115.26 MT, post-harvest storage infrastructure²⁵ created was for 0.87 MT only. To an audit query, Joint Director replied that due to non-financing and delayed financing of projects by banks and other financial institutions, the projects could not be taken up by the entrepreneurs in time.

It was further observed that:

- DDH, Kandhamal had released ₹ 72 lakh in February 2014 to Project Administrator (PA), Integrated Tribal Development Agencies (ITDA), Baliguda towards subsidy for provision of six refrigerated vans of four tonne capacity. However, no report on implementation and utilisation certificate relating to the above project was submitted by PA, ITDA, Baliguda as of June 2016.
- DDH, Balangir had paid ₹ 76.47 lakh to a beneficiary during 2010-12 for establishment of 5000 MT cold storage. During a joint verification with ADH, Titlagarh, it was observed that the cold storage remained locked and was not operational. To an audit query regarding the reasons for non functioning of the cold storage, DDH stated (May 2016) that due to non- repayment of loan, the cold storage had been taken over by State Bank of India and electricity supply was also disconnected due to non-payment of dues. Thus due to non functioning of the cold storage, the subsidy of ₹ 76.47 lakh released thereagainst was wasteful.

²⁵ 44 pre cold chamber, 12 cold storage units, 208 evaporative low energy cool chambers, 1732 onion storage structure, 14 refrigerated vans, three ripening chambers, 1052 pusa zero energy cool chambers.

3.1.2.13 Establishment of Market Infrastructure

NHM guidelines (Para 8.60 and 8.62) state that for the purpose of marketing, infrastructure like Terminal Markets, Wholesale Markets, Rural Markets (Direct Markets) etc. with subsidy of 50 *per cent* were to be established. It was observed that against the target of establishing 277 units of market infrastructure, 46 units only were set up during 2011-16 (*Appendix 3.1.4*). Though the department had identified difficulties like uncertainty of market stability, exploitation of farmers by middlemen as mentioned in the Annual Action Plan, it, however, did not address these difficulties due to non achievement of target for market infrastructure.

3.1.3 Financial Management

Based on the AAPs submitted by the State Level Executive Committee (SLEC), GoI, Ministry of Agriculture (MoA) communicated tentative outlay every year. The GoI released funds depending upon the progress made by the State Mission.

Director of Horticulture, Odisha, Bhubaneswar-cum-Secretary, Odisha Horticulture Development Society received ₹ 424.09 crore during 2011-16 under NHM (from GoI ₹ 329.65 crore and GoO ₹ 94.44 crore). Of the above amount, ₹ 400.34 crore was utilised leaving unspent balance of ₹ 26.92 crore at the end of 31 March 2016 including accrued interest of ₹ 1.69 crore. The details of fund requirement as per AAP, receipts from the GoI and GoO and utilisation thereof are given in *Appendix 3.1.5*.

It can be seen from the *Appendix 3.1.1* that:

- GoI released funds as per targets fixed in AAP. However, due to fixation of targets in AAPs without baseline survey, there was wide variation in financial achievement under various components.
- Under components like establishment of nursery, rejuvenation could not meet financial target for release of subsidy due to lack of interest of farmers. In respect of components of post harvest management units and marketing infrastructure, subsidy could not be released in many cases as they were linked with sanction of loan by banks to the farmers.

3.1.4 Internal Control Mechanism and Monitoring

The internal control and monitoring of NHM schemes were deficient. New gardens were being established year after year in excess of targets fixed in AAP. However, the survival of plants was below the stipulated level, indicating lack of regular monitoring and inspection by the field functionaries as the availability of technical manpower was between 57 to 64 *per cent* of sanctioned strength during 2011-16. The release of subsidy for community tanks without assessing their sizes and for individual farm ponds without ensuring laying of plastic lining indicated poor internal control and monitoring.

3.1.5 Evaluation

The schemes of NHM have been under implementation in the state since 2005-06. The Odisha Horticulture Development Society entrusted evaluation of impact of NHM scheme to a third party viz, Institute of Central Marketing Research, Bhubaneswar. The third party evaluated the programme during January and February 2013 in 10 selected districts²⁶. The evaluation reports for the period 2005-12 disclosed that the plantations suffered due to seasonal diseases, non-availability of fertiliser guides to recommend appropriate fertilisers, lack of soil testing to plant suitable crops and lack of high yielding variety of crops.

This indicated that no significant improvements in productivity of horticulture crops were achieved and Odisha lagged behind in horticultural production despite release of considerable funds and coverage of large areas and beneficiaries.

3.1.6 Conclusion

Though National Horticulture Mission was implemented in the state since 2005-06, no base line survey was conducted to ascertain the feasibility of growing horticulture plants and no strategic or perspective plan was also prepared. In the absence of Perspective/Strategic plan, preparation of Annual Action Plan led to wide variations between targets fixed and achievements. The department did not take effective action to strengthen technical manpower at field level for regular inspection of plantation and guidance to farmers despite GoI instructions (September 2012). The monitoring of scheme implementation was deficient which led to poor survival of plants, release of excess subsidy for creation of water sources, erection of shade nets with low quality materials, handing over of organic farming to private agencies without any follow up and non utilisation of subsidy released for establishment of market infrastructure. Saplings were procured from another state due to non establishment of small nurseries. No action was also taken on issues pointed out in the third party evaluation report.

FOREST AND ENVIRONMENT DEPARTMENT

3.2 Implementation of Integrated Coastal Zone Management (ICZM) Project in Odisha

3.2.1 Introduction

The Ministry of Environment Forest and Climate Change, Government of India (GoI) and the World Bank had formulated (March 2010) an Integrated Coastal Zone Management (ICZM) approach to co-ordinate activities of various sectors and resource users for the sustainable management and prudent use of coastal resources. The ICZM project was being implemented by GoI in three States i.e. Odisha, West Bengal and Gujarat on a pilot basis. The coastline of Odisha is 480 km long with ecologically sensitive areas like Chilika lake, Bhitarkanika mangroves and turtle nesting grounds at

²⁶ Angul, Balangir, Sundargarh, Kalahandi, Kandhamal, Keonjhar, Koraput, Mayurbhanj, Nabarangpur and Puri

Gahirmatha, Devi and Rushikulya river mouth. Odisha coast is subject to cyclones and super-cyclones inflicting great loss of lives and property. However, at present the six coastal districts of Balasore, Bhadrak, Kendrapara, Jagatsinghpur, Puri and Ganjam support 36 *per cent* of the total population and 43 *per cent* of urban population of the state. Sustainable management of coastal and marine resources is essential for long term economic growth and maintenance of equilibrium between economic development and the protection of the environment.

The Cabinet Committee on Economic Affairs (CCEA) under GoI had approved (March 2010) project outlay of ₹ 1155.63 crore both for the National and State level components which included 77.7 *per cent* World Bank Assistance, 12.3 *per cent* GoI assistance and 10 *per cent* State Government's contribution. The project in Odisha commenced in September 2010 with project outlay of ₹ 201.62 crore to be completed in five years, which was subsequently (November 2015) extended up to December 2017 due to natural calamities and the outlay was revised to ₹ 334.86 crore. As of March 2016, an expenditure of ₹ 192.61 crore has been incurred under this project.

As per the agreement signed between GoI and the World Bank (International Development Association-IDA), piloting ICZM in Odisha included:

- Preparation of an ICZM Plan for the coastal stretches of Paradeep-Dhamra and Gopalpur-Chilika;
- Carrying out a series of capacity-building activities for Forest & Environment Department, Odisha State Pollution Control Board and Chilika Development Authority;
- Carrying out pilot investments, including related capacity support activities, in both the stretches of Paradeep-Dhamra and Gopalpur-Chilika and
- Provision of technical advisory services and logistical support for the management and operation of Odisha State Project Management Unit (SPMU).

To manage the project and achieve its objectives, a registered society, namely, ICZM Society of Odisha was formed (July 2010) to act as the Project Management Unit (PMU). The SPMU was to collaborate with 10²⁷ Departments and specialised agencies known as Project Executing Agencies (PEA).

Audit of implementation of ICZM project in Odisha was conducted during April to June 2016 covering SPMU and seven²⁸ out of ten PEAs with the objective of ascertaining whether the project was implemented efficiently, economically and effectively and as per the project guidelines.

²⁷ Department of Water Resources, State Pollution Control Board (SPCB), Odisha State Disaster Management Authority (OSDMA), Department of Forest and Environment (Wildlife), Fisheries and Animal Resources Development Department, Chilika Development Authority (CDA), Tourism Department, Department of Housing and Urban Development, Culture Department and Department of Industries.

²⁸ Department of Water Resources, State Pollution Control Board (SPCB), Odisha State Disaster Management Authority, Department of Forest and Environment (Wildlife), Fisheries and Animal Resources Development Department, Chilika Development Authority and Tourism Department.

Audit Findings

3.2.2 Fund Management

3.2.2.1 Inadequate fund flow

Position of fund flow from both central and state shares to ICZM project during 2010-16 along with expenditure incurred during the corresponding period and amount for which utilisation certificate (UC) were submitted are given below:

Table No.3.2: Table showing Fund flow during 2010-16

(₹ in crore)

| Year | Requirement of Central share of funds as submitted by SPMU | Funds released | | | Expenditure incurred | UC submitted | |
|--------------|--|----------------|--------------|---------------|----------------------|---------------|--------------|
| | | Central Share | State Share | Total | | Central share | State share |
| 2010-11 | 76.72 | 35.98 | 4.66 | 40.64 | 2.07 | 1.86 | 0.21 |
| 2011-12 | 58.47 | 30.00 | 6.00 | 36.00 | 11.45 | 10.31 | 1.15 |
| 2012-13 | 0.00 | 0.00 | 4.50 | 4.50 | 31.15 | 28.03 | 3.11 |
| 2013-14 | 0.00 | 23.00 | 10.90 | 33.90 | 62.47 | 48.78 | 6.25 |
| 2014-15 | 97.07 | 35.00 | 7.11 | 42.11 | 52.89 | 35.00 | 5.29 |
| 2015-16 | 108.35 | 23.00 | 0.32 | 23.32 | 32.58 | 23.00 | 3.26 |
| Total | 340.61 | 146.98 | 33.49 | 180.47 | 192.61 | 146.98 | 19.27 |

Source: Data collected from SPMU

It can be observed from the table that against the total outlay of ₹ 334.86 crore, SPMU submitted requirements of ₹ 340.61 crore. No requirement was submitted by SPMU during 2012-14 since central share released during 2010-12 could not be spent in full. Though the state's share of ₹ 33.49 crore was released in full, GoI, however, released ₹ 146.98 crore (49 per cent) against their share of ₹ 301.37 crore. This adversely affected the project as there were pending bills of ₹ 14.07 crore (40 packages) as of March 2016. Further, against total receipt of ₹ 180.47 crore, an amount of ₹ 192.61 crore was spent. The excess expenditure was mainly incurred from the accrued interest.

The Government stated (August 2016) that funds could not be obtained from Govt. of India, though all out efforts were made by Department of Forest and Environment.

3.2.3 Institutional mechanism

3.2.3.1 Non-inclusion of Agriculture in the Project.

As per the Detailed Project Report (DPR) on alternative livelihood options under ICZMP, agriculture is the most important livelihood activity in the state. It provides employment to 64 per cent of the working population directly or indirectly as more than 76 per cent people in the State are dependent upon agriculture.

As per State Project Report of ICZMP agricultural fields from Rushikulya upto Dhamra are within two km from the coast and degradation of agricultural fields due to sea water incursion affects the crop production. However, the agriculture sector was not included in the project, thereby depriving the farmers from availing of the benefits from the project.

On this being pointed out, the Government stated (August 2016) that the Agriculture could not be included in the project since the Agriculture Department had failed to present their draft proposal, though invited for the purpose.

3.2.3.2 Programme implementation

ICZM Project in Odisha is carried out by SPMU and 10 PEAs. Total contracts taken up, contracts completed/in progress and contracts not commenced in ICZM as a whole and those in test checked units were as under:

Table No.3.3: Table showing status of project

(Contracts in number and ₹ in crore)

| | Contracts in ICZM Project | | Contracts in test checked units | |
|-------------------------|---------------------------|-------------|---------------------------------|-------------|
| | No. of contracts | Money value | No. of contracts | Money value |
| Total contracts | 247 | 296.48 | 204 | 242.57 |
| Contracts completed | 175 | 112.27 | 151 | 106.56 |
| contracts in progress | 57 | 128.27 | 45 | 119.91 |
| contracts not commenced | 15 | 55.94 | 8 | 16.10 |

Source: Data collected from SPMU

As per Schedule 2 section I A.5 of the agreement between GoI and IDA, the SPMU is responsible for the overall planning and management of different components of the project, providing guidance and support to the PEAs and monitoring their performance. The deficiencies noticed in implementation of project are discussed in the succeeding paragraphs.

3.2.3.3 Preparation of ICZM Plan

Audit observed that the SPMU had completed the Regional Coastal Process Study (RCPS) for ₹ 17.11 crore in June 2013 and generated primary data on coastal process for the entire coast of Odisha, based on sediment cells for a period of 12 months. The data generated was to be utilised for preparation of ICZM Plan. The work of preparation of ICZM Plan for priority sectors of Odisha coast was awarded (November 2015) to a firm for completion by February 2017. The plan was to address preservation of the valuable coastal environment, rational but sustained utilisation of its resources and at the same time facilitate the use of coastal zone for compatible developmental activities. As per the terms of reference, the firm had to submit the inception report within 45 days from the date of signing of the contract and, subsequently, the other components²⁹ which were to be approved by the Technical Advisory Committee (TAC).

²⁹ Spatial maps/ land use map (6 months), Land vulnerability map (8 months), Conceptual model (10 months), Shoreline management sub-plan draft (11 months), Shoreline Management sub-plan final (12 months), Sectoral spatial plans incorporating recommendations (13 months), ICZM Plan draft (14 months), Stakeholder consultation and conflict resolution report (14.5 months) and ICZM Plan Final and workshop (15 months).

Scrutiny of records showed that the firm had submitted the inception report on 22 February 2016 i.e. after 91 days of signing of the contract. The TAC had suggested (February 2016) some changes, such as, collecting hazard maps from all the line departments, taking up issues like ground water depletion, salinity, contamination of ground water and consulting stakeholders for identification of key issues. The firm submitted the modified inception report in June 2016 which was placed (June 2016) in the steering committee for review. However, the same was not approved till the date of audit. Thus the progress was not commensurate with the time schedule for completion.

3.2.3.4 Water Quality Monitoring Buoy System in Chilika Lake

The Detailed Project Report (DPR) stipulated that sensors were to be installed in different ecological sectors of Chilika lake for obtaining continuous data on salinity, temperature, conductivity, dissolved oxygen, pH, turbidity, chlorophyll and blue green algae on real time basis. The sensors were to be mounted on Sondes³⁰ inside the floating data buoys for transmitting the data telemetrically through Global System for Mobile (GSM) modem to the modelling computer located at the Wetland Research and Training Centre. This would eliminate human error while monitoring these parameters. The work of procurement of 10 water quality monitoring buoy system was awarded (March 2012) by Chilika Development Authority (CDA) to an agency for ₹ 3.17 crore for supply, installation, setting up of calibration centre, training of staff, annual maintenance charges etc. within 12 weeks on receipt of notice to proceed with work. The agency delivered the buoys by 10 July 2012 and was paid ₹ 2.54 crore as of March 2016. The buoys were installed (October 2012) successfully at 10 locations in Chilika lake.



Nine sensors in the laboratory



Three Buoys on the roof of WRTC

Scrutiny of records showed that the buoys had been transmitting data from 22 November 2012 on water quality. However, out of 10 buoys initially installed, six were vandalised during April 2013 to July 2015 by unidentified elements and only four were functioning and transmitting data. During physical verification (May 2016) with representatives of Chilika Development Authority (CDA), Audit found that of the six buoys, three buoys were on the roof and one was lying on the corridor of the Wetland Research and Training Centre (WRTC).

The Government stated (August 2016) that steps were being taken by the PEA to retrofit the damaged buoys early.

³⁰ Sondes are instruments equipped with optical sensors for assessing different parameters such as conductivity, pH etc.

It was further observed that in May 2014 the agency had proposed a tracking device to ensure safety of the buoys to avoid any vandalism. The tracker was to be powered from the buoy using an independent power battery. The rate offered by the agency was ₹ 0.15 lakh for each unit along with the battery plus running cost of the Subscriber Identity Module (SIM). However the CDA had not explored this option till the date of audit. Thus, the objective of monitoring key indicators of water quality could not be achieved despite incurring expenditure of ₹ 2.54 crore.

Accepting the factual position, the Government stated (August 2016) that no proposal had been sent by the CDA for procurement of buoy trackers. Thus, failure to take necessary action to ensure safety of the buoys had adversely affected water quality monitoring in Chilika lake and also rendered the expenditure unfruitful.

3.2.3.5 Plantation of mangroves

Plantation of mangroves was planned on 138 hectares of land, along the tidal rivers and creeks in Bhitarkanika area which was to act as natural cyclone shelter belt. Further, for protection of mangrove plantation, provision was made for fencing of 100 kms of the river bank, fixing of reinforced concrete pillars with PVC coated chain link mesh nets or strong plastic nets.



Plantation and fencing net at Jaudia

The work of ‘installation of plastic fence net and concrete pillars, digging of fishbone channels and plantation over 138 hectares of land’ were taken up between December 2011 and June 2015 in two phases through 19 contracts at ₹ 2.80 crore. The works were completed between November 2012 and December 2015 with payment of ₹ 2.38 crore.



Plantation and fencing at Devendranarayanpur

Check of records showed that the project co-ordinator ICZMP, during inspection (January 2014) of the plantation work, had observed that casualty of seedlings was more than 90 *per cent* in Chakmohanpur plantation. Survival in four³¹ other places was between 3 and 30 *per cent* as reported by the Forest Range Officer, Rajnagar (WL) Range. As reported (November 2013) by Additional Project Director (APD), operation, in all plantation areas, the concrete pillar posts of fencing were intact but the plastic nets had completely disappeared at many sites or damaged in most of the cases. The plastic nets utilised in the fencing were damaged prematurely resulting in damage of plantation as reported (April 2016) by DFO, Rajnagar.

The Government stated (August 2016) that efforts were being made to restore the planted sites to the desired survival levels by taking necessary corrective measures on war footing. The department attributed the damage of fencing net to severe cyclonic storms Phailin and Hudhud.

³¹ Chittakhola: 3 *per cent* , Charigharia: 3.5 *per cent* , Devendranarayanpur: 30 *per cent* and Goja: 26.5 *per cent*

3.2.3.6 Alternative livelihood creation through self-help groups under Fisheries Department

Fishermen form a sizable coastal population. The fishermen were prohibited from fishing in the sea within a radius of 20 kms from Gahirmatha area of Bhitarkanika wildlife sanctuary from 1 November to 31 May each year in the turtle congregation area and this adversely affected the livelihood of the fishermen. To provide proper livelihood security to the fishing and associated communities during this period, one of the activities under ICZMP was value addition to fishery products. For this Self Help Groups (SHGs) were to be formed, mostly involving fisherwomen, who normally took the responsibility of marketing in a traditional fishery sector. For marketing the products, relevant agencies were to be tied up with SHGs. In the Detailed Project Report, it was estimated that profit per year per SHG would be ₹ 3 lakh.



30 Driers at Gopalpur



Drier with electrical equipments stolen

With the above objective, the work of supply and installation of 150 solar driers was awarded (October 2012) to an agency through tender for ₹ 8.34 crore including annual maintenance charges for three years for completion by July 2013. However, after installation of 10 units (7 at Puri and 3 at Balugaon), the Nodal Officer, Fisheries, ICZMP observed during inspection (September 2013) that continuous electric supply for six to eight hours per day was required for running the axial fans in the solar driers for effective drying. Accordingly, provision of auxiliary power units was made at ₹ 28.75 lakh with the approval of World Bank during November 2013 and the agreement was amended (March 2014) and finalised for supply and installation of 99 solar driers and auxiliary power supply unit for ₹ 5.75 crore. The agency installed 99 solar driers during October 2013 to June 2015 in 99 SHGs and, as of May 2016, auxiliary power units could be supplied and installed at 17 SHGs only (Balugaon-9 and Puri-8). The agency was paid ₹ 4.98 crore as of May 2016 for both driers and auxiliary units.

During physical verification of 9 driers at Balugaon, 30 driers at Gopalpur and 33 driers at Nolia Nuagaon, with the departmental/SPMU staff, Audit observed that out of these 72 driers, 67 driers were non-functional due to non-electrification and non-supply of auxiliary units by the agency. Only five driers at Gopalpur were found operational. The concerned SHG members, however, could not produce any records to prove regular operation of driers and profits earned. Further, no effort was made by the department to tie up the SHGs with relevant agencies for marketing the products. Commissioner-cum-Secretary during his visit (February 2016) to Ganjam, had also observed that ICZMP fish drying project had failed. Thus, failure of the department to provide electricity through auxiliary power units led to failure of alternative livelihood creation.

The Government stated (August 2016) that the department was making all out efforts to make the solar driers operational and ensure marketing.

3.2.3.7 Procurement of Mechanised Luxury Boats

To promote livelihood through eco tourism in Bhitarkanika, PCCF (Wildlife) had procured (July 2014) four 20 seater luxury catamaran boats for ₹ 5.85 crore. In September 2014, an Inspection Committee inspecting the operation at Gupti, Rajnagar had expressed satisfaction on the overall quality and performance of the boats.

Further, as per instructions of the Principal Chief Conservator of Forests (Wildlife) and Chief Wildlife Warden, Odisha for operation of tourist boats, a business model was to be prepared detailing the number of tourists it would carry, charges to be paid by them, total expenses per day including wages of boatmen, fuel consumption per day and depreciation per year to be taken into account to derive net profit.

However, it was observed that after delivery of the boats, one of the engines of a catamaran had failed (October 2014) to start during the trial run. Further, in three other boats, defects like leakages from engine were also observed. It was further observed that though three boats with leakages were repaired, repair of the boat showing engine defects was not carried out by the supplier as of May 2016. Business model for maintaining details of tourists visited, income and expenditure from operation of the catamaran etc. as directed by the PCCF was also not prepared by the Department as of May 2016 to assess the profit. The department had collected ₹ 1.24 lakh only as revenue from three catamaran boats, namely, Bhitarkanika, Baitarani and Mahanadi during November 2015 to January 2016. Thereafter the boats remained idle.



Catamaran boats stationed at Dangamal

In the absence of maintenance of business model, profit earned through operation of the luxury boats could not be ascertained in audit.

The Government stated (August 2016) that the operation and maintenance of the boats were outsourced (January 2016) to an agency for ₹ 5.86 lakh per annum towards royalty. However, no royalty was paid by the agency as of August 2016 though, as per the contract, royalty was to be paid at the commencement of each quarter for the succeeding quarter.

3.2.4 Establishment of Coastal Management Laboratory at Paradeep

One of the key objectives of ICZM project was to strengthen the State Pollution Control Board (SPCB) in terms of manpower, infrastructure and laboratory to conduct the study on coastal environment of the state. The DPR envisaged establishing a laboratory which would work towards determining environmental condition of coastal water and correlate the same with land-based sources of pollution, to evaluate the sediment and biological parameters of water bodies.

Audit observed that the very purpose of strengthening the ICZM project through SPCB was defeated, as discussed in the succeeding paragraphs.

3.2.4.1 Construction of Laboratory Building

The Chief Executive, Chilika Development Authority had entrusted (April 2010) SPCB with a component of the project “Establishment of Coastal Management Laboratory” at Paradeep with a total cost of ₹ 12.99 crore comprising infrastructure, operational cost, certification of laboratory, mitigation measure and monitoring and evaluation. The cost of the project was subsequently (November 2015) revised to ₹ 23.74 crore.

SPCB had invited bids (September 2011) for the construction of Coastal Management Laboratory (CML) building at Paradeep. The work was awarded (December 2011) to a contractor for ₹ 2.92 crore without obtaining Coastal Regulatory Zone (CRZ) clearance. The establishment of a laboratory was not permitted by MoEF due to restriction on construction within CRZ. Subsequently SPCB requested (September 2012) Odisha Coastal Zone Management Authority (OCZMA) for permission for construction of the building as Centre for Management of Coastal Eco system (CMCE) which was agreed (October 2012) to by OCZMA with the stipulation that no laboratory activities including sample analysis or conducting research using hazardous substances should be taken up in the building. The building was completed during May 2016 at a cost of ₹ 3.03 crore. Presently the building is used as Centre for Management of Coastal Eco-system (CMCE) and the laboratory was shifted to Bhubaneswar.

Thus SPCB constructed the building without verifying the provisions of the CRZ notifications. The subsequent decision of the SPCB to shift the laboratory to Bhubaneswar was in violation of the agreement with the World Bank. The project authorities envisaged the necessity of a coastal laboratory to study the conditions of coastal waters. Shifting the laboratory to a distance of 120 km from Paradeep was not in consonance with the agreement.

3.2.4.2 Non-supply of a sea-worthy vessel

The Project Director, ICZMP on behalf of the Nodal Officer-cum-Project Co-ordinator, SPCB, Odisha had placed an order with M/s Parvati Engineering Services, Vishakhapatnam in December 2013 for a sea-worthy monitoring vessel with in-built laboratory for ₹ 2.24 crore. The objective was to collect samples of water/sediments/benthos along Paradeep-Dhamra stretch of Odisha

coast within the territorial waters extending upto 12 nautical miles from the coastline and carry out in-situ monitoring and on-board analysis of samples. The agency had to deliver the vessel during April 2015 which was subsequently (June 2016) extended up to August 2016. However, the same has not been supplied as of August 2016. No action was taken by the department against the agency for delay in supply of the vessel.

3.2.4.3 Idle laboratory equipment

It was further observed that SPCB had procured (June 2013 to February 2014) various analytical equipment valued at ₹ 12.16 crore for installation at CML, sea-worthy vessel and field work for analysis of samples of water/sediments. Consequent upon the refusal of permission by OCZMA for the construction, SPCB had requested (November 2012) the World Bank for permitting it to install the analytical equipment at its existing Central Laboratory at Bhubaneswar which was agreed (November 2012) to by the World Bank. It was, however, seen that due to non-availability of adequate skilled manpower, these equipment worth ₹ 1.98 crore were not put to use till the date of audit. Further, due to non-operation of CMCE and non-procurement of a sea-worthy vessel, scientific equipment purchased for ₹ 5.12 crore during June 2013 to February 2014 was kept unutilised, leading to idle investment. Out of this, warranty period of equipments of ₹ 2.04 crore expired during September 2013 to March 2016.

The Government stated (August 2016) that the PEA was taking all out steps for engagement of required scientific manpower as early as possible. The reply confirms that equipment were purchased without ensuring availability of staff.

3.2.5 Establishment of Solid Waste Management Project

As per the Schedule 1, Part C 3(b) of Financial Agreement dated 22 July 2010 signed between GoI and IDA, environment and pollution management including solid waste management in Paradeep town was one of the ICZM pilot investments in Odisha to reduce pollution load on the coastal stretches. Paradeep Municipality, under the Housing and Urban Development Department (HUD), was the executing agency for this project. The original project cost was ₹ 14.39 crore which was subsequently (November 2015) revised to ₹ 40.68 crore. This included establishment of Solid Waste Management Project (₹ 37.00 crore) and construction of its boundary wall (₹ 2.29 crore).

Scrutiny of records showed that construction of Solid Waste Management Project (SWMP) at Paradeep was estimated to cost ₹ 24.33 crore. PD, SPMU invited bids in September 2013 and, in response, only one bid for ₹ 43.38 crore was received. The Bid Evaluation Committee recommended (August 2014) rejection of the bid as the bidder had failed to provide the required justification for the excess price offered. The rebidding has not been done as of August 2016.

Similarly, the work of “Construction of boundary wall around the SWMP” was awarded (February 2015) to a contractor for ₹ 2.29 crore for completion by August 2015. The work was in progress with payment of ₹ 54.98 lakh to

the contractor as of May 2016. The Executive-cum-Nodal Officer, ICZMP, Paradeep Municipality attributed the delay in completion of the construction of boundary wall to land dispute between Government of Odisha and Paradeep Port Trust, model code of conduct for Municipality election and several deep depressions in sea coast.

Thus, due to non-construction of the SWMP, the objective of reducing pollution load on the coastal stretches remained to be achieved.

The Government stated (August 2016) that re-bidding for construction of SWMP would be considered if HUD Department gave a commitment to complete the project by December 2017 and to bear the expenditure of the project after the tenure of the project from their own resources. This indicated that the establishment of SWMP was taken up without ensuring inter-departmental coordination.

3.2.6 Installation of Geo-textile tube embankment

Steep waves accompanied by strong winds during monsoon season are the main reasons of shoreline erosion at Pentha. To find a long-term solution to the problem of erosion, the work of installation of geo-textile tubes embankment with toe mound at village Pentha was envisaged under the ICZM project with approved (March 2010) project cost of ₹ 18.91 crore which was revised (November 2015) to ₹ 37.74 crore.

Consultancy for survey, design, estimation and construction was awarded (July 2011) to the Department of Ocean Engineering, Indian Institute of Technology (IIT), Chennai. The consultant suggested construction of a 675 metre long geo-tube embankment after conducting investigation at the site.

The work “Installation of Geo-textile tubes embankment with toe mound at village Pentha”, estimated to cost ₹ 22.48 crore, was awarded (July 2013) to a contractor for ₹ 32.96 crore for completion by June 2014. However, the contractor did not commence the work till October 2013 and, after Phailin cyclone in October 2013, the scope of work was changed and some additional works, such as, providing ‘Z’ type sheet pile, placing geo textile bags filling with river sand etc. were executed through supplementary agreement. The length of the embankment was also reduced (August 2014) to 505 metre. The estimated cost was revised to ₹ 32.96 crore limiting the contract value. The work was in progress with payment of ₹ 32.37 crore as of June 2016.

Audit observed that the Special Project Director, ICZM, while approving the revised estimate, had instructed that the additional cost beyond the revised estimate/agreement would be borne by the PEA. The PEA reduced (June 2016) the quantities of two items of work i.e. Installation of Geo-textile tube (18 numbers at ₹ 3,28,728 each) and laying of rope gabion boxes (721 numbers at ₹ 7,303 each) amounting to ₹ 1.12 crore. Thus, the problem of vulnerability of the zone remained largely unaddressed due to non-execution of balance works as per contract.

The Government stated (August 2016) that the total length of the geo-tube embankment was reduced considering the changed site condition and availability of beach width. The reply was not acceptable since the additional works necessitated by changed site condition were not executed fully.

3.2.7 Procurement of boats for eco tourism

Mention was made in para 2.1.27 of Audit Report No. 3 (PSUs) on the Government of Odisha for the year ended March 2014 of the Comptroller and Auditor General of India regarding idle expenditure of ₹ 2.49 crore on purchase of equipment for amusement park, boats, jet ski, water scooters etc. which were lying idle in the absence of operational/ management plan and creation of necessary infrastructure.

Further scrutiny of records showed (June 2016) that the work to formulate a management plan was awarded (May 2014) to an agency for ₹ 11 lakh. The agency submitted the management plan during September 2014 and was paid ₹ 11.12 lakh. The plan was approved by Government of Odisha in December 2015. However, the same was not made operational by the Tourism Department as of May 2016. In absence of the management plan, boats procured by Odisha Tourism Development Corporation (OTDC) from various agencies for ₹ 2.49 crore during November 2013 to February 2014, have been lying idle.

Thus the objective of creating alternative livelihood could not be achieved after incurring expenditure of ₹ 2.49 crore.

The Government stated (August 2016) that the Management Plan would be made operational after formation of Eco tourism Development Society and Eco tourism Development Committee which was now shaping up. The PEA was also taking steps for use of all pedal boats by involving the community as envisaged in the Management Plan approved by the State Government.

3.2.8 Construction of Hatchery and Rearing Complex of Crocodiles and Research Laboratory at Dangamal

For successful conservation of the endangered estuarine crocodiles through the grow, rear and release programme, the work of improving the existing hatchery, as well as the rearing complex in Dangamal and construction of a Laboratory, was taken up by wildlife wing of Forest and Environment Department. The work 'Construction of Hatchery and Rearing Complex of Crocodiles and Laboratory' at Dangamal was awarded (June 2012) to an agency for ₹ 80.12 lakh for completion by December 2012. The work was completed during April 2013 with an expenditure of ₹ 79.18 lakh.



2 seater pedal boats at Barkul



Speed boat and jet ski at Rambha



Jet ski at Rambha

Scrutiny of records showed that after completion of the work, the PCCF (Wildlife) had observed (March 2014) that the roof of the hatchery should be open to facilitate natural air, rain water and sunlight which were required for the hatching. Subsequently, the additional works were estimated to cost ₹ 10.17 lakh and awarded to the same agency for ₹ 11.47 lakh during April 2016 for completion by June 2016. However, the additional works were not completed and the date of completion was extended upto September 2016 through corrigendum. Further, in case of laboratory, there was no provision for procurement of instruments.

Thus, due to inadequate planning the hatchery and laboratory, completed at a cost of ₹ 79.18 lakh during April 2013, could not be put to use as of August 2016.

Government stated (August 2016) that after completion of the additional works, it would be made operational.

3.2.9 Conclusion

Audit of ICZM projects disclosed that for promotion of eco tourism and creation of alternative livelihood, only assets like luxury boats and fish driers were procured. However, utilisation of these to meet the ultimate objective of creation of alternative livelihood and promotion of eco tourism was lacking. Unless the alternative livelihood is created, the problem of anthropogenic pressure on the coastal eco system cannot be fully addressed. The plantation of mangroves to act as cyclone shelter for coastal protection was largely unsuccessful due to low survival rate of the plants.

3.3 Non realisation of interest on delayed payment of Net Present Value

Non realisation of interest on delayed payment of Net Present Value of ₹ 10.10 crore

As per Guidelines issued by Ministry of Environment and Forests, Government of India in September 2003, forest land may be diverted for non-forest purposes on collection of Net Present Value (NPV) of forest land. The Central Empowered Committee, constituted by the Hon'ble Supreme Court of India, had instructed (May 2010) that mining lease holders who did not pay NPV within a period of 30 days would not be allowed to continue mining till payment of NPV along with interest. Forest and Environment Department, Government of Odisha had prescribed (May 2013) the rate of interest at nine *per cent* per annum for delayed payment of NPV.

Check of records in Office of the Principal Chief Conservator of Forests (PCCF), Odisha and Divisional Forest Officer (DFO), Sundargarh showed (April/ August 2015) that the DFOs had raised demand for depositing the full amount of NPV between June and November 2010 against 21 user agencies for diversion of forest land for non-forest purposes within 30 days. The user agencies deposited ₹ 53.23 crore between December 2010 and July 2014 towards NPV with delays ranging from 42 to 1469 days from the due dates of payment. However, interest of ₹ 10.10 crore at the prescribed rate of nine

per cent for the period of delay was neither demanded by the DFOs nor deposited by the user agencies. Thus, ₹ 10.10 crore (*Appendix 3.3.1*) towards interest on NPV remained unrealised.

On this being pointed out, the Government stated (September 2016) that eight user agencies had deposited ₹ 41.28 lakh and the concerned DFOs had already raised demands against the other user agencies.

3.4 Non-disposal of timber and poles

Failure on the part of Divisional Forest Officers to take timely action for disposal of timber and poles seized in undetected forest offence cases resulted in blocking of revenue of ₹ 42.74 lakh.

The Government of Odisha, Forest and Environment Department in their order of August 2005 had issued instructions for early disposal of timber and poles seized in undetected forest offence cases either by public auction or by delivery to the Odisha Forest Development Corporation (OFDC) Limited within two months from the date of seizure in order to avoid loss of revenue and deterioration in quality and value on account of prolonged storage. The rates of royalty on regular and irregular lots of timber, poles and firewood for the year 2015-16 were fixed by the Government in Forest and Environment Department in the joint meeting of Principal Chief Conservator of Forests, Odisha and the Managing Director, OFDC Limited held in October 2015.

Check of records of 29³² forest divisions between April 2015 and February 2016 showed that 16,682.66 cubic feet of timber (logs and sized), 2,364 poles and 104.1 stacks of firewood valued at ₹ 42.74 lakh (details as per *Appendix 3.4.1*), seized in 1,119 undetected forest offence cases during 2010-15 were lying un-disposed till date. Thus, lack of effective and timely action by the Divisional Forest Officers has resulted in blocking of revenue of ₹ 42.74 lakh.

On this being pointed out, the Government stated (September 2016) that out of 1,119 cases, seized forest produce in 568 cases involving ₹ 19.72 lakh had already been disposed of and steps were being taken to dispose of the remaining 551 cases.

³² Athagarh, Athamallik, Balangir, Bamra (WL), Baripada, Bonai, Boudh, Cuttack, Deogarh, Dhenkanal, Ghumusar(S), Ghumusar(N), Hiraakud (WL), Jharsuguda, Kalahandi (S), Karanjia, Khariar, Keonjhar (WL), Keonjhar, Khurda, Malkangiri, Nabarangpur, Nayagarh, Parlakhemundi, Phulbani, Rairangpur, Rairakhol, Rayagada and Sundargarh.

3.5 Non-levy of interest on belated payment of royalty

Failure of the Divisional Forest Officers to levy interest on belated payment of royalty led to non-realisation of ₹ 10.30 lakh.

In terms of Rule 42 of Odisha Forest Contract Rules, 1966, if a contractor fails to pay royalty for sale of forest produce by the due date, he is liable to pay interest at the rate of 6.25 *per cent* per annum on the amount of default for the period of delay. The Government had instructed (February 1977) that the provisions of Odisha Forest Contract Rules should be followed in respect of lease of forest coupes³³ to Odisha Forest Development Corporation (OFDC) as in case of private parties and interest will be charged for default in payment.

Test check of records of 12 Forest Divisions³⁴ between April 2015 and January 2016 showed that the OFDC paid royalty of ₹ 2.83 crore for timber/poles involving 529 irregular lots relating to the period from 2010-11 to 2014-15 with delays ranging from 2 to 39 months as detailed in *Appendix 3.5.1*. However, interest of ₹ 10.30 lakh recoverable from OFDC towards delay in payment, was not levied by the Divisional Forest Officers.

On this being pointed out (June 2016), the Government stated (September 2016) that the Principal Chief Conservator of Forests, Odisha had requested (July/ August 2016) all RCCFs/ DFOs to levy interest on belated payment of royalty.

DEPARTMENT OF WATER RESOURCES

3.6 Undue payment to contractors

Payment for earth work at the rate applicable for manual means despite execution through mechanical means resulted in undue payment of ₹ 1.04 crore to contractors.

Odisha Public Works Department Code stipulates that estimates should be prepared in the most economical manner.

The Government had accorded (August 2011) administrative approval for ₹ 132.99 crore for works relating to improvement of different branch canals of Hirakud Distributary System under NABARD assistance. Tenders for the works were called for by the Executive Engineer, Sambalpur Irrigation Division, Burla and awarded for ₹ 32.26 crore between April 2013 and March 2015 for completion within one/two months. The agreement inter-alia provided for execution of earth works measuring 60,654.88 cum in 2013-14 and 88,353.86 cum in 2014-15 through mechanical means. The contractors had executed works valued at ₹ 1.22 crore.

³³ An area of forest where harvesting of wood is planned or has taken place.

³⁴ Balangir, Bamra(WL), Berhampur, Dhenkanal, Ghumusar(S), Kalahandi(N), Kalahandi(S), Keonjhar(WL), Malkanagiri, Nayagarh, Parlakhemundi and Rayagada.

Scrutiny of records showed (February 2016) that as per description of items in the estimates, earth work in burrow area was to be excavated by mechanical means and transported mechanically. However, the department had adopted rates for manual excavation ranging between ₹ 177.30 and ₹ 395.10 per cum during 2013-15, whereas the rate for mechanical means as per SoR 2014 was only ₹ 119.20 per cum, thereby inflating the estimated cost. Based on such inflated estimated cost, tenders were invited and works awarded to the contractors. This led to undue payment to contractors to the extent of ₹ 1.04 crore taking into account the tender premium quoted by the bidders.

Accepting the factual position, Government stated (May 2016) that the work site passed through cultivable areas and there was no defined burrow area for small packages. The earth required for embankment was to be collected by contractor at his own cost and risk by convincing the land owners to allow the contractor for manual excavation up to a maximum of one foot depth. Therefore, mechanical excavation was not possible. After Audit comments, all works were being executed by mechanical means from 2015-16 onwards. The Government further stated (June 2016) that had mechanical excavation and conveyance been adopted with an average lead of 12 km i.e. beyond the belt of cultivable areas, the rate would have come to ₹ 215.50 per cum.

This reply is not acceptable since this justification was nowhere on record while preparing estimates. Thus, preparation of estimates adopting rate of manual means and providing cheaper method of execution of work through mechanical means in the agreement led to undue payment of ₹ 1.04 crore to the contractors.

3.7 Avoidable payment of service tax

Provision of service tax on renovation/ improvement works of drainage channel and river led to avoidable payment of ₹ 2.45 crore.

As per Section 65 (97a) of Chapter-V of the Union Finance Act, 1994 as amended (June 2005), and notification No. 25/2012-Service Tax dated 20 June 2012, services provided in relation to agriculture, irrigation, watershed development and drilling, digging, repairing, renovating or restoring of water sources or water bodies are excluded from levy of service tax. Central Board of Excise and Custom (CBEC) in an Education Guide (June 2012) on taxation of services had clarified that exemption was available to the services by way of construction, erection, commissioning, installation, completion, fitting out, repair, maintenance, renovation or alternation of canal, dam or other irrigation works.

Check of records in Drainage Division, Bhubaneswar showed (April 2016) that Chief Engineer, Drainage, Cuttack had sanctioned (November/December 2011) three³⁵ estimates for ₹ 28.90 crore under NABARD assistance for renovation of drainage channel and sectioning/ improvement of the rivers

³⁵ Improvement to Kurunti Drainage channel with structures (DC-7), Sectioning of Makara river from RD 2.7 to 6.8 km and Improvement to Luna river from RD 7000 m to 25300 m (dredging from 17 to 31.24 km) Package -2

Makara and Luna. As per preface report of estimate, the works mainly involved de-siltation of rivers/ drains to retrieve 2,168 ha of agricultural land water logged during rain and flood and to provide irrigation to enhance crop yield. Although the above Act excluded the above services from payment of service tax, the estimate/ agreement, however, included service tax of ₹ 2.66 crore on dredging works. The works were awarded (December 2011) to Odisha Construction Corporation Limited for ₹ 31.22 crore including service tax for completion between November 2012 and June 2013. As of June 2016, two works (Sl.No.2 and 3 of *Appendix 3.7.1*) were completed and the remaining work was in progress with expenditure of ₹ 26.82 crore including avoidable payment of service tax of ₹ 2.45 crore.

On this being pointed out (June 2016), Government stated (July 2016) that as per clarification obtained from Additional Commissioner (Service Tax) Bhubaneswar in August 2009, dredging work done for easy passage of drainage congestion of river Makara falling to Chilika Lagoon was rightly chargeable to service tax under section 65(35A) of Union Finance Act 1994. It was also stated that the works were neither a part of the canal system nor primarily an irrigation project. The work was for smooth/ quick discharge of flood water.

The reply was not acceptable since the nature of work for which clarification was issued by the Additional Commissioner (Service Tax), as pointed by the government, was different from the present works. Further the reports on estimate for sectioning of the river Makara indicated that in addition to adequate discharge of water, the work also involved making water available for lift irrigation and thereby avoid crop losses. The works done on the river Luna and Kurunti drainage channel were for retrieval of 2,168 ha of agricultural land to enhance crop yield. Since the above works were for providing irrigation to crops and retrieval of agricultural lands, exemption from payment of service tax was available as per Finance Act and clarifications from the CBEC. Thus, payment of service tax of ₹ 2.45 crore as of June 2016 was avoidable.

3.8 Extra cost due to provision of excess lead

Preparation of estimates with excess transportation cost led to extra cost of ₹ 2.81 crore.

Para 3.4.10 of Odisha Public Works Department (OPWD) Code stipulates that estimates should be prepared in the most economical manner. Further, the Divisional Officer is to visit the spot and prepare the estimate using the sanctioned Schedule of Rates. As per the technical specification appended to the agreement, the contractor has to arrange burrow earth at his own cost and responsibility. No compensation for change in limits and locations of the burrow areas and depth of cut for getting suitable earth should be paid to the contractor.

Check of records of Aul Embankment Division showed (January 2016) that four works³⁶ of Raising and Strengthening of Saline Embankments were executed under National Cyclone Risk Mitigation Project. Estimates of the above works provided for transportation of 7.26 lakh cum of earth from burrow areas located within two kilometres. As per the analysis, the item rate for excavation by mechanical means and transportation from a distance of two kilometres worked out to ₹ 95.39 per cum. However, the Executive Engineer adopted the rate of ₹ 124 per cum in the estimate for transportation up to five kilometres instead of two kilometres. This inflated the estimated cost of the works by ₹ 2.81 crore. Based on this inflated estimated cost, tenders were called for (May 2013) and accepted with tender premium ranging between 33 and 37 per cent over the estimated cost put to tender. Works were awarded (December 2013) for ₹ 62.73 crore for completion by June 2015. The works were in progress with expenditure of ₹ 61.11 crore as of January 2016.

Thus, adoption of excess rate for transportation of earth in the estimates and acceptance of tender on such inflated estimate and subsequent award of works led to extra cost of ₹ 2.81 crore including tender premium, out of which ₹ 2.68 crore had already been passed on to the contractors as of January 2016.

The Government stated (April 2016) that the analysis as pointed out by audit was applicable for mechanical excavation combined with mechanical carriage within a lead of one km which was not applicable in these works because huge quantity of earth was not available within one km lead. The Government added that the transportation cost in sanctioned estimate was taken as ₹ 83.33 per cum which is less than ₹ 95.39 as worked out by audit.

The Government further stated (August 2016) that there was no identified burrow area and the Department had to resort to burrow earth from private land widely scattered within an initial lead of 5 km. The actual cost of transportation of earth was same within initial lead from 00 km to 5 km irrespective of distance.

The reply was not acceptable since, as per conditions of the bid documents and contract, arrangement of burrow earth was the responsibility of the contractor at his own cost. No compensation for change in limits and location of burrow areas and depth of cut for getting the suitable earth should have been paid to the contractor. Further, ₹ 95.39 per cum as worked out by audit as per analysis of rate was for finished item which included not only the cost of transportation but also mechanical excavation and compaction. Against the applicable rate of ₹ 95.39 per cum, the division had adopted ₹ 124 per cum.

³⁶ Raising and strengthening of Chasisava saline embankment from RD 00 to 4000 m, Raising and strengthening of Sasanpeta saline embankment from RD 00 to 3000 m, Raising and strengthening of Rajnagar-Gopalpur saline embankment from RD 8050 to 14050 m and Raising and strengthening of Rajnagr Gopalpur saline embankment from RD 15050 to 19050 m.

3.9 Extra expenditure due to adoption of manual excavation

Adoption of rates for excavation by manual means instead of mechanical means inflated the estimates leading to extra expenditure of ₹ 3.24 crore.

Para 3.4.10 (i) of Odisha Public Works Department (OPWD) Code stipulates that estimates should be prepared in the most economical manner on the basis of Schedule of Rates (SoR). As per Analysis of Rates (AoR), the excavation and transportation of earth should either through manual means or through mechanical means and the AoR do not provide any item for manual excavation and mechanical transportation. The conditions of detailed tender call notice provided that the burrow area was to be arranged by the bidder at his own cost and, after excavation, loading and transportation was to be done through mechanical means. The unit rate included the above cost.

Estimates of five works for rehabilitation, extension and modernisation of Taladanda canal from RD 24.46 to 79.02 km and its branches were sanctioned between May 2008 and July 2010 by Chief Engineer and Basin Manager, Lower Mahanadi Basin for ₹ 45.89 crore. The works were awarded for ₹ 52.42 crore between June 2010 and July 2011 for completion between June 2012 and July 2013. As of March 2016, two works were completed and three others were in progress with expenditure of ₹ 41.71 crore.

Check of records in Taladanda Canal Division showed (October 2015) that in violation of provisions of AoR, the EE provided for manual excavation and mechanical transportation of 10.08 lakh cum of earth from burrow area in the estimates/agreements of five works. The rate for manual means of excavation in the estimate was between ₹ 32.25 and ₹ 53.76 per cum, against SoR rate of ₹ 15.82 per cum inflating the provision by ₹ 16.43 to ₹ 37.94 per cum. The overall estimated costs were inflated by ₹ 2.65 crore. The works were awarded inviting tender with such inflated cost. Considering excess tender premium ranging between 12.81 and 36.20 *per cent*, the extra expenditure worked out to ₹ 3.24 crore (*Appendix 3.9.1*).

On this being pointed out, the Government stated (September 2016) that in the estimates there was a provision for earth work excavation by manual means as per site condition and the alignment of the canal system. Further Government added that Taladanda Canal System was a very old canal and most of length passed through areas nearer to villages, thereby restricting the movement of machinery. Hence, execution of work was done as per the condition of agreement. However, Analysis of Rates do not provide for excavation through manual means and transportation through mechanical means.

3.10 Non deduction of voids led to excess payment

Non deduction of voids in gabion boxes led to excess payment of ₹ 6.44 crore to contractors.

In three Irrigation Divisions³⁷, 10 works for raising and strengthening of saline embankments were awarded in December 2013 and January 2014 for ₹ 152.57 crore for completion by June and July 2015. As of June 2016, the works were in progress with payment of ₹ 132.59 crore. The agreement, inter alia stipulated packing of hard granite stone in high zinc PVC coated gabion boxes of two sizes i.e. 3mX1mX0.50m and 2mX1mX0.30m. As per the agreements, after filling up the gabion boxes with stones, voids/gaps created between stones were to be minimised by overfilling with small stones. The void content between stones in gabion boxes ranged between 30 and 40 per cent as per the technical report. While preparing the estimates, the Executive Engineers (EEs) had deducted one-sixth of the total estimated volume in respect of larger gabion boxes to arrive at the actual quantity of stones required for packing. For smaller gabion boxes, no such deduction was made in the estimate or agreement.

Check of records showed (January 2016) that despite the estimated provision for deduction of minimum one-sixth volume towards voids in larger gabion boxes, no such deduction was made from the measured quantity before making payment to contractors. In the case of smaller gabion boxes, though no provision for deduction towards voids was made in estimates/agreements, out of three divisions, only EE, Aul Embankment Division had deducted one-eighth towards voids from the measured quantity for four packages after this was pointed out. Thus, non-deduction of voids and deduction at lesser rate led to excess payment of ₹ 6.44 crore (*Appendix 3.10.1*).

On this being pointed out (March 2016), Government stated (September 2016) that in respect of larger gabion boxes voids were being deducted at one-sixth of the volume from the bills of agencies. In case of smaller gabions, voids at one eighth of the volume were being deducted from the final measurement as per the recommendation of the technical committee. However, there was no documentary evidence to substantiate the recoveries as reported by the department.

³⁷ Aul Embankment Division, Aul, Nimapara Irrigation Division, Nimapara and Jagatsinghpur Irrigation Division, Jagatsinghpur

WORKS DEPARTMENT

3.11 *Extra expenditure and undue benefit to contractor*

Non utilisation of earth available from roadway cutting and drain and inclusion of charges for compensation for earth in the analysis of item rates resulted in extra expenditure and undue benefit of ₹ 7.09 crore to contractor.

Improvement of Naranpur - Pandapada - Harichandanpur - Brahmanipal - Duburi Road in the districts of Keonjhar and Jajpur was technically sanctioned (July 2007) for ₹ 307.43 crore by the Chief Engineer, (DPI & Roads). The work was awarded (October 2007) to a Joint Venture Company for ₹ 311.89 crore for completion by October 2010. The work could not be completed within the stipulated time due to delay in getting permission for diversion of forest land. The work was in progress with payment of ₹ 359.01 crore including escalation charges of ₹ 95.50 crore as of August 2015.

A review of the detailed estimate of the above work showed (November 2015) that there was a provision for use of 17.02 lakh cum of earth from burrow areas suitable for construction of the road. Against above, 28.95 lakh cum (70 *per cent* excess) was obtained from burrow areas as of August 2015. Further, the estimate provided for utilisation of 2.24 lakh cum earth available from excavation of 8.56 lakh cum from roadway and drainage works. However, the department had utilised 1.06 lakh cum. Thus, non utilisation of remaining 1.18 lakh cum of earth led to extra expenditure of ₹ 68.44 lakh at the rate of ₹ 58 per cum taking into account the differential cost of utilisation of excavated earth (₹ 130 - ₹72 per cum).

Further, the bid document for the above work had stipulated that the contractor would have to make his own arrangement for the land required for burrow areas, quarries etc. This bid document formed part of contract and was signed by the contractor and the Department. Hence, the rate quoted by the bidder was all inclusive. However, it was observed that the estimate included additional provision of ₹16 per cum for paying compensation towards earth from private land though the State Analysis of Rates (AoR) did not provide for the same. With the addition of 8 *per cent* overhead charges and 10 *per cent* towards contractor's profit, the above compensation worked out to ₹ 19 per cum. The above undue provision inflated the estimate by ₹ 3.23 crore for the estimated quantity of 17.02 lakh cum. For procurement of 28.95 lakh cum of burrow earth from private land, the extra expenditure worked out to ₹ 6.41 crore including tender premium.

On this being pointed out, the Executive Engineer, Keonjhar (R&B) Division stated (December 2015) that earth obtained from cross drainage works was not used since the soil was marshy and included other parameters such as disintegrated rock, soft rock etc. He added that earth with required gradation and California Bearing Ratio (CBR) should only be used in embankment formation and not all the earth obtained from excavation. He further stated that

earth was not available anywhere from Government land within a minimum lead of five kilometres and more lead would have involved excess payment.

The reply was not acceptable since as per specification of the Indian Roads Congress, preference was to be given to materials available from roadway excavation under the same contract. Further, the test results in support of unsuitability of earth could not be produced to Audit. The payment towards earth from private land was not obligatory as per terms and conditions of contract.

The matter was reported to Government in March 2016; reply is awaited.

3.12 Undue benefit to contractors due to provision of extra lead

Inclusion of extra lead charges from mixing plant to work site in addition to lead charges already provided from quarries to work site for transportation of stone products inflated the estimated cost by ₹ 22.75 crore.

As per note below the chapter on road works of the State Analysis of Rates, 2006 in case of items where wet mix plant and hot mix plant are used, the total distance for transportation of materials from quarry to work site should not exceed the distance from quarry to plant site plus distance from plant to work site to carry mixed materials.

Estimates for widening and improvement of 12 road projects were sanctioned by Chief Engineer, (DPI & Roads) for ₹ 790.77 crore between March 2010 and June 2011. The works were awarded between June 2010 and August 2012 to seven contractors by the Executive Engineers of Roads and Buildings (R&B) Divisions, Rayagada and Malkangiri at a cost of ₹ 809.16 crore for completion between June 2012 and August 2015. As of May 2016, the works were in progress and the contractors had been paid ₹ 635.73 crore.

The above works, *inter alia*, involved transportation of 15.68 lakh cum of stone products from quarries to plant for preparation of Wet Mix Macadam (WMM), Bituminous Macadam (BM) and Semi Dense Bituminous Concrete (SDBC). Then the above mixed materials were to be transported to various work sites. For the above 12 works, allowable costs of transportation were from quarries to the mixing plant and from mixing plant to work sites. It was, however, observed that the estimate of the works provided for lead charges for distances ranging from 26 to 98 km for transportation of stone products from quarries to work sites. In addition, further provisions of lead charges were included in the item rates for distances ranging from 7.5 to 30 km for transportation from the mixing plant to work sites. These additional provisions were not justifiable and were in violation of the State Analysis of Rates. Thus, extra lead charges between ₹ 57.21 and ₹ 228.83 per cum from plant to various work sites included in item rates inflated the estimated cost by ₹ 22.75 crore (*Appendix 3.12.1*). Award of work based on such inflated estimated cost resulted in extra cost to work and undue benefit of ₹ 22.75 crore to contractors of which ₹12.30 crore had already been paid.

On this being pointed out, the EE, Rayagada R&B Division stated (December 2015) that the works were executed as per Ministry of Road Transport and

Highways (MoRTH) guidelines and the hot mix plant was required to be established at the centre of the project. Lead from stone quarry to work sites had been given as per Data Book. This was not acceptable since the total distance from quarry to work site should not exceed the distance from quarry to mixing plant plus distance from plant site to work site.

The matter was reported to Government (April 2016); reply is awaited.

3.13 *Extra cost due to inclusion of inadmissible charges*

Provision of inadmissible overhead charges and contractor's profit on cost of conveyance of stone products led to extra cost of ₹ 5.58 crore.

Government of Odisha in Works Department revises Schedule of Rates (SoR) on yearly basis in accordance with market prices of materials and enhancement of labour rates. To arrive at the rates of various items, guidelines were laid down in Analysis of Rates (AoR) 2006 and the AoR has not been revised subsequently. Estimates for civil works are to be prepared on the basis of prevailing SoR and AoR 2006. The AoR 2006 provides for overhead charges (OHC) on each item of work at prime cost i.e. cost of materials, machinery and labour. After adding OHC at prime cost, cost of conveyance of materials and royalty, if any, must be added to arrive at final item rate.

Estimates in respect of two road projects under Rayagada and Sambalpur Roads & Buildings Divisions were sanctioned for ₹239 crore in March 2010 and February 2012 by the Chief Engineer (DPI & Roads). The works were awarded to two contractors for ₹ 225.32 crore in October 2010 and September 2012 for completion by September 2013 and September 2015 respectively. As of May 2016, the works were in progress and the contractors have been paid ₹ 242.52 crore.

The above works inter alia provided for transportation of 8.21 lakh cum of stone products for execution of Granular Sub-Base (GSB), Wet Mix Macadam (WMM), Bituminous Macadam (BM) and Semi-Dense Bituminous Concrete (SDBC). Review of estimates showed that in violation of AoR and SoR, overhead charges at eight *per cent* on cost of transportation of stone products had been provided. Over and above this, 10 *per cent* towards contractor's profit to overhead charges and one *per cent* towards labour cess were also added to the overhead charges and contractor's profit. The provision of inadmissible overhead charges and contractor's profit on cost of conveyance inflated the estimated cost of the two works by ₹ 6.73 crore and with tender premium, the extra cost worked out to ₹ 5.58 crore of which ₹ 4.06 crore has already been passed on to the contractors as of May 2016 (*Appendix 3.13.1*).

On this being pointed out (December 2015), the Executive Engineer, Rayagada (R&B) Division No.1 stated that the above works were funded by Government of India (GoI) and the estimates for the above works were prepared on the basis of Standard Data Book of Ministry of Road Transport and Highways. The reply was not correct since item rates were derived as per current SoR which provided that the basic rate excluded cost of conveyance, royalty and other local taxes.

The matter was reported (April 2016) to Government; reply is awaited.

3.14 *Extra expenditure due to unwarranted provision of surface dressing*

Provision of surface dressing over and above binder course in violation of Indian Roads Congress specifications led to extra expenditure of ₹ 17.02 crore.

Chief Engineer/Design, Planning, Investigation & Roads had sanctioned 10 road projects under two Roads & Buildings (R&B) Divisions³⁸ for ₹ 731.88 crore between May 2010 and May 2012. The works were awarded for ₹ 685.74 crore between June 2010 and August 2012 for completion between June 2012 and August 2015. As of March 2016, all the works were in progress with payment of ₹ 579.97 crore.

As per Indian Roads Congress (IRC) specifications, pavement layers are to comprise of Granular Sub-Base, Granular Base and Bituminous Surfacing only. Further, bituminous surfacing shall consist of either a wearing³⁹ course or a binder⁴⁰ course with a wearing course depending upon the traffic to be carried.

Check of records of Rayagada and Malkangiri (R&B) Division showed that the estimates of the above works provided for one wearing course i.e. Semi-Dense Bituminous Concrete (SDBC) with a binder course i.e. Bituminous Macadam (BM) as per IRC specifications. After having provided for a wearing course, provision was also made for another wearing course of surface dressing in violation of the IRC specifications. Thus, the stipulation of Odisha Public Works Department (OPWD) code to prepare estimates in the most economical manner was violated. This resulted in extra expenditure of ₹ 17.02 crore for 29.47 lakh sqm of surface dressing. The contractors had executed 25.26 lakh sqm of surface dressing and have been paid a sum of ₹ 15.23 crore as of March 2016 (*Appendix 3.14.1*).

On this being pointed out (December 2015), the Executive Engineer, Rayagada (R & B) Division No. 1 stated (December 2015) that the above works were for widening of single lane to two lane road. He further stated that the traffic could not ply on the existing road and vehicular traffic should not be allowed on finished Wet Mix Macadam (WMM) surface till it dried up and wearing course was laid. The reply was not tenable since the agreement had already provided for a binder course (BM) and wearing course (SDBC) as per IRC specifications. As such, additional provision of wearing course i.e. surface dressing was not required.

The matter was reported (April 2016) to Government; reply is awaited.

³⁸ (R & B) Division, Rayagada and Malkangiri.

³⁹ The most commonly used wearing courses are surface dressing, open graded premix carpet, mix seal surfacing, semi-dense bituminous concrete and bituminous concrete

⁴⁰ Binder Course- Bituminous Macadam and Dense Bituminous Macadam

3.15 Avoidable extra expenditure

Execution of work in violation of Indian Roads Congress specifications led to avoidable extra expenditure of ₹ 2.18 crore.

Para 3.4.10 of Odisha Public Works Department Code stipulates that estimates should be prepared in the most economical manner. As per Indian Roads Congress (IRC) specifications (IRC-37-2001), pavement thickness to be provided for roads should consist of granular sub base (GSB), granular base (GB) and bituminous surfacing. This pavement thickness or design depends on load bearing capacity of soil expressed in terms of California Bearing Ratio (CBR), based on the projected number of commercial vehicles plying on the road, calculated as Million Standard Axles (MSA). In case of improvement of existing roads, works should be carried out as per IRC specification (IRC- 81-1997) which recommends using Benkelman Beam Deflection Technique (BBDT). This technique assesses the existing thickness and additional thickness required for a pavement.

The estimates of three⁴¹ road works were technically sanctioned (February 2014) by CE (DPI and Roads), Bhubaneswar for improvement of existing 3 metre roads to 6.5/7.0 metre with provision of GSB, wet mix macadam (WMM), bituminous macadam (BM) and semi dense bituminous concrete (SDBC) in the widening portion and WMM, BM and SDBC in the overlaying portion. As per sanctioned estimates, all the above existing roads had crust thickness comprising sub-base and base of 150 mm each.

Check of records in Bhubaneswar (Roads & Buildings) Division No. II showed (May 2016) that for improvement of three roads, works were awarded (July/August 2014) for ₹ 44.04 crore for completion between August 2015 and February 2016. As of May 2016, one work (Sl.No.3 of *Appendix 3.15.1*) was completed and the remaining two other works were in progress with payment of ₹ 42.35 crore. For assessing the structural strength of the existing roads and to decide on further provision of crust over the existing surface, the stipulated BBDTs were not carried out. As a result, no deduction for already existing crusts was made and the estimates/agreements unduly provided for overlaying of WMM to the extent of 250 mm in existing and widening portions of the roads required for the new constructions. As per IRC specification, actual requirement of WMM was 14,235 cum excluding existing pavement portion whereas provision was made for 28,481 cum resulting in extra provision of 14,246 cum involving ₹ 2.35 crore. Considering less rate quoted by the bidder, the extra expenditure worked out to ₹ 2.18 crore (*Appendix 3.15.1*).

On this being pointed out (June 2016), the Government stated (September 2016) that the pavement thickness had been provided as per CBR value on the basis of IRC Specifications. The Government further added that BBD test was a requirement for strengthening of existing crust by providing bituminous

⁴¹ (i) Improvement to Nimapara-Balanga-Satasankha Road from 14 km to 22 km (Other District Road) (ODR) (ii) Improvement to Balakati-Balianta Road (Old Jagannath Sadak) ODR from 0/0 to 12 km and (iii) Improvement to DeLanga-Pipili Road from 0/0 to 11.200 km (ODR)

layer only when the granular layer of existing road was sufficient as per design requirement.

The reply was not acceptable since strengthening requirement of existing road pavement was not assessed as required under para 2.1 of IRC: 81-1997 and provision of WMM led to extra expenditure.

3.16 *Avoidable extra expenditure*

Provision of dry lean concrete in road works in violation of Indian Roads Congress specifications led to avoidable extra expenditure of ₹ 5.75 crore.

Paragraph 3.4.10 of Odisha Public Works Department Code stipulates that estimates should be prepared in the most economical manner. Indian Roads Congress (IRC) Specifications (37-2001) stipulate design for flexible pavement for traffic range from 1 to 10 Million Standard Axle (MSA) ⁴², meant for roads of low traffic intensity.

In four Roads and Buildings Divisions,⁴³ improvement of eight road works were awarded for ₹ 157 crore between June 2013 and August 2014 for completion between June 2015 and July 2016. As of May 2016, the works were in progress with payment of ₹ 128.93 crore.

Scrutiny of records showed (January 2014 and May 2016) that as per project reports of the above works, number of commercial vehicles per day plying on these eight roads ranged from 128 to 318 and, with projected growth over the design life of the roads, the traffic was expected to range from one to three MSA. For roads with average traffic up to 450 commercial vehicles per day, applicable IRC:SP: 62-2014 specified sub base of 150 mm thick Water Bound Macadam/ Wet Mix Macadam over 100 mm granular sub-base. The project reports of these roads showed the existence of sub base and base of 300 mm thickness. Hence, there was no need for provision of further material as per the IRC specifications. In violation of the provisions, the estimates/ agreements provided 100 mm dry lean concrete (DLC) for the entire width of these roads involving 16,135 cum at a cost of ₹ 5.49 crore. This led to avoidable expenditure of ₹ 5.49 crore and the total avoidable expenditure including tender premium, worked out to ₹ 5.75 crore (*Appendix 3.16.1*).

On this being pointed out (February 2016), Executive Engineer (R&B) Division, Puri stated that the existing crust (base and sub base) was disturbed and damaged which was considered as a sub grade and hence DLC was provided. Executive Engineer Bhubaneswar (R&B) Division No.II stated (May 2016) that existing pavements were flexible and their conditions were not so good and hence DLC provisions had been kept in the estimates.

The above replies were not correct since IRC: 15-2002 stipulated that the sub base might be composed of granular material or stabilised soil and DLC was generally recommended for modern concrete pavements, particularly those

⁴² Million Standard Axles : Design traffic considered in terms of cumulative number of standard axles i.e commercial vehicles to be carried during design life of the road

⁴³ Puri (R&B), Bhubaneswar (R&B) Division No.II, Jagatasinghpur (R&B) and Khurda (R&B) Divisions

with high traffic intensity which was not the case in respect of these works. Since these roads were with low traffic intensity during their design life, base and sub base of required thickness as per IRC guidelines were already available. As such, provision of extra layer of DLC was unwarranted.

The matter was reported to Government (July 2016); reply is awaited.

FINANCE DEPARTMENT

3.17 *Response to Audit*

Timely response to audit findings is one of the essential attributes of good governance as it provides assurance that the Government takes its stewardship role seriously.

Principal Accountant General (E&RSA), Odisha conducts periodical inspection of Government departments and their field offices to test check the transactions and verify the maintenance of important accounting and other records as per prescribed rules and procedures. These inspections are followed by Inspection Reports (IRs) sent to the Heads of Offices and the next higher authorities. Defects and omissions are expected to be attended promptly and compliance reported to the Principal Accountant General. A half-yearly Report of pending IRs is sent to the Secretary of each department to facilitate monitoring of the audit observations and their compliance by the departments.

A review of IRs issued upto March 2016 pertaining to 12 departments showed that 9,777 paragraphs relating to 3,057 IRs were outstanding at the end of June 2016. Of these, 1,024 IRs containing 2,382 paragraphs are outstanding for more than 10 years (*Appendix 3.17.1*). Even first reply from the Heads of Offices, which was to be furnished within one month, has not been received in respect of 312 IRs issued upto March 2016. Year-wise position of the outstanding IRs and paragraphs is detailed in *Appendix 3.17.2*.

Serious irregularities reported in these IRs had not been settled as of June 2016 (*Appendix 3.17.3*). Number of paragraphs and amount involved in these irregularities are categorised below:

Table No. 3.4: Category of paragraphs

| (₹ in crore) | | | |
|--------------|--|----------------------|-----------------|
| Sl. No. | Broad objective heads | Number of paragraphs | Amount |
| 1 | Non-compliance with rules and regulations | 291 | 1,015.03 |
| 2 | Audit against propriety/ expenditure without justification | 121 | 480.71 |
| 3 | Persistent/ pervasive irregularities | 93 | 2,148.17 |
| 4 | Failure of oversight/ governance | 27 | 40.31 |
| | Total | 532 | 3,684.22 |

3.17.1 *Follow-up action on earlier Audit Reports*

Serious irregularities/ deficiencies observed in audit are included in the Reports of the Comptroller and Auditor General that are presented to State Legislature. According to the Finance Department instructions (December 1993), the Administrative Departments are required to furnish explanatory

notes on transaction audit paragraphs, reviews/performance audits, etc. included in the Audit Reports within three months of their presentation to the State Legislature.

It was observed that in respect of Audit Reports from the year 2007-08 to 2013-14, out of twelve departments, whose transactions/ performances were commented upon, six⁴⁴ departments did not submit explanatory notes on paragraphs and four⁴⁵ departments on performance audits as of March 2016.

Table No. 3.5: No. of paragraphs/reviews for which explanatory notes were not submitted

| Year of Audit Report | Total number of paragraphs | Individual paragraphs/reviews | | Number of paragraphs/reviews for which explanatory notes were not submitted (March 2016) | |
|----------------------|----------------------------|-------------------------------|-----------------------------|--|-----------|
| | | Individual paragraphs | Reviews/ Performance Audits | Individual paragraphs | Reviews |
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>5</i> | <i>6</i> |
| 2007-08 | 27 | 23 | 04 | 07 | 00 |
| 2008-09 | 21 | 19 | 02 | 02 | 01 |
| 2009-10 | 20 | 19 | 01 | 04 | 01 |
| 2010-11 | 13 | 10 | 03 | 02 | 02 |
| 2011-12 | 18 | 16 | 02 | 04 | 00 |
| 2012-13 | 13 | 12 | 01 | 02 | 00 |
| 2013-14 | 15 | 13 | 02 | 02 | 01 |
| Total | 127 | 112 | 15 | 23 | 05 |

Source : As per records of the PAG (E&RSA)

There were 23 individual transaction audit paragraphs and 05 reviews on which compliance has not been submitted to the Odisha Legislative Assembly (OLA). Departments largely responsible for non-submission of explanatory notes were Agriculture, Fisheries and Animal Resources Development and Energy Department.

3.17.1 Response of departments to recommendations of the Public Accounts Committee

Public Accounts Committee Reports/Recommendations are the principal medium by which Legislature enforces financial accountability of the executive to the Legislature and it is appropriate that they elicit timely response from the Government Departments in the form of Action Taken Notes (ATNs). The Odisha Legislative Assembly Secretariat issued (May 1966) instructions to all departments of the State Government to submit Action Taken Notes (ATNs) on suggestions, observations and recommendations made by Public Accounts Committee (PAC) for their consideration within six months after presentation of PAC Reports to the Legislature. The above instructions were reiterated by Government in Finance Department in December 1993 and by OLA Secretariat in January 1998. Time limit for submission of ATNs has since been reduced from six to four months by OLA (April 2005).

⁴⁴ Agriculture, Energy, Fisheries and Animal Resources Development, Industries, Skill Development and Technical Education and Department of Water Resources.

⁴⁵ Agriculture, Energy, Fisheries and Animal Resources Development and Water Resources Department.

Out of 732 recommendations relating to Audit Report (Economic Sector) made by the Public Accounts Committee from the First Report of Tenth Assembly (1990-95) to Fifth Report of Fourteenth Assembly (2009-14), final action on 52 recommendations were awaited (March 2016).

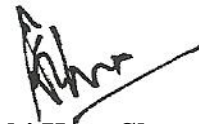
Bhubaneswar
The



(Devika Nayar)
Principal Accountant General (E&RSA)
Odisha

Countersigned

New Delhi
The



(Shashi Kant Sharma)
Comptroller and Auditor General of India

Appendices

Appendix 2.1.1

(Refer paragraph 2.1.6.5 at page 14)

Details of execution of road projects in piecemeal manner

Length in km / (₹ in crore)

| Sl. No. | Name of the road taken up under improvement/ construction | Total length | Length of road taken up | Agreement value | Payment made |
|---------|--|-----------------|-------------------------|-----------------|---------------|
| 1 | Phulbani-Gochhapada road under ODR | 28.000 | 14.000 | 5.57 | 4.75 |
| 2 | Sankarkholo-Koinjhara-Paburia-Mandakia road under ODR | 39.000 | 14.400 | 20.37 | 1.13 |
| 3 | Saintala-Tikarpara road under ODR | 28.000 | 12.200 | 9.60 | 9.41 |
| 4 | Saintala-Titilagarah road under MDR | 32.000 | 26.500 | 23.96 | 15.87 |
| 5 | Belapara-Bajalsagar-Bhanapur-Pithapatara road under ODR | 40.000 | 10.000 | 10.05 | 5.13 |
| 6 | Balangir-Arjunpur-Tusura-Deogaon road under ODR | 37.000 | 16.700 | 11.88 | 12.20 |
| 7 | Deogaon-Tikarpara road under ODR | 37.000 | 8.950 | 6.52 | 6.52 |
| 8 | Loisinga-Bharasuja road under ODR | 25.000 | 12.500 | 11.31 | 5.89 |
| 9 | Biramaharajpur-Kadaligarh road under ODR | 35.000 | 15.300 | 7.34 | 7.70 |
| 10 | Kuanmunda-Purunapani-Nuagaon road from 0/0 to 11/744 km | 29.180 | 11.744 | 14.74 | 13.42 |
| 11 | Koira-Dengula-Tensa-Barsuan road from 7/0 to 15/00 km | 41.200 | 8.000 | 12.93 | 12.36 |
| 12 | Kalunga-Bonai road from 35/0 to 45/00 km | 74.600 | 10.000 | 13.88 | 12.93 |
| 13 | Kalunga-Bonai road from 55/0 to 71/00 km | | 16.000 | 17.32 | 17.41 |
| 14 | Rourkela-Bisra-Jareikela road from 22/0 to 29/700 km | 31.700 | 7.700 | 8.50 | 8.55 |
| 15 | Rourkela-Bisra-Jareikela road from 11/0 to 22/0 km | | 11.000 | 6.30 | 6.30 |
| 16 | Randha-Markandi road from 0/0 to 8/000 km | 10.200 | 8.000 | 13.39 | 9.34 |
| 17 | Chandapur-Rajsunakhala road from 0/0 to 14/000 km | 29.239 | 14.000 | 12.93 | 12.44 |
| 18 | Odagaon-Bahadajhola -Nuagaon road from 0/0 to 20/0 km | 42.885 | 20.000 | 21.73 | 23.20 |
| 19 | Bahanga-Talapada road under ODR from 0/0 to 7.2 km. | 14.500 | 7.200 | 7.51 | 6.43 |
| 20 | Salt road from Balasore to Gud under MDR from 26/0 to 41/2 km | 42.000 | 15.200 | 15.50 | 8.44 |
| 21 | Ranital-Kupari road under ODR from 0/0 to 8/0 km | 21.000 | 8.000 | 7.80 | 5.81 |
| 22 | Kamarda Baliapal road under ODR from 0/0 to 7.00 km | 18.000 | 7.000 | 9.43 | 9.44 |
| 23 | Nilagiri-Mitrapur road under ODR from 0.325 km to 5.575 km | 9.900 | 5.375 | 6.11 | 5.71 |
| 24 | Santaragadia-Bidu road under ODR from 0/0 to 6/00 km | 6.500 | 6.000 | 6.09 | 5.67 |
| 25 | Kuakhia-Jenapur road from 11.860 to 22.540 under ODR | 24.200 | 10.680 | 7.92 | 4.82 |
| 26 | Kuakhia-Baruan-Bari-Kalamatia road 17.500 to 33 km under MDR | 33.000 | 15.500 | 17.51 | 17.51 |
| 27 | Panikoili-Ragadi road from 3.214 to 15.860 under ODR | 19.000 | 12.646 | 9.25 | 9.25 |
| 28 | Panchada-Dasmantapur road under ODR from 20/0 to 38.00 km | 37.799 | 18.000 | 10.00 | 11.12 |
| 29 | Semiliguda-Mathalput road under MDR from 15 km to 30 km | 18.660 | 15.000 | 11.58 | 10.40 |
| 30 | Semiliguda-Handiput road under MDR from 14/300 to 36 km. | 36.562 | 21.700 | 19.89 | 5.06 |
| 31 | Rampur-Girishchandrapur road under ODR from RD.0.575 to 29 km | 43.000 | 28.425 | 26.58 | 13.12 |
| 32 | Badakamar-Pangatira road from RD. 0/0 to 27/3 km | 40.000 | 27.300 | 31.06 | 31.14 |
| 33 | Chhati -Kalakala road from 5.340 km to 6.982 km & 11.880 km to 15.800 km under ODR | 16.500 | 5.562 | 4.74 | 4.64 |
| 34 | Tangi - Hariapur road from 0.0 to 3.000 km and 6.000 km to 16 km under MDR | 20.000 | 13.000 | 7.82 | 7.56 |
| 35 | Narasinghpur-Hindol road from 0 to 8 and 12/0 to 23/0 km under MDR | 23.000 | 19.000 | 19.64 | 19.02 |
| 36 | Old Cuttack -Sambalpur road from 0/0 to 9/0 km under ODR | 37.000 | 19.400 | 7.13 | 6.92 |
| 37 | Old Cuttack -Sambalpur road from 9 to 19 km under ODR | | | 5.95 | 6.10 |
| | Total | 1020.625 | 491.982 | 459.83 | 372.71 |

Appendix 2.1.2

(Refer paragraph 2.1.6.6 at page 14)

Details of execution of ODR with excessive width

| Sl. No. | Name of the road taken up for improvement/construction | Length in km/ (₹ in crore) | | |
|---------|---|-----------------------------|-------|--------------|
| | | Length of the road taken up | Cost | Payment made |
| 1 | Sankarakholo-Koinjhara-Paburia-Mandakia road under ODR | 14.400 | 20.37 | 1.13 |
| 2 | Sankarakholo-Khajuripada road under ODR | 21.150 | 25.8 | 25.7 |
| 3 | Saintala-Tikarpara road under ODR | 12.200 | 9.6 | 9.41 |
| 4 | Belapara-Bajalsagar-Bhanapur-Pithapatar road under ODR | 10.000 | 10.05 | 5.13 |
| 5 | Balangir-Arjunpur-Tusura-Deogaon road under ODR | 16.700 | 11.88 | 12.2 |
| 6 | Deogaon-Tikarpara road under ODR | 8.950 | 6.52 | 6.52 |
| 7 | Loisinga-Bharasuja road under ODR | 12.500 | 11.31 | 5.89 |
| 8 | Sajabahal-Bhimtikira road under ODR | 6.150 | 5.62 | 5.54 |
| 9 | Biramaharajpur-Kadaligarh road under ODR | 15.300 | 7.34 | 7.7 |
| 10 | Tarabha-Kamasara road under ODR | 27.600 | 23.11 | 15.69 |
| 11 | Sajabahal-Bhimtikira road under ODR | 17.000 | 13.58 | 10.44 |
| 12 | Jhumpura-Ukanda road under ODR | 14.165 | 14.4 | 14.4 |
| 13 | Buxibariagaon-Bayapandadhar under ODR | 24.000 | 35.34 | 0.68 |
| 14 | Satakutunia-Patna road from 0/0 to 13/608 km | 13.000 | 15.36 | 11.87 |
| 15 | Chhenapadi to Hadagarh road from 0/0 to 15/ km | 15.000 | 25.99 | 6.75 |
| 16 | Ramachandrapur-Harichandanpur under ODR | 14.000 | 16.25 | 15.62 |
| 17 | Barapada-Agarpada road under ODR | 15.700 | 16.17 | 15.58 |
| 18 | Kuanmunda-Purunapani-Nuagaon road from 0/0 to 11/744 km under ODR | 11.744 | 14.74 | 13.42 |
| 19 | Koirai-Dengula-Tensa-Barsuan road from 7/0 to 15 km under ODR | 8.000 | 12.93 | 12.36 |
| 20 | Rourkela-Bisra-Jareikela road from 22/0 to 29/700 km under ODR | 18.700 | 8.5 | 8.55 |
| 21 | Rourkela-Bisra-Jareikela road from 11/0 to 22/ km | | 6.3 | 6.3 |
| 22 | Gurundia-Jarada Road from 0 to 29/800 km under ODR | 29.800 | 50.78 | 2.72 |
| 23 | Bargarh-Bijepur road under ODR | 20.665 | 18.99 | 17.5 |
| 24 | Bijepur-Dubalabahal road under ODR | 24.300 | 22.84 | 22.84 |
| 25 | Khairaguda-Nuagada road | 10.000 | 16.43 | 16.43 |
| 26 | Surala-Railway station to pitatali road | 7.500 | 12.92 | 12.71 |
| 27 | Jarada-Tumba road from 0 to 9 km | 9.000 | 12.65 | 12.43 |
| 28 | NH-217 to pocilima to Balarampur road | 9.200 | 10.8 | 10.68 |
| 29 | Samuntiapali Kelua road from 0 to 5/8 km | 5.800 | 8 | 7.87 |
| 30 | Ambuabadi-Badagada road 0 to 6 km | 6.000 | 7.94 | 7.94 |
| 31 | PWD road to Kusapada-Ankarda road from 0 to 9 km | 9.000 | 10.79 | 10.25 |
| 32 | Karapada to Badadumula | 15.600 | 15.82 | 16.55 |
| 33 | Randha Markandi | 8.000 | 13.39 | 9.34 |
| 34 | Takarda-B.Brahmapur extended to Dengadi | 8.500 | 9.7 | 10.63 |
| 35 | Odagaon-Bahadajhola -Nuagaon road from 0/0 to 20/ km | 20.000 | 21.73 | 23.2 |
| 36 | Ranapur-Jankia-Siko road | 20.200 | 14.63 | 14.72 |
| 37 | Prataprasad-Darpanarayanpur road | 14.000 | 18.18 | 16.16 |
| 38 | Sarankul-Darpanarayanpur road | 23.000 | 16.94 | 16.01 |
| 39 | Bahanga-Talapada road under ODR from 0/0 to 7.2 km | 7.200 | 7.51 | 6.43 |
| 40 | Ranital-Kupari road under ODR from 0/0 to 8/ km | 8.000 | 7.8 | 5.81 |
| 41 | Kamarda Baliapal road under ODR from 0/0 to 7.00 km | 7.000 | 9.43 | 9.44 |

Audit Report (Economic Sector) for the year ended March 2016

| Sl. No. | Name of the road taken up for improvement/construction | Length of the road taken up | Cost | Payment made |
|---------|--|-----------------------------|----------------|---------------|
| 42 | Nilagiri -Mitrapur road under ODR from 0.325 km to 5.575 km | 5.375 | 6.11 | 5.71 |
| 43 | Santaragadia-Bidu road under ODR from 0/0 to 6/00 km | 6.000 | 6.09 | 5.67 |
| 44 | Belghar Ambadola road | 16.090 | 28.99 | 16.15 |
| 45 | Matrugaon-Belghar-Jhirpani road | 15.000 | 48.88 | 19.02 |
| 46 | Kuakhia-Jenapur road from 11.860 to 22.540 km under ODR | 10.680 | 7.92 | 4.82 |
| 47 | Dhaneswar -Brunde road from 0 to 12.50 km under ODR | 12.500 | 12.85 | 12.85 |
| 48 | Panikoili-Ragadi road from 3.214 to 15.86 km under ODR | 12.646 | 9.25 | 9.25 |
| 49 | Singpur-Kandia road from 0 km to 9.5 km under ODR | 9.500 | 12.28 | 12.28 |
| 50 | Sansourapali-Phulkona road under ODR from 0/0 to 25.300 km | 25.300 | 14.37 | 13.79 |
| 51 | Sunki-Ampavali road under ODR from 0/0 to 24/00 km | 24.000 | 29.9 | 36.73 |
| 52 | Panchada-Dasmantapur road under ODR from 20/0 to 38.00 km | 18.000 | 10 | 11.12 |
| 53 | Lephripada-Balishankara road under ODR from 0/0 to 26/00 km | 26.000 | 34.08 | 23.31 |
| 54 | Subdega-Lanjiberna road under ODR from 48 to 59.5 km | 11.500 | 20.81 | 16.91 |
| 55 | Lephripada-Balishankara road under ODR from 26 to 48/00 km | 22.000 | 16.34 | 16.34 |
| 56 | Ujjalpur-Dariapalli road from 0 to 15.450 km | 15.450 | 25.99 | 16.17 |
| 57 | Rampur-Girishchandrapur road under ODR from RD.0.575 km to 29 km | 28.425 | 26.58 | 13.12 |
| 58 | Jharusugada-Arda road under ODR from 0 to 16 km | 16.000 | 18 | 18 |
| 59 | NH-6 to Kansar road from 0 to 13 km | 13.000 | 18.53 | 17.17 |
| 60 | NH-6 to Kansar road from 16 to 27 km | 11.000 | 8.54 | 8.91 |
| 61 | NH-6 to Kansar road from 27 to 37.500 km | 10.500 | 20.14 | 19.19 |
| 62 | Old-Cuttack-Sambalpur road under ODR from 7/505 to 39/500 km | 31.995 | 25.76 | 22.81 |
| 63 | Dhenkanal-Bhapur road under ODR from 0 to 14/700 km | 14.700 | 10.53 | 9.94 |
| 64 | Old-Cuttack-Sambalpur road under ODR from 39/500 to 50/600 km | 11.100 | 11.77 | 11.65 |
| 65 | Dhenkanal-Sankarpur road under ODR from 0 to 15.080 km | 15.080 | 18.39 | 15.04 |
| 66 | Kamakhyanager-Kankadahad road under ODR from 0 to 18 km | 18.000 | 19.01 | 18.39 |
| 67 | Kankadahad-Mahabi road under ODR from 0 to 29/150 km | 29.150 | 27.45 | 11.42 |
| 68 | Bridge on Badakamar-Pangatira road under ODR from 0 to 27/300 km | 27.300 | 31.06 | 31.14 |
| 69 | Nuntikiri - Barapada road from 0.0 to 9.250 km under ODR | 9.250 | 11.90 | 7.52 |
| 70 | Mundali Bridge approach to Sankarpur under under ODR | 19.128 | 19.06 | 19.02 |
| 71 | Chhatia-Kalakala road from 5.340 to 6.982 km and 11.880 to 15.8 km under ODR | 5.562 | 4.74 | 4.64 |
| 72 | Old Cuttack -Sambalpur road from 0/0 to 9/0 km under ODR | 9.000 | 7.13 | 6.92 |
| 73 | Old Cuttack -Sambalpur road from 9 to 19.400 km under ODR | 10.400 | 5.95 | 6.1 |
| | Total | 1068.655 | 1186.83 | 921.64 |

Appendix 2.1.3

(Refer paragraph 2.1.8.2 at page 22)

Details of provision of unwarranted Bituminous Macadam and excessive semi dense bituminous concrete

| Sl. No. | Name of the road taken up for improvement | Agreement value (₹ in crore) | CVPD | Cost of BM (in ₹) | Total cost of SDBC (in ₹) | Extra cost for five mm SDBC (in ₹) | Total extra cost of BM and SDBC (in ₹) | Extra cost including tender premium (in ₹) |
|---------|---|------------------------------|------|-------------------|---------------------------|------------------------------------|--|--|
| 1 | Bahanga-Talapada road from 0 to 7.2 km | 7.51 | 325 | 9289624 | 6257739 | 1251548 | 10541172 | 9465972.052 |
| 2 | Ranital-Kupari road from 0/0 to 8/00 km | 7.8 | 358 | 15522725 | 10298399 | 2059680 | 17582404 | 16311196.55 |
| 3 | Nilagiri-Mitrapur road from 0.325 to 5.575 km | 6.11 | 295 | 10184119 | 6877172 | 1375434 | 11559554 | 12010376.46 |
| 4 | Santaragadia-Bidu road from 0/0 to 6/00 km | 6.09 | 325 | 10358663 | 7024466 | 1404893 | 11763556 | 12169398.76 |
| 5 | Odagaon-Bahadajhola-Nuagaon road from 0 to 20 km | 21.73 | 166 | 33022506 | 21986838 | 4397368 | 37419873 | 33307429.14 |
| 6 | Pratappasad-Darpanarayan pur road from 0 to 14 km | 18.18 | 206 | 19419348 | 13087577 | 2617515 | 22036863 | 20769743.76 |
| 7 | Khairaguda-Nuagada road | 16.43 | 190 | 13899328 | 9418101 | 1883620 | 15782948 | 14902259.45 |
| 8 | Surala-Railway station to Pitatali road | 12.92 | 171 | 10640347 | 7203712 | 1440742 | 12081089 | 11392467.07 |
| 9 | Jarada-Tumba road from 0 to 9 km | 12.65 | 156 | 15300934 | 10302600 | 2060520 | 17361454 | 18680924.5 |
| 10 | NH-217 to Pocilima to Balarampur | 10.8 | 162 | 22677220 | 10675892 | 2135178 | 24812398 | 25829706.57 |
| 11 | Samuntiapali Kelua road from 0 to 5/8 km | 8 | 151 | 6224790 | 4177173 | 835435 | 7060225 | 7166127.969 |
| 12 | Ambuabadi-Badagada road from 0 to 6 km | 7.94 | 168 | 6879145 | 4616182 | 923236 | 7802381 | 7435669.474 |
| 13 | PWD road to Kusapada-Ankarda road from 0 to 9 km | 10.79 | 163 | 11723228 | 7878255 | 1575651 | 13298879 | 12567440.66 |
| 14 | Karapada to Badadumula road | 15.82 | 194 | 27260632 | 18470112 | 3694022 | 30954655 | 32112358.83 |
| 15 | Randha Markandi road | 13.39 | 174 | 12574703 | 8457990 | 1691598 | 14266301 | 15307741.24 |
| 16 | Takarda-B.Brahmapur extended to Dengadi | 9.7 | 171 | 11557790 | 7761142 | 1552228 | 13110019 | 12218537.38 |
| 17 | Tarava-Kamsara road from /0 to 27/600 km | 23.11 | 148 | 52083830 | 34441857 | 6888371 | 58972201 | 54207247.29 |
| 18 | Balangir-Arjunpur-Tusura-Deogaon road | 5.4 | 82 | 9725472 | 6584511 | 1316902 | 11042374 | 11362602.87 |
| 19 | Loisinga-Bharsuja road from 0/0 to 12/500 km | 11.31 | 224 | 23552962 | 16002150 | 3200430 | 26753392 | 24827147.72 |

Audit Report (Economic Sector) for the year ended March 2016

| Sl. No. | Name of the road taken up for improvement | Agreement value (₹ in crore) | CVPD | Cost of BM (in ₹) | Total cost of SDBC (in ₹) | Extra cost for five mm SDBC (in ₹) | Total extra cost of BM and SDBC (in ₹) | Extra cost including tender premium (in ₹) |
|---------|---|------------------------------|------|-------------------|---------------------------|------------------------------------|--|--|
| 20 | Sahajbahal-Bhimitikira-Siali road from 17 to 23/15 km | 5.62 | 155 | 12522818 | 8259554 | 1651911 | 14174729 | 13168322.9 |
| 21 | Deogaon Tikarapada road from 28/0 to 36/950 km | 6.52 | 172 | 12291284 | 8063882 | 1612776 | 13904060 | 12077066.36 |
| 22 | Biramaharajpur-Kadaligarh road 19/7 to 35 km | 7.34 | 311 | 15530966 | 10144178 | 2028836 | 17559802 | 14341089.97 |
| 23 | Sahajbahal-Bhimitikira-Siali road 0 to 17/150 km | 13.58 | 155 | 24027918 | 15909191 | 3181838 | 27209756 | 25775801.64 |
| 24 | Sankarkholo-Khajuripada road 0 to 21/150 km | 25.8 | 174 | 33819557 | 21613516 | 4322703 | 38142260 | 37684552.96 |
| 25 | Sankarkholo-Koinjhara-Paburia-Mandakia road | 20.37 | 187 | 29782655 | 19176357 | 3835271 | 33617926 | 28911416.44 |
| 26 | Gudiaghat to NH-217 via Muribahal | 9.22 | 271 | 18249913 | 12276047 | 2455209 | 20705122 | 18980385.34 |
| 27 | Saintala Tikarapara road from 12/200 to 24/400 km | 9.59 | 228 | 20788057 | 15125422.9 | 3025085 | 23813142 | 21908090.33 |
| 28 | NH-217 to Mahakhanda road | 6.86 | 373 | 15398658 | 10464249.6 | 2092850 | 17491508 | 15654899.43 |
| 29 | Belapara-Baijalsagar-Bhanpur road from 3 to 22 km | 11.25 | 310 | 22381334 | 9656755 | 1931351 | 24312685 | 22812592.67 |
| 30 | Buxibirigaon-Bayapandadhar road from 0 to 24 km | 35.34 | 263 | 45810838 | 30838901 | 6167780 | 51978618 | 54546361.56 |
| 31 | Katalpasi-Malda road from 0/0 to 24/0 km | 26.61 | 397 | 31527302 | 21131421 | 4226284 | 35753586 | 38792641.35 |
| 32 | Satakutunia-Patna road from 0/0 to 13/000 km | 15.36 | 390 | 25976053 | 17248057 | 3449611 | 29425664 | 27336442 |
| 33 | Chhenapadi to Hadagarh road from 0 to 15 km | 25.99 | 443 | 28275242 | 18769467 | 3753893 | 32029135 | 30139416.3 |
| 34 | Barapada-Agarpada road | 16.17 | 395 | 20271204 | 13394202 | 2678840 | 22950044 | 20287839.03 |
| 35 | Gurindia Jarda road from 0/0 to 29/800 km | 50.78 | 370 | 74327584 | 49820758 | 9964152 | 84291735 | 82631188.08 |
| 36 | Kuanrmunda-Purunapani-Nuagaon road from 0 to 11 km | 14.74 | 204 | 28269029 | 19213922 | 3842784 | 32111813 | 29841508.16 |
| 37 | Kuakhia-Jenapur road from 11.860 to 22.540 km | 7.92 | 127 | 11148143 | 7450195 | 1490039 | 12638182 | 12195845.75 |
| 38 | Dhaneswar -Brunde road from 0 to 12.50 km | 12.85 | 150 | 16815774 | 11237340 | 2247468 | 19063242 | 16928158.9 |
| 39 | Nahaka-Khira road from 00 to 7.0 km | 3.76 | 231 | 6920882 | 4674054 | 934811 | 7855693 | 6678124.821 |
| 40 | Panikoili-Ragadi road from 3.214 to 15.860 km | 9.25 | 305 | 13884513 | 21923751 | 4384750 | 18269263 | 15326085.12 |
| 41 | Singpur-Kandia road from 0 to 9.5 km | 12.28 | 154 | 13629420 | 9085602 | 1817120 | 15446540 | 13555883.86 |
| 42 | Lephripada-Balishankara road from 0 to 26 km | 34.09 | 184 | 53338274 | 33308985 | 6661797 | 60000071 | 55164065.53 |

| Sl. No. | Name of the road taken up for improvement | Agreement value (₹ in crore) | CVPD | Cost of BM (in ₹) | Total cost of SDBC (in ₹) | Extra cost for five mm SDBC (in ₹) | Total extra cost of BM and SDBC (in ₹) | Extra cost including tender premium (in ₹) |
|---------|--|------------------------------|------|-------------------|---------------------------|------------------------------------|--|--|
| 43 | Subdega-Lanjiberna road from 48 to 59.5 km | 20.82 | 372 | 21120760 | 14304749 | 2860950 | 23981709 | 22878550.68 |
| 44 | Lephripada-Balishankara road from 26 to 48 km | 16.34 | 175 | 34146792 | 22798007 | 4559601 | 38706393 | 33790681 |
| 45 | Ujjalpur-Dariapalli road from 0 to 15.450 km | 25.99 | 340 | 39912694 | 25025563 | 5005113 | 44917807 | 42186804.22 |
| 46 | Old-Cuttack-Sambalpur road from 7/505 to 39/5 km | 25.76 | 154 | 47321679 | 31269927 | 6253985 | 53575665 | 45432163.71 |
| 47 | Dhenkanal-Bhapur road from 0 to 14/700 km | 10.53 | 154 | 20881106 | 15195279 | 3039056 | 23920162 | 23059036.36 |
| 48 | Old-Cuttack-Sambalpur road from 39/5 to 50/6 km | 11.77 | 190 | 17690846 | 12003939 | 2400788 | 20091634 | 18604853.29 |
| 49 | Kamakhyanagar-Kankadahad road from 0 to 18 km | 19.01 | 209 | 36447596 | 24393856 | 4878771 | 41326367 | 38888111.09 |
| 50 | Kankadahad-Mahabi road from 0 to 29/150 km | 27.45 | 296 | 56490855 | 37485801 | 7497160 | 63988015 | 60340698.6 |
| 51 | Badakamar-Pangatira road from 0 to 27/300 km | 31.06 | 403 | 42371669 | 28317118 | 5663424 | 48035093 | 47266531.3 |
| 52 | Nuntikiri - Barapada road from 0 to 9.250 km | 11.9 | 168 | 6148898 | 4080313 | 816063 | 6964961 | 6790836.829 |
| 53 | Mundali Bridge approach to Sankarpur | 19.06 | 157 | 27909750 | 18016129 | 3603226 | 31512975 | 31008767.75 |
| 54 | Chhatia - Kalakala road | 4.74 | 178 | 8802061 | 5926778 | 1185356 | 9987416 | 8669077.262 |
| 55 | Cuttack -Sambalpur road from 0 to 9/0 km | 7.13 | 246 | 12052069 | 7802441 | 1560488 | 13612558 | 12251301.9 |
| 56 | Matrugaon-Belghar-Jhiripani road from 0 to 15 km | 48.88 | 224 | 31216160 | 20648835 | 4129767 | 35345927 | 38261966.09 |
| 57 | Belghar-Ambadola road from 0 to 16.090 km | 28.99 | 244 | 34609490 | 22767795 | 4553559 | 39163049 | 41826136.33 |
| 58 | Jharusugada-Arda road under ODR from 0 to 16 km | 18 | 360 | 25767423 | 17455005 | 3491001 | 29258424 | 26361840.02 |
| | Total | 934.40 | | | 907799210 | 181559842 | 1541334472 | 1464399483 |

Appendix 2.1.4

(Refer paragraph 2.1.8.3 at page 23)

Details of unwarranted provision of surface dressing

| Sl. No. | Name of the work taken up for improvement/construction | Agreement value (₹ in crore) | Surfacing dressing provided (in Sqm) | Rate Per sqm (in ₹) | Extra cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|---|------------------------------|--------------------------------------|---------------------|-------------------|--|
| 1 | Kuakhia-Jenapur road | 7.92 | 33990 | 67.1 | 2280729.00 | 2200903.485 |
| 2 | Binjharpur-Madhupur road | 8.98 | 28875 | 84.4 | 2437050.00 | 2268893.55 |
| 3 | Lephripada-Balishankara road from 26 to 48 km | 16.34 | 60073.75 | 65.7 | 3946845.38 | 3445596.012 |
| 4 | Subdega-Lanjiberna road from 48 to 59/5 km | 20.82 | 24887.5 | 86.32 | 2148289.00 | 2049467.706 |
| 5 | Approach road of HL Bridge over river IB at 0.5 km at Bhasma | 7.68 | 20520 | 93.05 | 1909386.00 | 1855923.192 |
| 6 | Odagaon-Bahadajhola-Nuagaon road | 21.73 | 44239 | 86.2 | 3813401.80 | 3394308.942 |
| 7 | Chandapur-Rajsunakhala road | 12.94 | 22880 | 67.1 | 1535248.00 | 1378652.704 |
| 8 | Ranpur-Siko-Jankia road | 14.63 | 51861 | 80.71 | 4185701.31 | 3725274.166 |
| 9 | Old Cuttack-Sambalpur road from 39 to 50 km | 11.77 | 61219.63 | 68.7 | 4205788.58 | 3894560.226 |
| 10 | Old Cuttack-Sambalpur road from 7 to 39/5 km | 25.76 | 180180.35 | 60.6 | 10918929.21 | 9259251.97 |
| 11 | Dhenkanal-Bhapur road | 10.53 | 33920 | 64.5 | 2187840 | 2109077.76 |
| 12 | Badakamar-Pangatira road from 0 to 27/3 km | 31.06 | 139842.7 | 71.4 | 9984768.78 | 9825012.48 |
| 13 | Sankarkholo-Koinjhara-Paburia-Mandakia road from 5/600 to 20/00km | 20.37 | 39901.13 | 83.51 | 3332143.366 | 2865643.295 |
| 14 | Sankarkholo-Khajuripada road from 0 to 21 km | 25.8 | 58986.5 | 63.4 | 3739744.1 | 3694867.171 |
| 15 | Balangir-Arjunpur-Tusura-Deogaon road 14/200 to 25/00 km | 6.48 | 59400 | 56 | 3326400 | 3615796.8 |
| 16 | Balangir-Arjunpur-Tusura-Deogaon road from 31/100 to 37/00 Km | 5.4 | 14558 | 79.1 | 1151537.8 | 1184932.396 |
| 17 | HL Bridge over Bhutiarbahal Nallah 11/770 km on Deogaon-Tikarapara road | 5.88 | 26309 | 62.9 | 1654836.1 | 1439707.407 |
| 18 | Deogaon-Tikarapada road from 28/0 to 36/95 km | 6.52 | 50092 | 56.3 | 2820179.6 | 2449608.001 |
| 19 | Loisingha-Bharsuja road from 0 to 12/500 km | 11.31 | 33715 | 83.2 | 2805088 | 2603121.664 |
| 20 | Sahajbahal-Bhimitkira-Siali Canal road | 5.62 | 17251 | 84.88 | 1464264.88 | 1360302.074 |

| Sl. No. | Name of the work taken up for improvement/construction | Agreement value (₹ in crore) | Surfacing dressing provided (in Sqm) | Rate Per sqm (in ₹) | Extra cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|--|------------------------------|--------------------------------------|---------------------|-------------------|--|
| 21 | Tarbha-Kamsara road from 0 to 27/600 km | 23.11 | 52540 | 80.25 | 4216335 | 3875655.132 |
| 22 | Birmaharajpur-Kadaligarh road | 7.34 | 53680 | 64.9 | 3483832 | 2845245.594 |
| 23 | Sahajbahal-Siali via Bhimtikira road | 13.58 | 23296 | 84.18 | 1961057.28 | 1857709.561 |
| 24 | Saintala-Tikarapara road from 12/2 to 24/4 km | 9.59 | 29425 | 84.32 | 2481116 | 2282626.72 |
| 25 | NH 217 to Mahakhand road | 6.86 | 22138 | 82.99 | 1837232.62 | 1644323.195 |
| 26 | Gudighat to NH 217 via Muribahal road | 9.22 | 30877 | 70 | 2161390 | 1981346.213 |
| 27 | Khaprakhhol-Harisankar road | 3.34 | 10748 | 60.7 | 652403.6 | 548019.024 |
| 28 | Titlagarh-Phapsi PWD road | 23.96 | 72600 | 80.35 | 5833410 | 5442571.53 |
| 29 | Sunki-Ampavalli-Ekaguluru road 0 to 24 km | 29.90 | 62026 | 54.6 | 3386619.6 | 3877679.442 |
| 30 | Jharsuguda-Arada road | 18.00 | 37125 | 82.73 | 3071351.25 | 2767287.476 |
| 31 | Bahanga-Talapada road from 0 to 7.2 km | 7.51 | 16225 | 67.70 | 1098432.5 | 986392.385 |
| 32 | Salt road Balasore to Gud from 26to 41.2 km | 15.50 | 34991 | 68.00 | 2379388 | 2115275.932 |
| 33 | Ranital-Kupari road from 0.0 to 8.000 km | 7.80 | 18513 | 81.15 | 1502329.95 | 1393711.495 |
| 34 | Kamarda-Baliapal road from 0.0 to 7.000 km | 9.43 | 11797.50 | 84.64 | 998540.4 | 1058352.97 |
| 35 | Narsinghpur-Hindol road | 19.64 | 103136.00 | 59.10 | 6095337.6 | 5321229.725 |
| 36 | Khairaguda-Nuagada road | 16.43 | 19250 | 86.33 | 1661852.5 | 1569121.131 |
| 37 | Surala-Railway station to pitatali road | 12.92 | 15675 | 80.58 | 1263091.5 | 1191095.285 |
| 38 | Jarada-Tumba road from 0 to 9 km | 12.65 | 22000 | 82.66 | 1818520 | 1956727.52 |
| 39 | NH-217 to Pocilima to Balarampur | 10.80 | 22384 | 83.6 | 1871302.4 | 1948025.798 |
| 40 | Samuntiapali Kelua road from 0 to 5/8 km | 8.00 | 10725 | 68.5 | 734662.5 | 745682.4375 |
| 41 | Ambuabadi-Badagada road 0 to 6 km | 7.94 | 11825 | 68.6 | 811195 | 773068.835 |
| 42 | PWD road to Kusapada-Ankarda | 10.79 | 41800 | 65.8 | 2750440 | 2599165.8 |
| 43 | Chikiti Surangi road from 38 to 49 km | 14.17 | 24750 | 69.2 | 1712700 | 1789771.5 |
| 44 | Karapada to Badadumula road | 15.82 | 39799 | 81.43 | 3240832.57 | 3362039.708 |

Audit Report (Economic Sector) for the year ended March 2016

| Sl. No. | Name of the work taken up for improvement/construction | Agreement value (₹ in crore) | Surfacing dressing provided (in Sqm) | Rate Per sqm (in ₹) | Extra cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|--|------------------------------|--------------------------------------|---------------------|-------------------|--|
| 45 | Randha Markandi road | 13.39 | 21863 | 67.1 | 1467007.3 | 1574098.833 |
| 46 | Jumpura-Ukhunda road from 0 to 14 km | 14.40 | 67177.00 | 59.50 | 3997031.50 | 3565352.098 |
| 47 | Satakutunia-Patna road 0/0 to 13 km | 15.36 | 24415.00 | 81.54 | 1990799.10 | 1849452.364 |
| 48 | Baxibarigaon Bayapandadhar road | 35.34 | 67569.65 | 80.42 | 5433951.25 | 5702388.445 |
| 49 | Katalapasi-Malda road from 0 to 24 km | 26.61 | 45634.55 | 81.52 | 3720128.52 | 4036339.44 |
| 50 | Gurundia-Jarada road from 0 to 29/8 km | 50.78 | 75556.00 | 82.47 | 6231103.32 | 6108350.585 |
| 51 | Kuanmunda-Purunapani-Nuagaon road | 14.74 | 42061.50 | 79.90 | 3360713.85 | 3123111.381 |
| 52 | Koira-Dengula-Tensa-Barsuan-Kaleiposi road from 7/00 to 15/00 km | 12.93 | 25789.40 | 64.62 | 1666511.03 | 1591518.032 |
| 53 | Kalunga- Bonai road from 35 to 45 km | 13.88 | 35000.00 | 59.00 | 2065000.00 | 1939035 |
| 54 | Kalunga- Bonai road from 55 to 71 km | 17.32 | 56000.00 | 65.40 | 3662400.00 | 3233899.2 |
| 55 | Rourkela-Bisra-Jareikela road from 22 to 29/7 km | 8.50 | 21227.00 | 65.70 | 1394613.90 | 1506183.012 |
| 56 | Bhawanipatna-Rayagada road from 0 to 26 km | 21.19 | 121300.00 | 54.90 | 6659370.00 | 5593870.8 |
| 57 | Chhatiguda-Narla-Rampur road from 0 to 20 km | 12.02 | 92565.00 | 57.80 | 5350257.00 | 4547718.45 |
| 58 | Chhatiguda-Narla-Rampur road from 16/7 to 38/5 km | 28.07 | 56520.75 | 71.23 | 4025973.02 | 4219219.728 |
| 59 | Baladialmal-Dharmagarh road | 20.24 | 57336.75 | 69.92 | 4008985.56 | 4157318.026 |
| 60 | Bhawanipatna-Rayagada road from 26 to 37 km | 16.58 | 61690.00 | 67.90 | 4188751.00 | 4390648.798 |
| 61 | Barapada-Agarpada road from 0 to 15.7 km | 16.17 | 80201.00 | 58.40 | 4683738.40 | 4140424.746 |
| 62 | Ichhapur-Basudevpur road from 12 to 24/150 km | 17.58 | 26149.75 | 80.99 | 2117868.25 | 1969405.688 |
| 63 | Basudevpur-Anantapur Salt road 0 to 7 km | 10.91 | 15955.50 | 80.45 | 1283619.98 | 1187220.115 |
| | Total | 957.85 | 2784039 | | 194179366 | 182988580.1 |

Appendix 2.1.5

(Refer paragraph 2.1.8.4 at page 23)

Details of unwarranted provision of capping layer

| Sl. No. | Name of the work taken up for improvement/ construction | Estimated cost (₹ in crore) | CBR value of the sub-soil (in per cent) | Traffic density (msa) | Required GSB as per IRC code | GSB Provided | | Lesser/equal GSB layer provided in the work | | | Capping layer of sand provided | | | Extra cost involved (in ₹) | Extra cost after tender premium (in ₹) |
|---------|---|-----------------------------|---|-----------------------|------------------------------|-------------------|-------------------|---|-------------------|---------------|--------------------------------|-------------------|---------------|----------------------------|--|
| | | | | | | Thickness (in mm) | Quantity (in cum) | Thickness (in mm) | Quantity (in cum) | Amount (in ₹) | Thickness (in mm) | Quantity (in cum) | Amount (in ₹) | | |
| 1 | Jashipur Raruan road from 5.68 to 21.3 km | 17.48 | 5 | 6 | 260 | 300 | 9672 | -40 | -1289.6 | -2807046.5 | 150 | 14126.4 | 8028880.7 | 10835927.23 | 9687318.95 |
| 2 | Approach road of IB bridge | 7.91 | 10 | 38 | 200 | 300 | 5535 | -100 | -1845 | -3624133.5 | 600 | 22606.42 | 5177548.37 | 8801681.873 | 8555234.78 |
| 3 | Ujjalpur-Darlipali road from 0 to 15/45 km | 27.67 | 4 | 5 | 285 | 300 | 11069.76 | -15 | -553.488 | -1189074.9 | 150 | 10644 | 3997779.96 | 5186854.835 | 4871494.06 |
| 4 | Subdega-Lanjiberna road from 48 to 59 km | 21.82 | 3 | 5 | 225 | 375 | 10890 | -150 | -4356 | -6119657.3 | 150 | 10388 | 3218410.16 | 9338067.44 | 8908516.34 |
| 5 | Lephipada-Balisankara road from 26 to 48 km | 18.71 | 3 | 2 | 335 | 350 | 27524.7 | -15 | -1179.63 | -1511106 | 150 | 22937 | 6089085.39 | 7600191.42 | 6634967.11 |
| 6 | Lephipada-Balisankara road from 0 to 26 km | 37.08 | 6 | 5 | 210 | 250 | 28094 | -40 | -4495.04 | -10253051 | 150 | 16304 | 8494873.12 | 18747924.51 | 17236841.79 |
| 7 | Kirei-Bamara road from 0/00 to 35 km | 36.03 | 6 | 5 | 210 | 250 | 20403 | -40 | -3264.48 | -6339620.2 | 150 | 10558 | 3197701.46 | 9537321.62 | 10013233.97 |
| 8 | Kamakhyanagar-Kankadahada road | 20.2 | 4 | 3 | 280 | 270 | 15484.67 | 10 | 573.506 | 1020772.39 | 150 | 11387.75 | 3725046.9 | 2704274.516 | 2544722.32 |
| 9 | Old Cuttack-Sambalpur road from 39/5 to 50/6 km | 12.71 | 3 | 3 | 335 | 225 | 8412.82 | 110 | 4112.93 | 3897005.18 | 275 | 18009.93 | 7074300.5 | 3177295.328 | 2942175.47 |

Audit Report (Economic Sector) for the year ended March 2016

| Sl. No. | Name of the work taken up for improvement/ construction | Estimated cost (₹ in crore) | CBR value of the sub-soil (in per cent) | Traffic density (msa) | Required GSB as per IRC code | GSB Provided | | Lesser/equal GSB layer provided in the work | | | Capping layer of sand provided | | | Extra cost involved (in ₹) | Extra cost after tender premium (in ₹) |
|---------|--|-----------------------------|---|-----------------------|------------------------------|-------------------|-------------------|---|-------------------|---------------|--------------------------------|-------------------|---------------|----------------------------|--|
| | | | | | | Thickness (in mm) | Quantity (in cum) | Thickness (in mm) | Quantity (in cum) | Amount (in ₹) | Thickness (in mm) | Quantity (in cum) | Amount (in ₹) | | |
| 10 | Kankadahada-Mahabi road | 29.1 | 4 | 4 | 280 | 300 | 17458.78 | -20 | -1163.92 | -2268896.5 | 150 | 21445.76 | 12040293 | 14309189.53 | 13493565.73 |
| 11 | Deogaon-Tikirapada from 28 to 36/950 km | 7.51 | 6 | 3 | 190 | 200 | 11840 | -10 | -592 | -522795.2 | 150 | 15151 | 3337765.3 | 3860560.5 | 3353282.85 |
| 12 | Loisinga-Bharsuja road from 0 to 12/5 km | 12.19 | 5 | 5 | 250 | 250 | 7266 | 0 | 0 | 0 | 150 | 17714 | 5508168.3 | 5508168.3 | 5111580.18 |
| 13 | Sahajbahal-Bhantikira-Siali Canal Road from 17/00 to 23/150 km | 6.05 | 5 | 3 | 225 | 225 | 4566 | 0 | 0 | 0 | 150 | 5166 | 1606367.7 | 1606367.7 | 1492315.59 |
| 14 | Biramaharajpur-Kadaligarh road | 8.99 | 5 | 6 | 266 | 200 | 11907 | 66 | 3929.31 | 5184331.61 | 650 | 40724 | 7928962.8 | 2744631.186 | 2241540.29 |
| 15 | Tarva-Kamasara road from 0/0 to 27/6 km | 25.14 | 3 | 1 | 200 | 200 | 5560 | 0 | 0 | 0 | 150 | 23873 | 8002229.6 | 8002229.6 | 7355649.45 |
| 16 | Sahajbahal-Bhantikira-Siali road | 14.33 | 5 | 3 | 225 | 225 | 6219 | 0 | 0 | 0 | 150 | 5040 | 1770804 | 1770804 | 1677482.63 |
| 17 | PWD road from Gudighat to NH 217 via Muribahal road | 10.05 | 6 | 4 | 200 | 200 | 5896.8 | 0 | 0 | 0 | 450 | 18869.76 | 6309859.05 | 6309859.046 | 5784247.79 |
| 18 | Salt road Balasore to Gud from 26.000 km to 41.200 km | 17.44 | 3 | 7 | 360 | 200 | 16032.24 | 160 | 12825.8 | 13036135 | 300 | 30518.75 | 17490295.6 | 4454160.636 | 3959748.81 |
| 19 | Bahanga – Talapada road from 0.0 to 7.200 km | 8.36 | 3 | 7 | 360 | 225 | 8496.00 | 135 | 5097.6 | 5024194.56 | 300 | 13429.88 | 5750674.62 | 726480.056 | 652379.09 |

| Sl. No. | Name of the work taken up for improvement/ construction | Estimated cost (₹ in crore) | CBR value of the sub-soil (in per cent) | Traffic density (msa) | Required GSB as per IRC code | GSB Provided | | Lesser/equal GSB layer provided in the work | | | Capping layer of sand provided | | | Extra cost involved (in ₹) | Extra cost after tender premium (in ₹) |
|---------|---|-----------------------------|---|-----------------------|------------------------------|-------------------|-------------------|---|-------------------|-----------------|--------------------------------|-------------------|------------------|----------------------------|--|
| | | | | | | Thickness (in mm) | Quantity (in cum) | Thickness (in mm) | Quantity (in cum) | Amount (in ₹) | Thickness (in mm) | Quantity (in cum) | Amount (in ₹) | | |
| 20 | Jumpura-Ukhunda road from 0/0 to 14/165 km | 16.14 | 6 | 11 | 260 | 260 | 9207 | 0 | 0 | 0 | 150 | 13977 | 5694229.8 | 5694229.8 | 5079252.98 |
| 21 | Satakutunia-Patna road from 0/0 to 13/0 km- | 16.54 | 6 | 8 | 260 | 250 | 5016.00 | 10 | 200.64 | 354157.69 | 150 | 6259 | 3159981.33 | 2805823.64 | 2606610.16 |
| 22 | Baxibari gaon Bayapandadhar road from 0/00 to 24/00 km | 33.68 | 4 | 5 | 300 | 285 | 26909.52 | 15 | 1416.29 | 2196921.54 | 150 | 11408 | 5667380.32 | 3470458.781 | 3641899.45 |
| 23 | Katalapasi-Malda road from 0/00 to 24/00 km | 24.52 | 7 | 5 | 250 | 250 | 16952.2 | 0 | 0 | 0 | 150 | 9418.95 | 4222703.66 | 4222703.664 | 4581633.48 |
| | Total | 429.65 | | | | | | | 9416.9 | -3921864 | | 369956.6 | 137493342 | 141415205.2 | 132425693.26 |

Appendix 2.1.6

(Refer paragraph 2.1.8.6 at page 24)

Details of undue provision of sand and GSB

| Sl. No. | Name of the work taken up for improvement | Estimated cost (₹ in crore) | Sand quantity (in cum) | Sand cost (in ₹) | GSB quantity (in cum) | GSB cost (in ₹) | Total sand and GSB cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|--|-----------------------------|------------------------|-------------------|-----------------------|--------------------|--------------------------------|--|
| 1 | Singhpur-Kandia road | 13.78 | 2736 | 623862.72 | 571 | 1116653.31 | 1740516.03 | 1527476.87 |
| 2 | Dhaneswar-Barundei road | 14.47 | 1899 | 660662.1 | 1676 | 2089804.40 | 2750466.50 | 2442414.25 |
| 3 | Tomka Mangalpur road from 17/400 to 23/00 km | 9.61 | 6601 | 3094548.8 | 6298 | 7308199.20 | 10402748.00 | 9092001.75 |
| 4 | Subdega-Lanjiberna road from 48/00 to 59/500 km | 21.82 | 720 | 223070.4 | 1260 | 1770148.80 | 1993219.20 | 1901531.12 |
| 5 | Odagaon-Bahadajhola-Nuagaon road | 24.41 | 0 | 0 | 1329 | 2687105.10 | 2687105.10 | 2391792.25 |
| 6 | Pratapprasad-Darpanarayanpur road | 19.29 | 0 | 0 | 4487.58 | 6170422.50 | 6170422.50 | 5815623.21 |
| 7 | Chandapur-Rajsunakhala road | 14.41 | 3048 | 1084051.68 | 640.05 | 709751.45 | 1793803.13 | 1610835.21 |
| 8 | Badakamar-Pangatira road | 31.56 | 361 | 118083.1 | 1330 | 1763713.00 | 1881796.10 | 1851687.36 |
| 9 | Sohella-Barpalli-Binika road | 18.51 | 1008 | 228513.6 | 1772 | 1623860.80 | 1852374.40 | 1617122.85 |
| 10 | Bijepur-Dublabahal road | 21.05 | 0 | 0 | 2840 | 2807624.00 | 2807624.00 | 3046272.04 |
| 11 | Salt road Balasore to Gud from 26.000 to 41.200 km | 17.44 | 0 | 0 | 2130 | 2164932.00 | 2164932.00 | 1924624.55 |
| 12 | Bahanga-Talapada road from 0.0 to 7.200 km | 8.36 | 0 | 0 | 1547.6 | 1525314.56 | 1525314.56 | 1369732.47 |
| 13 | Khariaguda-Nuagada road | 17.4 | 0 | 0 | 1683 | 2296941.57 | 2296941.57 | 2168772.23 |
| 14 | Surala-Railway station to Pitatali road | 13.7 | 0 | 0 | 1998 | 2210247.54 | 2210247.54 | 2084263.43 |
| 15 | Jarada-Tumba road from 0 to 9 km | 11.76 | 0 | 0 | 501 | 678579.45 | 678579.45 | 730151.49 |
| 16 | NH-217 to Pocilima to Balarampur road | 10.37 | 0 | 0 | 734.4 | 759252.096 | 759252.10 | 790381.43 |
| 17 | Samuntiapali Kelua road from 0 to 5/8 km | 7.88 | 0 | 0 | 945 | 1011622.5 | 1011622.50 | 1026796.84 |
| 18 | Ambuabadi-Badagada road 0 to 6 km | 8.34 | 0 | 0 | 493 | 522678.6 | 522678.60 | 498112.71 |
| 19 | PWD road to Kusapada-Ankarda | 11.41 | 0 | 0 | 1155 | 1041694.5 | 1041694.50 | 984401.30 |
| 20 | Karapada to Badadumula road | 15.25 | 0 | 0 | 1457.5 | 1642485.9 | 1642485.90 | 1703914.87 |
| | Total | 310.82 | 16373.00 | 6032792.40 | 34848.13 | 41901031.27 | 47933823.67 | 44577908.23 |

Appendix 2.1.7

(Refer paragraph 2.1.8.7 at page 24)

Details of provision of Wet Mix Macadam without considering existing crust

| Sl. No. | Name of the Project | Estimated Cost (₹ in crore) | CBR (in per cent) | MSA | Crust thickness required (in mm) | Existing crust (in mm) | Balance required (in mm) | Existing width (in m) | Length of road (in m) | Crust thickness Provided (in mm) | Excess provision (in mm) | Quantity (in cum) | Amount (in ₹) | Extra cost with tender premium (in ₹) |
|---------|---|-----------------------------|-------------------|-----|----------------------------------|------------------------|--------------------------|-----------------------|-----------------------|----------------------------------|--------------------------|-------------------|---------------|---------------------------------------|
| 1 | Ranital-Kupari road (ODR) from 0/0 to 8/00 km | 8.4 | 4 | 6 | 550 | 300 | 250 | 3.7 | 6576 | 325 | 75 | 1,805.11 | 2834838 | 2629879 |
| 2 | Nilagiri -Mitrapur road (ODR) from 0.325 to 5.575 km | 5.88 | 5 | 3 | 550 | 350 | 200 | 3.7 | 5353 | 325 | 125 | 2,449.00 | 3794403 | 3942385 |
| 3 | Santaragadia-Bidu road (ODR) from 0/0 to 6/00 km | 5.88 | 5 | 4 | 575 | 250 | 325 | 3.7 | 5548 | 575 | 250 | 5,076.42 | 7223136 | 7472335 |
| 4 | Odagaon-Bahadajhola-Nuagaon road from 0 to 20 km ((ODR) | 24.41 | 5 | 3 | 530 | 350 | 180 | 3.8 | 16086 | 325 | 145 | 8,746.76 | 18415434 | 16391578 |
| 5 | Prataprasad-Darpanarayanapur road 0/0 to 14 km (ODR) | 19.29 | 5 | 3 | 530 | 310 | 220 | 3.7 | 9952 | 325 | 105 | 3,824.55 | 6355643 | 5990194 |
| 6 | Bargarh -Bijepur road (ODR) from RD.0/0 to 20/665 km | 20.22 | 4 | 1 | 480 | 350 | 130 | 3.5 | 16865 | 450 | 320 | 18,888.80 | 18815134 | 17667411 |
| 7 | Bijepur-Dubalabahal road from 28/200 to 52/500 km (ODR) | 21.05 | 4 | 1 | 480 | 300 | 180 | 3.5 | 22182 | 450 | 270 | 20,961.99 | 20723023 | 22484480 |

Audit Report (Economic Sector) for the year ended March 2016

| Sl. No. | Name of the Project | Estimated Cost (₹ in crore) | CBR (in per cent) | MSA | Crust thickness required (in mm) | Existing crust (in mm) | Balance required (in mm) | Existing width (in m) | Length of road (in m) | Crust thickness Provided (in mm) | Excess provision (in mm) | Quantity (in cum) | Amount (in ₹) | Extra cost with tender premium (in ₹) |
|---------|--|-----------------------------|-------------------|-----|----------------------------------|------------------------|--------------------------|-----------------------|-----------------------|----------------------------------|--------------------------|-------------------|------------------|---------------------------------------|
| 8 | Sohella-Barpali-Binika road (MDR) | 18.51 | 5 | 1 | 430 | 300 | 130 | 3.5 | 19417 | 425 | 295 | 20,048.05 | 24901686 | 21739172 |
| 9 | Lephripada-Balishankara road (ODR) from 0/0 to 26/00 km | 37.07 | 6 | 5 | 535 | 150 | 385 | 3 | 23655 | 425 | 40 | 2,838.60 | 5596726 | 5145630 |
| 10 | Lephripada-Balishankara road (ODR) from 26 to 48/00 km | 18.72 | 3 | 2 | 610 | 150 | 460 | 3 | 21845 | 500 | 40 | 2,621.40 | 4295950 | 3750365 |
| 11 | Subdega-Lanjibera road (ODR) from 48 to 59.5 km | 21.82 | 3 | 5 | 690 | 150 | 540 | 3 | 8800 | 550 | 10 | 264.00 | 370888 | 353827 |
| 12 | Kirei-Bamara road | 36.03 | 6 | 5 | 535 | 250 | 285 | 7 | 16920 | 325 | 40 | 4,737.60 | 9396082 | 9864947 |
| 13 | Nuntikiri - Barapada road from 0.0 to 9.250 km (ODR) | 12.20 | 4 | 2.5 | 560 | 350 | 210 | 5.5 | 2329 | 325 | 115 | 1,473.09 | 2583362 | 2518778 |
| 14 | Mundali Bridge approach to Sankarpur (ODR) | 19.37 | 6 | 3 | 490 | 200 | 290 | 5.5 | 13300 | 325 | 35 | 2,560.25 | 3963267 | 3899855 |
| 15 | Tangi - Haripur road from 0.0 to 3 km and 6 to 16 km (MDR) | 9.27 | 3 | 5 | 690 | 450 | 240 | 5.5 | 9819 | 325 | 85 | 4,590.38 | 6449487 | 5443367 |
| | Total | 278.1 | | | | | | | 198647 | | | 100,886.01 | 135719061 | 129294202 |

Appendix 2.1.8

(Refer paragraph 2.1.8.8 at page 25)

Details of provision of GSB in excess of IRC specifications

| Sl. No. | Name of the work taken up for improvement | Estimated cost (₹ in crore) | Length (in m) | Required width (in m) | Thickness (in m) | Total quantity required (in cum) | Quantity provided (in cum) | Excess quantity (in cum) | Total (in ₹) | Extra cost including tender premium (in ₹) |
|---------|---|-----------------------------|---------------|-----------------------|------------------|----------------------------------|----------------------------|--------------------------|--------------------|--|
| 1 | Pratappasad-Darpanarayanapur road from 0/0 to 14 km (ODR) | 19.29 | 9952 | 2.44 | 0.2 | 4856.576 | | | | |
| | | | 3111 | 2.44 | 0.15 | 1138.626 | | | | |
| | | | | | | 5995.202 | 17480.91 | 11485.708 | 15792848.5 | 14884759.71 |
| 2 | Buxibari goan to Bayapandadhar road | 33.67 | 24489 | 2.44 | 0.285 | 17029.65 | 26909.52 | 9879.869 | 15325455.82 | 16082533.33 |
| | Total | 52.96 | 37552 | | | 23024.85 | 44390.43 | 21365.58 | 31118304.32 | 30967293.04 |

Appendix 2.1.9

(Refer paragraph 2.1.8.8 at page 25)

Details of avoidable extra cost on coarse graded instead of close graded aggregates

| Sl. No. | Name of the work taken up for improvement | Agreement value (₹ in crore) | Rate of Coarse graded GSB per cum (in ₹) | Rate of close graded GSB per cum (in ₹) | Difference per cum (in ₹) | Provision of GSB (coarse graded) (in cum) | Extra cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|--|------------------------------|--|---|---------------------------|---|-------------------|--|
| 1 | Panikoili-Ragadi road | 9.25 | 1727.18 | 1573.89 | 153.29 | 7744 | 1187077.76 | 995839.53 |
| 2 | Lephripada-Balishankara road from 0 to 26 km | 34.09 | 2280.97 | 1987.48 | 293.49 | 28094 | 8245308.06 | 7580736.23 |
| 3 | Ujjalpur-Darlipali from 0/00 to 15/450 km | 25.99 | 2148.33 | 1922.74 | 225.59 | 28977 | 6536921.43 | 6139476.61 |
| 4 | Kirei-Bamara road from 0/00 to 35/00 km | 37.83 | 1942 | 1716.41 | 225.59 | 20403 | 4602712.77 | 4832388.14 |
| 5 | Odagaon-Bahadajhola-Nuagaon road | 21.73 | 2021.9 | 1704.48 | 317.42 | 14855 | 4715274.1 | 4197065.48 |
| 6 | Dasapalla-Bhanjanagar road | 11.82 | 2132.47 | 1979.19 | 153.28 | 15475 | 2372008 | 2127216.77 |
| 7 | Kamakhyanagar-Kankadahada road | 19.01 | 1779.88 | 1625.74 | 154.14 | 15484 | 2386703.76 | 2245888.24 |
| 8 | Kankadahada-Mahabi road | 27.45 | 1949.36 | 1795.23 | 154.13 | 18235.42 | 2810625.285 | 2650419.64 |
| 9 | Dhenkanal-Sankarpur road | 18.39 | 1592.55 | 1438.41 | 154.14 | 18582.31 | 2864277.263 | 2689269.92 |
| 10 | Sankarkholo-Koinjhara-Paburia-Mandakia road from 5/600 to 20/00 km | 20.37 | 2421.22 | 2245.92 | 175.3 | 11488 | 2013846.4 | 1731907.90 |
| 11 | Balangir-Arjunpur-Tusura-Deogaon road from 31/100 to 37/00 km | 5.25 | 1328.27 | 1084.41 | 243.86 | 4936.25 | 1203753.925 | 1238662.79 |
| 12 | Tarbha-Kamsara road from 0/0 to 27/600 km | 23.11 | 1257.43 | 1054.84 | 202.59 | 28969 | 5868829.71 | 5394628.27 |
| 13 | Rampur-Girischandrapur road from 0.575 to 29.000 km | 26.58 | 1801.98 | 1647.84 | 154.14 | 22972.95 | 3541050.51 | 3349833.79 |
| 14 | Semiliguda-Handiput road from 14.3 to 36.0 km | 19.89 | 1702.94 | 1574.00 | 128.94 | 15863 | 2045375.22 | 1849019.20 |
| 15 | Sunki-Ampavalli-Ekaguluru road from 0 to 24 km | 29.90 | 1512.45 | 863.40 | 649.05 | 15854 | 10290038.70 | 11782094.31 |
| 16 | Ranital-Kupari road from 0.0 to 8 km | 7.80 | 1570.75 | 1417.46 | 153.29 | 9883.54 | 1515047.85 | 1405509.89 |
| 17 | Kamarda-Baliapal road from 0.0 to 7 km | 9.43 | 2080.89 | 1927.60 | 153.29 | 6462.12 | 990578.37 | 1049914.02 |
| 18 | Nilagiri-Mitrapur road from 0.325 to 5.700 km (ODR) | 6.11 | 1539.72 | 1386.44 | 153.28 | 3451.29 | 529013.73 | 549645.27 |

| Sl. No. | Name of the work taken up for improvement | Agreement value (₹ in crore) | Rate of Coarse graded GSB per cum (in ₹) | Rate of close graded GSB per cum (in ₹) | Difference per cum (in ₹) | Provision of GSB (coarse graded) (in cum) | Extra cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|--|------------------------------|--|---|---------------------------|---|--------------------|--|
| 19 | Santaragadia-Bidu road from 0.0 to 6.000 km (ODR) | 6.09 | 1353.56 | 1200.27 | 153.29 | 12362.9 | 1895108.94 | 1960490.20 |
| 20 | Buxibarigaon-Gonasika road via Bayapandadhara road from 0 to 24 km | 35.34 | 1551.18 | 1397.04 | 154.14 | 26909.52 | 4147833.41 | 4352736.38 |
| 21 | Katalapasi-Malda road from 0 to 24 km | 26.61 | 1720.93 | 1566.79 | 154.14 | 16952.2 | 2613012.11 | 2835118.14 |
| 22 | Satakutunia-Patna road from 0 to 13 km | 15.36 | 1765.14 | 1013.64 | 751.5 | 5016 | 3769524.00 | 3501887.80 |
| 23 | Satakutunia-Patna road from 38/3 to 58/9 km | 19.77 | 1499.45 | 1305.60 | 193.85 | 24776.42 | 4802909.02 | 4500325.75 |
| | Total | 457.17 | | | | 373746.92 | 80946830.33 | 78960074.26 |

Appendix 2.1.10

(Refer paragraph 2.1.8.9 at page 25)

Details of excess provision of transportation charges and undue payment of stacking charges

| Sl. No. | Name of the work taken up for improvement | Agreement value (₹ in crore) | WMM provided (in cum) | Quantity of void (in cum) | Transportation rate per cum (in ₹) | GSB provided (in cum) | Quantity of void (in cum) | Total extra cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|---|------------------------------|-----------------------|---------------------------|------------------------------------|-----------------------|---------------------------|-------------------------|--|
| 1 | Panikoili-Ragadi road | 9.25 | 6932.46 | 2218.39 | 553 | 7744.37 | 2168.42 | 2425906.37 | 2035092.86 |
| 2 | Binjharpur-Madhupur road | 8.98 | 8702 | 2784.64 | 701.2 | 4536.00 | 1270.08 | 2843169.66 | 2646990.96 |
| 3 | Singhpur-Kandia road | 12.28 | 8308 | 2658.56 | 729.7 | 3067.00 | 858.76 | 2566588.40 | 2252437.98 |
| 4 | Dhaneswar-Barundei road | 12.85 | 9827 | 3144.64 | 462.9 | 11524.00 | 3226.72 | 2949302.54 | 2618980.66 |
| 5 | Jashipur-Raruan road from 5.680 to 21.3 km | 15.63 | 20326.38 | 6504.44 | 900.7 | 9672.60 | 2708.33 | 8297941.58 | 7418359.77 |
| 6 | Baripada-Bamanghaty road from 0 to 14.3 km | 11.91 | 18233.45 | 5834.70 | 663.6 | 17750.00 | 4970.00 | 7170001.57 | 6847351.50 |
| 7 | Lephripada-Balishankara road from 0 to 26 km | 34.09 | 34487 | 11035.84 | 980.5 | 28094.00 | 7866.32 | 18533567.88 | 17039762.31 |
| 8 | Lephripada-Balishankara road from 26 to 48 km | 16.34 | 28507 | 9122.24 | 527.6 | 27524.00 | 7706.72 | 8878959.30 | 7751331.47 |
| 9 | Subdega-Lanjiberna road from 48 to 59/500 km | 20.82 | 12443 | 3981.76 | 535.9 | 12613.00 | 3531.64 | 4026431.06 | 3841215.23 |
| 10 | Ujjalpur-Darlipali road from 0/00 to 15/450 km | 25.99 | 26045 | 8334.40 | 877.9 | 28977.00 | 8113.56 | 14439664.08 | 13561732.51 |
| 11 | Kirei-Bamara road from 0/00 to 35/00 km | 37.83 | 33731 | 10793.92 | 328 | 20402.00 | 5712.56 | 5414125.44 | 5684290.30 |
| 12 | Odagaon-Bahadajhola-Nuagaon road | 21.73 | 25658 | 8210.56 | 781 | 14855.00 | 4159.40 | 9660938.76 | 8599201.59 |
| 13 | Khandapada-Fategarh road | 9.94 | 21966 | 7029.12 | 428.7 | 5677.00 | 1589.56 | 3694828.12 | 3535950.51 |
| 14 | Pratappasad-Darpanarayanpur road | 18.18 | 14922 | 4775.04 | 524.50 | 17481.00 | 4894.68 | 5071768.14 | 4780141.47 |
| 15 | Dasapalla-Bhanjanagar road | 11.82 | 15205 | 4865.60 | 866.50 | 15475.00 | 4333.00 | 7970586.90 | 7148022.33 |
| 16 | Chandapur-Rajsunakhala road | 12.94 | 10810 | 3459.20 | 364.90 | 7094.00 | 1986.32 | 1987070.25 | 1784389.08 |
| 17 | Old-Cuttack-Sambalpur road from 7/5 to 39/5 km | 25.76 | 47831 | 15305.92 | 287.60 | 21629.00 | 6056.12 | 6143722.70 | 5209876.85 |
| 18 | Dhenkanal-Bhapur road from 0 to 14/700 km | 10.53 | 19764 | 6324.48 | 338.8 | 10943.00 | 3064.04 | 3180830.58 | 3066320.68 |
| 19 | Old-Cuttack-Sambalpur road from 39/5 to 50/6 km | 11.77 | 17446 | 5582.72 | 240.8 | 8412.00 | 2355.36 | 1911489.66 | 1770039.43 |
| 20 | Dhenkanal-Sankarpur road from 0 to 15.080 km | 18.39 | 21445 | 6862.40 | 448.00 | 18582.00 | 5202.96 | 5405281.28 | 5075018.59 |
| 21 | Kamakhyanagar-Kankadahad road 0 to 18 km | 19.01 | 25495.81 | 8158.66 | 592.90 | 15484.67 | 4335.71 | 7407910.08 | 6970843.38 |
| 22 | Kankadahada-Mahabi road 0 to 29/15 km | 27.45 | 37076.7 | 11864.54 | 724.00 | 18235.42 | 5105.92 | 12286614.20 | 11586277.19 |

| Sl. No. | Name of the work taken up for improvement | Agreement value (₹ in crore) | WMM provided (in cum) | Quantity of void (in cum) | Transportation rate per cum (in ₹) | GSB provided (in cum) | Quantity of void (in cum) | Total extra cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|--|------------------------------|-----------------------|---------------------------|------------------------------------|-----------------------|---------------------------|-------------------------|--|
| 23 | Badakamar-Pangatira road from 0 to 27/300 km | 31.06 | 33721 | 10790.72 | 509.7 | 21753.00 | 6090.84 | 8604531.13 | 8466858.63 |
| 24 | Sohella-Barpali-Binika road | 16.16 | 29907 | 9570.24 | 242.80 | 29410.00 | 8234.80 | 4323063.71 | 3774034.62 |
| 25 | Bijepur-Dublabahal road | 22.84 | 28083 | 8986.56 | 270 | 33723.00 | 9442.44 | 4975830.00 | 5398775.55 |
| 26 | Bargarh-Bijepur road | 18.99 | 23711 | 7587.52 | 277.30 | 24500.00 | 6860.00 | 4006297.30 | 3761913.16 |
| 27 | Godabhaga-Turum road | 12.23 | 18794 | 6014.08 | 552.00 | 9756.00 | 2731.68 | 4827659.52 | 4542827.61 |
| 28 | Sankarakholo-Koinjhara-Paburia-Mandakia road | 20.37 | 21329 | 6825.28 | 960.40 | 11488.00 | 3216.64 | 9644259.97 | 8294063.57 |
| 29 | Phiringia Gochhapada road from 0 to 23 km | 9.73 | 19407 | 6210.24 | 665.20 | 3105.00 | 869.40 | 4709376.53 | 5156767.30 |
| 30 | Sankarakholo-Khajuripada from 0 to 21/150 km | 25.8 | 29922 | 9575.04 | 717.70 | 17643.00 | 4940.04 | 10417472.92 | 10292463.24 |
| 31 | Loisinga-Bharsuja road from 0 to 12/500 km | 11.31 | 17320 | 5542.40 | 400.00 | 9992.00 | 2797.76 | 3336064.00 | 3095867.39 |
| 32 | Sahajbahal-Bhimtikira-Saiali Canal road from 17 to 23 km | 5.62 | 8999 | 2879.68 | 649.90 | 4566.00 | 1278.48 | 2702388.18 | 2510518.62 |
| 33 | Tarbha-Kamsara road from 0/0 to 27/600 km | 23.11 | 27244 | 8718.08 | 208 | 28969.00 | 8111.32 | 3500515.20 | 3217673.57 |
| 34 | Sahajbahal-Siali via Bhimtikira road | 13.58 | 12224 | 3911.68 | 587.2 | 6218.00 | 1741.04 | 3319277.18 | 3144351.28 |
| 35 | Saintala-Tikrapara road from 12/2 to 24/400 km | 9.59 | 15145 | 4846.40 | 456 | 7234.00 | 2025.52 | 3133595.52 | 2882907.88 |
| 36 | Gudighat to NH217 Via Muribahal | 9.22 | 15884.19 | 5082.94 | 350.3 | 7177.80 | 2009.78 | 2484581.50 | 2277615.86 |
| 37 | Titlagarh-Phapsi road | 23.96 | 37485 | 11995.20 | 248 | 14853.00 | 4158.84 | 4006201.92 | 3737786.39 |
| 38 | Jharsuguda - Arda via Talamala from 0 to 16 km | 18.00 | 18832.50 | 6026.40 | 376.00 | 16842.50 | 4715.90 | 4039104.80 | 3639233.42 |
| 39 | Rampur-Girischandrapur road from 0.575 to 29 km | 26.58 | 20854.58 | 6673.47 | 610.00 | 22972.95 | 6432.43 | 7994593.88 | 7562885.81 |
| 40 | NH-6 to Kansar road from 0/00 to 13/00 km | 18.53 | 12855.93 | 4113.90 | 274.80 | 11819.02 | 3309.33 | 2039901.74 | 1958305.67 |
| 41 | NH-6 to Kansar from 27.000km to 37.500 km | 20.14 | 9195.17 | 2942.45 | 376.00 | 8487.76 | 2376.57 | 1999954.23 | 2155750.66 |
| 42 | Panchada - Dasmantpur - Giriliguma road. | 10.00 | 16253.76 | 5201.20 | 551.30 | 14954.68 | 4187.31 | 5175887.55 | 5113776.90 |
| 43 | Semiliguda-Mathiliput-Kakriguma road | 11.58 | 18842.00 | 6029.44 | 280.00 | 14565.00 | 4078.20 | 2830139.20 | 2970231.09 |
| 44 | Semiliguda-Handiput road from 14.3 to 36.0 km | 19.89 | 33571.00 | 10742.72 | 404.80 | 15863.00 | 4441.64 | 6146628.93 | 5556552.55 |
| 45 | Sunki-Ampavalli-Ekaguluru road 0/0 to 24/0 km | 29.90 | 31013.00 | 9924.16 | 523.30 | 15854.00 | 4439.12 | 7516304.42 | 8606168.57 |
| 46 | Salt road Balasore to Gud 26 to 41.200 km | 15.50 | 18068.08 | 5781.79 | 299.20 | 18162.24 | 5085.43 | 3251470.07 | 2890556.89 |
| 47 | Ranital - Kupari road from 0.0 to 8.000 km | 7.80 | 9860.05 | 3155.22 | 432.00 | 9883.54 | 2767.39 | 2558566.31 | 2373581.97 |

Audit Report (Economic Sector) for the year ended March 2016

| Sl. No. | Name of the work taken up for improvement | Agreement value (₹ in crore) | WMM provided (in cum) | Quantity of void (in cum) | Transportation rate per cum (in ₹) | GSB provided (in cum) | Quantity of void (in cum) | Total extra cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|---|------------------------------|-----------------------|---------------------------|------------------------------------|-----------------------|---------------------------|-------------------------|--|
| 48 | Mundali Bridge approach to Sankarpur | 19.37 | 26821.65 | 8582.93 | 530.50 | 1650.00 | 462.00 | 4798334.30 | 4721560.96 |
| 49 | Tangi - Haripur road from 0 to 3 km and 6. to 16 km | 7.82 | 17949.00 | 5743.68 | 394.30 | 3531.00 | 988.68 | 2654569.55 | 2240456.70 |
| 50 | Narasinghpur-Hindol road from 0 to 8 km and 12 to 23 km | 19.64 | 23205.00 | 7425.60 | 383.60 | 10955.00 | 3067.40 | 4025114.80 | 3513925.22 |
| 51 | Khariaguda-Nuagada road | 16.43 | 8926 | 2856.32 | 496 | 10223.00 | 2862.44 | 2836504.96 | 2678227.98 |
| 52 | Jarada-Tumba road from 0/00 to 9/00 km | 12.65 | 11160 | 3571.20 | 441.6 | 20021.00 | 5605.88 | 4052598.53 | 4360596.02 |
| 53 | Chikiti Surangi road from 38 to 49 km | 14.17 | 12555 | 4017.60 | 417.45 | 11982.00 | 3354.96 | 3077675.17 | 3216170.55 |
| 54 | Karapada to Badadumula road | 15.82 | 11939 | 3820.48 | 312 | 19548.00 | 5473.44 | 2899703.04 | 3008151.93 |
| 55 | Jumpura-Ukhunda road from 0/0 to 14/165 km | 14.40 | 16794 | 5374.08 | 416.00 | 9207.00 | 2577.96 | 3308048.64 | 2950779.39 |
| 56 | Satakutunia-Patna road 0/0 to 13/0 km | 15.36 | 13364 | 4276.48 | 581.5 | 5016.00 | 1404.48 | 3303478.24 | 3068931.28 |
| 57 | Baxibarigaon Bayapandadhar road from 0 to 24 km | 35.34 | 36119 | 11558.08 | 416 | 26909.52 | 7534.67 | 7942582.17 | 8334945.73 |
| 58 | Katalapasi-Malda road from 0/00 to 24/00 km | 26.61 | 24393 | 7805.76 | 547.3 | 16952.20 | 4746.62 | 6869915.38 | 7453858.19 |
| 59 | Gurundia-Jarada road from 0/00 to 29/800 km | 50.78 | 44310 | 14179.20 | 564.40 | 42834.00 | 11993.52 | 14771883.17 | 14480877.07 |
| 60 | Kuanmunda-Purunapani-Nuagaon road | 14.74 | 19375.2 | 6200.06 | 304.00 | 24107.90 | 6750.21 | 3936883.90 | 3658546.21 |
| 61 | Koira-Dengula-Tensa-Barsuan-Kaleiposi road | 12.93 | 14520.58 | 4646.59 | 858.11 | 18772.45 | 5256.29 | 8497753.15 | 8115354.26 |
| 62 | Kalunga- Bonai road from 35/00 to 45/00 km | 13.88 | 18025 | 5768.00 | 321.10 | 22110.00 | 6190.80 | 3839970.68 | 3605732.47 |
| 63 | Kalunga- Bonai road from 55/00 to 71/00 km | 17.32 | 29380 | 9401.60 | 411.50 | 30180.00 | 8450.40 | 7346098.00 | 6486604.53 |
| 64 | Chhatiguda-Narla-Rampur road from 16 to 38/5 km | 28.07 | 29802 | 9536.64 | 473.30 | 25075.00 | 7021.00 | 7836731.01 | 8212894.10 |
| 65 | Baladialmal-Dharmagarh road from 0 to 22/750 km | 20.24 | 29778 | 9528.96 | 343.00 | 8708.00 | 2438.24 | 4104749.60 | 4256625.34 |
| 66 | Barapada-Agapada road from 0/0 to 15/700 km | 16.17 | 20706.44 | 6626.06 | 230.00 | 29977.00 | 8393.56 | 3454512.78 | 3053789.30 |
| 67 | Ichhapur-Basudevpur road from 12 to 24/150 km | 17.58 | 13502.78 | 4320.89 | 424.00 | 15553.00 | 4354.84 | 3678509.35 | 3420645.84 |
| 68 | Basudevpur-Anantapur Salt road from 0 to 7 km | 10.91 | 8238.84 | 2636.43 | 376.00 | 8463.00 | 2369.64 | 1882281.87 | 1740922.50 |
| | Total | 1225.21 | 1424547.6 | 455855 | | 1067339.6 | 298855 | 364928262.6 | 347184690 |

Undue payment of stacking charges

1424547.6 cum x 1.32 = 1880403 cum, 1067339.6 cum x 1.28 = 1366195 cum, (188043 + 1366195) x 26 = ₹ 84411548

Appendix 2.1.11

(Refer paragraph 2.1.8.9 at page 26)

Details of extra cost towards excess lead

| Sl. No. | Name of the work taken up for improvement/construction | Estimated cost (₹ in crore) | Actual lead (in km) | Cost (in ₹) | Lead provided (in km) | Cost (in ₹) | Extra cost (in ₹) | Description of item | Quantity (in cum) | Total quantity (in cum) | Cost (in ₹) | Extra cost including tender premium (in ₹) |
|--------------|--|-----------------------------|---------------------|-------------|-----------------------|-------------|-------------------|---------------------|-------------------|-------------------------|--------------------|--|
| 1 | Chhenapadi-Hadagarh road | 27.62 | 25 | 296 | 93 | 741.1 | 445.1 | GSB | 23706 | 30343.68 | 13505971.97 | 12709119.62 |
| | | | | | | | 445.1 | WMM | 20908 | 27598.56 | 12284119.06 | 11559356.03 |
| | | | | | | | 445.1 | BM | 3898 | 5496.18 | 2446349.72 | 2302015.08 |
| | | | | | | | 445.1 | SDBC | 1949 | 2845.54 | 1266549.85 | 1191823.41 |
| | | | | | | | 445.1 | CC | 14788 | 13309.2 | 5923924.92 | 5574413.35 |
| | | | | | | | 445.1 | Stone | 5849 | 5849 | 2603389.90 | 2449789.90 |
| 2 | Lephripada-Balishankara road from 0/0 to 26/0 km | 37.08 | 106 | 815.2 | 135 | 980.5 | 165.3 | GSB | 28094 | 35960.32 | 5944240.90 | 5465135.08 |
| | | | | | | | 165.3 | WMM | 34487 | 45522.84 | 7524925.45 | 6918416.46 |
| | | | | | | | 165.3 | BM | 6543 | 9225.63 | 1524996.64 | 1402081.91 |
| | | | | | | | 165.3 | SDBC | 3271 | 4775.66 | 789416.60 | 725789.62 |
| | | | | | | | 165.3 | CC | 16413 | 14771.7 | 2441762.01 | 2244955.99 |
| | | | | | | | 165.3 | Stone | 2340 | 2340 | 386802.00 | 355625.76 |
| 3 | HL Bridge over river Brahmani at Jenapur | 51.92 | 11 | 139.8 | 55 | 411.5 | 271.7 | CC | 46542 | 41887.8 | 11380915.26 | 9787587.12 |
| | | | | | | | 271.7 | Stone | 10139 | 10139 | 2754766.30 | 2369099.02 |
| 4 | Chhatiguda-Narla-Rampur road from 16/700 to 38/500 km | 26.78 | 35 | 343 | 54 | 473.3 | 130.3 | GSB | 25074 | 32094.72 | 4181942.02 | 4382675.23 |
| | | | | | | | 130.3 | WMM | 29802 | 39338.64 | 5125824.79 | 5371864.38 |
| | | | | | | | 130.3 | BM | 6188 | 8725.08 | 1136877.92 | 1191448.06 |
| | | | | | | | 130.3 | SDBC | 3094 | 4517.24 | 588596.37 | 616849.00 |
| | | | | | | | 130.3 | CC | 12522 | 11269.8 | 1468454.94 | 1538940.78 |
| Total | | 143.4 | | | | | | | | 250065.1 | 83279826.62 | 78156985.81 |

Appendix 2.1.12

(Refer paragraph 2.1.8.9 at page 27)

Details of extra cost towards average lead charges

| Sl. No. | Name of the work taken up for improvement | Estimated cost (₹ in crore) | Shortest lead (in km) | Average lead (in km) | Excess lead (in km) | Cost of excess lead (in ₹) | Description of item | Quantity (in cum) | Total quantity (in cum) | Cost (in ₹) | Extra cost including tender premium (in ₹) |
|--------------|---|-----------------------------|-----------------------|----------------------|---------------------|----------------------------|---------------------|-------------------|-------------------------|-----------------|--|
| 1 | Kanjiasole-Turumunga road | 12.07 | 38 | 97 | 59 | 266.3 | GSB | 5434.54 | 6956.21 | 2224944.15 | 2129271.554 |
| | | | | | 579.5 | 266.3 | WMM | 20243 | 26720.76 | 8546635.09 | 8179129.777 |
| | | | | | 313.2 | 266.3 | BM | 5978 | 8428.98 | 2696009.25 | 2580080.855 |
| | | | | | | 266.3 | SDBC | 1992 | 2908.32 | 930226.15 | 890226.4275 |
| | | | | | | 266.3 | Stone | 2759 | 2759.00 | 734721.70 | 703128.6669 |
| 2 | Satakutunia-Patna road | 21.1 | 30 | 100 | 70 | 319.85 | GSB | 33919 | 43416.32 | 11561766.02 | 10833374.76 |
| | | | | | 581.85 | 319.85 | WMM | 28712 | 37899.84 | 10092727.39 | 9456885.566 |
| | | | | | 262 | 319.85 | BM | 8459 | 11927.19 | 3176210.70 | 2976109.423 |
| | | | | | | 319.85 | SDBC | 2819 | 4115.74 | 1096021.56 | 1026972.204 |
| 3 | Phulbani-Gochhapada road from 14/00 to 28/00 Km | 5.15 | 68 | 106 | 38 | 163.40 | GSB | 1890 | 2419.2 | 644232.96 | 697704.2957 |
| | | | | | 630.8 | 163.40 | WBM | 8888 | 10754.48 | 3439820.43 | 3725325.524 |
| | | | | | 467.4 | 163.40 | CC 1:3:6 | 1228 | 1768.32 | 565597.15 | 612541.7156 |
| | | | | | | 163.40 | PCC M-15 | 2944 | 2649.6 | 432944.64 | 468879.0451 |
| 4 | Phiringia Gochhapada road 0/0 to 23/00 Km | 8.89 | 85 | 114 | 29 | 124.70 | GSB | 3105 | 3974.4 | 387193.5 | 423976.8825 |
| | | | | | 665.2 | 124.70 | WBM | 19407 | 23482.47 | 2420052.9 | 2649957.926 |
| | | | | | 540.5 | 124.70 | CC 1:3:6 | 1240 | 1785.6 | 154628 | 169317.66 |
| | | | | | | 124.70 | PCC M-15 | 3102 | 2791.8 | 386819.4 | 423567.243 |
| Total | | 47.21 | | | | | | 152119.5 | 194758.23 | 49490551 | 47946449.52 |

Appendix 2.1.13

(Refer paragraph 2.1.8.9 at page 27)

Details of cost involved for compaction of sand

| Sl. No. | Name of the work taken up for improvement | Estimated cost (₹ in crore) | Cost of hire charges of road roller and cost of water (in ₹) | Overhead charges (in ₹) | Rate per cum including overhead charges (in ₹) | Quantity provided (in cum) | Amount of extra cost (in ₹) | Extra cost after tender premium (in ₹) |
|---------|--|-----------------------------|--|-------------------------|--|----------------------------|-----------------------------|--|
| 1 | Gurundia-Jarada road from 0/00 to 29/800 km | 51.8 | 1636 | 1799.6 | 18 | 25386 | 456948.00 | 447946.1244 |
| 2 | Kuanrmunda-Purunapani-Nuagaon road 0/00 to 11/744 km | 15.86 | 1636 | 1799.6 | 18 | 8190.9 | 147436.20 | 137012.4607 |
| 3 | Koira-Dengula-Tensa-Barsuan-Kaleiposi road from 7/00 to 15/00 km | 13.53 | 1636 | 1799.6 | 18 | 28337.34 | 510072.12 | 487118.8746 |
| 4 | Kalunga- Bonai road from 35/00 to 45/00 km | 14.75 | 1636 | 1799.6 | 18 | 23132 | 416376.00 | 390977.064 |
| 5 | Tangi - Haripur road from 0 to 3 km and 6 to 16 km | 9.27 | 1636 | 1799.6 | 18 | 8600 | 154800.00 | 130651.2 |
| 6 | Bhawanipatna-Rayagada road (MDR) from 0/0 to 26/0 km | 25.22 | 1636 | 1799.6 | 18 | 51048 | 918864.00 | 771845.76 |
| 7 | Chhatiguda-Narla-Rampur road from 0/0 to 20/0 km | 14.14 | 1636 | 1799.6 | 18 | 37920 | 682560.00 | 580176 |
| 8 | Chhatiguda-Narla-Rampur road from 16/700 to 38/500 km | 26.78 | 1636 | 1799.6 | 18 | 51286 | 923148.00 | 967459.104 |
| 9 | Baladiamal-Dharmagarh road (MDR) from 0/0 to 22/750 km | 19.52 | 1636 | 1799.6 | 18 | 24115 | 434070.00 | 450130.59 |
| 10 | Bhawanipatna-Rayagada road (MDR) from 26/0 to 37/0 km | 15.81 | 1636 | 1799.6 | 18 | 27065 | 487170.00 | 510651.594 |
| 11 | Lephipada-Balishankara road from 0/00 to 26/00 km | 37.08 | 1636 | 1799.6 | 18 | 17440 | 313920.00 | 288618.048 |
| 12 | Old Cuttack-Sambalpur road from 7/505 to 39/500 km | 30.38 | 1636 | 1799.6 | 18 | 56972 | 1025496.00 | 869620.608 |
| 13 | Old Cuttack-Sambalpur road from 39/500 to 50/00 km | 12.71 | 1636 | 1799.6 | 18 | 18010 | 324180.00 | 300190.68 |
| 14 | Kankadahada-Mahabi road | 29.1 | 1636 | 1799.6 | 18 | 21446 | 386028.00 | 364024.404 |
| 15 | Salt road Balasore to Gud from 26 to 41.200 km | 17.44 | 1636 | 1799.6 | 18 | 30518.75 | 549337.50 | 488361.0375 |
| 16 | Bahanga –Talapada road from 0.0 to 7.200 km | 8.36 | 1636 | 1799.6 | 18 | 13429.88 | 241737.84 | 217080.5803 |
| 17 | Birmaharajpur-Kadaligarh road from 19/70 to 35/00 km | 8.99 | 1636 | 1799.6 | 18 | 40724 | 733032.00 | 598667.2344 |
| 18 | Deogaon Tikarapada road from 28/00 to 36/950 km | 7.51 | 1560 | 1716 | 17.16 | 15151 | 259991.16 | 225828.3216 |
| 19 | Sohella-Barpali-Binika road | 18.51 | 1636 | 1799.6 | 18 | 53400 | 961200.00 | 839127.6 |
| 20 | Bijepur-Dublabahal road | 21.05 | 1636 | 1799.6 | 18 | 45253 | 814554.00 | 883791.09 |
| 21 | Bargarh-Bijepur road | 20.3 | 1636 | 1799.6 | 18 | 44596 | 802728.00 | 753761.592 |
| | Total | 418.11 | | | | 642020.9 | 11543648.8 | 10703039.97 |

Appendix 2.1.14

(Refer paragraph 2.1.8.9. at page 27)

Details of extra cost involved in transportation of earth

| Sl. No. | Name of the work taken up for improvement / widening/construction | Agreement value (₹ in crore) | Quantity of excavated earth (in cum) | Rate provided (in ₹) | Rate for mechanical means per cum (in ₹) | Extra cost per cum (in ₹) | Total (in ₹) | Extra cost after tender premium (in ₹) |
|---------|---|------------------------------|--------------------------------------|----------------------|--|---------------------------|--------------|--|
| 1 | Kuakhia-Jenapur road | 7.92 | 10955 | 86.7 | 16.26 | 70.44 | 771670.2 | 744661.74 |
| 2 | Singhpur-Kandia road | 12.28 | 6615 | 47.32 | 16.26 | 31.06 | 205461.9 | 180313.36 |
| 3 | Panikoili-Ragadi road | 9.25 | 23697 | 47.32 | 16.26 | 31.06 | 736028.82 | 617454.58 |
| 4 | Strengthening to Binjharpur-Madhupur road | 8.98 | 17850 | 90.6 | 16.26 | 74.34 | 1326969 | 1235408.14 |
| 5 | Dhaneswar-Barundei road | 12.85 | 13892 | 86.7 | 16.26 | 70.44 | 978552.48 | 868954.60 |
| 6 | Nahaka-Khaira road | 3.76 | 3556 | 89.9 | 16.26 | 73.64 | 261863.84 | 222610.45 |
| 7 | Lephripura-Balisankara road from 0/00 to 26/00 km | 34.09 | 42790 | 47.32 | 16.26 | 31.06 | 1329057.4 | 1221935.37 |
| 8 | Lephripura-Balisankara road from 26/00 to 48/00 km | 16.35 | 13757 | 58.87 | 16.26 | 42.61 | 586185.77 | 511740.18 |
| 9 | Subdega-Lanjiberna road from 48/00 to 59/500 km | 20.82 | 20686 | 89.89 | 16.26 | 73.63 | 1523110.18 | 1453047.11 |
| 10 | Ujjalpur-Darlipali road from 0/00 to 15/450 km | 25.99 | 13908 | 47.32 | 16.26 | 31.06 | 431982.48 | 405717.95 |
| 11 | Kirei-Bamara road from 0/00 to 35/00 km | 37.83 | 20229 | 47.32 | 16.26 | 31.06 | 628312.74 | 659665.55 |
| 12 | Approach road of HL Bridge over river IB at 0.500 km at Bhasma | 7.68 | 22312 | 89.9 | 16.26 | 73.64 | 1643055.68 | 1597050.12 |
| 13 | Odagaon-Bahadajhola-Nuagaon road | 21.73 | 26472 | 89.9 | 16.26 | 73.64 | 1949398.08 | 1735159.23 |
| 14 | Khandapada-Fategarh road | 9.94 | 14891 | 52 | 16.26 | 35.74 | 532204.34 | 509319.55 |
| 15 | Pratappasad-Darpanarayanpur road | 18.18 | 28923 | 47.32 | 16.26 | 31.06 | 898348.38 | 846693.35 |
| 16 | Dasapalla-Bhanjanagar road | 11.82 | 17726 | 47.32 | 16.26 | 31.06 | 550569.56 | 493750.78 |
| 17 | Chandapur-Rajsunakhala road | 12.94 | 39147 | 86.7 | 16.26 | 70.44 | 2757514.68 | 2476248.18 |
| 18 | Ranpur-Siko-Jankia road | 14.63 | 26875 | 89.9 | 16.26 | 73.64 | 1979075 | 1761376.75 |
| 19 | Old-Cuttack-Sambalpur road (ODR) from 7/505 to 39/500 km | 25.76 | 81323 | 52 | 16.26 | 35.74 | 2906484.02 | 2464698.45 |
| 20 | Dhenkanal-Bhapur road (ODR) from 0 to 14/700 km | 10.53 | 24330 | 53.5 | 16.26 | 37.24 | 906049.2 | 873431.43 |
| 21 | Old-Cuttack-Sambalpur road (ODR) from 39/500 to 50/600 km | 11.77 | 20845 | 72.2 | 16.26 | 55.94 | 1166069.3 | 1079780.17 |
| 22 | Dhenkanal-Sankarpur road (ODR) from 0 to 15.080 km | 18.39 | 22058 | 47.32 | 16.26 | 31.06 | 685121.48 | 643260.56 |
| 23 | Kamakhyanager-Kankadahad road (ODR) from 0 to 18 km | 19.01 | 23827 | 47.32 | 16.26 | 31.06 | 740066.62 | 696402.69 |

| Sl. No. | Name of the work taken up for improvement / widening/construction | Agreement value (₹ in crore) | Quantity of excavated earth (in cum) | Rate provided (in ₹) | Rate for mechanical means per cum (in ₹) | Extra cost per cum (in ₹) | Total (in ₹) | Extra cost after tender premium (in ₹) |
|---------|---|------------------------------|--------------------------------------|----------------------|--|---------------------------|-----------------|--|
| 24 | Kankadahad-Mahabi road (ODR) from 0 to 29/150 km | 27.45 | 50237 | 47.32 | 16.26 | 31.06 | 1560361.22 | 1471420.63 |
| 25 | Bridge on Badakamar-Pangatira road (ODR) from 0 to 27/300 km | 31.06 | 56330 | 72.2 | 16.26 | 55.94 | 3151100.2 | 3100682.60 |
| 26 | Sohella-Barpalli-Binika road | 16.16 | 25297 | 52 | 16.26 | 35.74 | 904114.78 | 789292.20 |
| 27 | Bijepur-Dublabahal road | 22.84 | 8428 | 86.7 | 16.26 | 70.44 | 593668.32 | 644130.13 |
| 28 | Bargarh-Bijepur road | 18.99 | 9808 | 53.5 | 16.26 | 37.24 | 365249.92 | 342969.67 |
| 29 | Godabhaga-Turum road | 12.23 | 23486 | 52 | 16.26 | 35.74 | 839389.64 | 789865.65 |
| 30 | Sankarkholo-Koinjhara-Paburia-Mandakia road | 20.37 | 61984 | 47.33 | 16.26 | 31.07 | 1925842.88 | 1656224.88 |
| 31 | Phiringia-Gochhapada road from 0/00 to 23/00 km | 9.73 | 20939 | 40.5 | 16.26 | 24.24 | 507561.36 | 555779.69 |
| 32 | Phulbani-Gochhapada road | 5.57 | 17274 | 40.45 | 16.26 | 24.19 | 417858.06 | 452540.28 |
| 33 | Balangir-Arjunpur-Tusura-Deogaon road from 14/2 to 25/0 km | 6.48 | 21982 | 52 | 16.26 | 35.74 | 785636.68 | 717286.29 |
| 34 | Balangir-Arjunpur-Tusura-Deogaon road from 31/1 to 37/0 km | 5.4 | 3529 | 47.32 | 16.26 | 31.06 | 109610.74 | 112789.45 |
| 35 | Loisingha-Bharsuja road from 0/00 to 12/500 km | 11.31 | 13494 | 47.3 | 16.26 | 31.04 | 418853.76 | 388696.29 |
| 36 | Sahajbahal-Bhimitkira-Siali Canal road from 17/00 to 23/150 km | 5.62 | 4291 | 47.3 | 16.26 | 31.04 | 133192.64 | 123735.96 |
| 37 | Tarbha-Kamsara road from 0/0 to 27/600 km | 23.11 | 28461 | 47.32 | 16.26 | 31.06 | 883998.66 | 812571.57 |
| 38 | Sahajbahal-Siali via Bhimitkira road | 13.58 | 7380 | 47.3 | 16.26 | 31.04 | 229075.2 | 217002.94 |
| 39 | Saintala-Tikrapara road from 12/200 to 24/400 km | 9.59 | 23067 | 99 | 16.26 | 82.74 | 1908563.58 | 1755878.49 |
| 40 | NH 217 to Mahakhand road | 6.86 | 14471 | 47.32 | 16.26 | 31.06 | 449469.26 | 402274.99 |
| 41 | PWD road to Gudighat to NH 217 via Muribahal | 9.22 | 23828.91 | 95.46 | 16.26 | 79.2 | 1887249.672 | 1730041.77 |
| 42 | Khaprakhol-Harisankar road from 10/934 to 13/250 km alongwith bridge at 10/200 km | 3.34 | 5145.76 | 57.3 | 16.26 | 41.04 | 211181.9904 | 177392.87 |
| 43 | Belpara-Baijalsagar-Pithapatar road | 10.05 | 14084 | 47.3 | 16.26 | 31.04 | 437167.36 | 366127.66 |
| 44 | Titlagarh-Phapsi PWD road | 23.96 | 54278 | 99 | 16.26 | 82.74 | 4490961.72 | 4190067.28 |
| | Total | 665.42 | 1024459 | | | | 47703259 | 44095452 |

Appendix 2.1.15

(Refer paragraph 2.1.9.2 at page 33)

Details of Non-completion of Bridge and Road Projects

(₹ in crore)

| SL No. | Name of the work taken up for construction / improvement | Estimated cost | Agreement value | Date of Commencement/ Stipulated Date of Completion | Expenditure incurred | Percentage of achievement | Penalty |
|--------|--|----------------|-----------------|--|----------------------|---------------------------|---------|
| 1 | HL Bridge over river Dudhei | 5.14 | 4.53 | 15.11.2011 14.05.2013 | 3.33 | 73.51 | 0.51 |
| 2 | Bridge over river Kuakhia Nalla | 4.4 | 4.79 | 28.10.2011 27.04.2013 | 4.28 | 89.35 | 0.44 |
| 3 | HL Bridge over river Budha | 23.82 | 23.18 | 01.08.2012 31.07.2014 | 19.80 | 85.42 | 2.38 |
| 4 | HL Bridge over river Ganda | 10 | 8.92 | 08.08.2013 07.02.2015 | 7.38 | 82.74 | 1.00 |
| 5 | Bridge over river Brahamani near Jenapur | 51.92 | 44.65 | 20.04.2011 19.04.2014 | 17.74 | 39.73 | 5.19 |
| 6 | HL Bridge over river Kharasota on Balmukuli Bagmara road | 15.48 | 17.01 | 23.02.2011 22.02.2013 | 7.97 | 46.85 | 1.55 |
| 7 | Kuakhia-Jenapur road | 8.21 | 7.92 | 08.08.2013 07.02.2015 | 4.82 | 60.86 | 0.82 |
| 8 | Panikoili-Ragadi road | 10.75 | 9.25 | 15.12.2014 14.10.2015 | 9.25 | 100.00 | 1.08 |
| 9 | HL Bridge over river Kathajodi direct link to Bhubaneswar | 98.74 | 94.49 | 07.03.2011 06.03.2014 | 61.10 | 64.66 | 9.87 |
| 10 | HL Bridge over river Katra | 7.51 | 7.3 | 21.10.2011 20.04.2013 | 2.98 | 40.82 | 0.75 |
| 11 | HL Bridge over Chutia Nallah | 5.71 | 6.29 | 04.03.2014 03.09.2015 | 1.83 | 29.09 | 0.57 |
| 12 | Subdega-Lanjiberna road from 48/00 to 59/00 km | 21.82 | 20.82 | 01.03.2014 30.08.2015 | 16.91 | 81.22 | 2.18 |
| 13 | Chandapur-Rajsunakhala road | 14.41 | 12.94 | 12.07.2013 11.07.2015 | 12.44 | 96.14 | 1.44 |
| 14 | Old Cuttack-Sambalpur road from 7/505 to 39/500 km | 30.38 | 25.76 | 25.11.2011 24.11.2013 | 22.81 | 88.55 | 3.04 |
| 15 | HL Bridge on right approach of Ramial bridge on Dhenkanal-Kamakhyanager road | 9.93 | 10.53 | 07.05.2012 06.05.2014 | 9.75 | 92.59 | 0.99 |
| 16 | Dhenkanal-Sankarpur road from 00 to 15/800 km | 19.59 | 18.39 | 08.12.2014 07.01.2016 | 15.04 | 81.78 | 1.96 |
| 17 | Loisingha-Bharsuja road from 0/00 to 12/500 km | 12.19 | 11.31 | 04.03.2014 03.09.2015 | 5.89 | 52.08 | 1.22 |

| Sl. No. | Name of the work taken up for construction / improvement | Estimated cost | Agreement value | Date of Commencement/ Stipulated Date of Completion | Expenditure incurred | Percentage of achievement | Penalty |
|--------------|---|----------------|-----------------|--|----------------------|---------------------------|--------------|
| 18 | Sahajbahal-Siali via Bhimtikira road | 14.33 | 13.58 | 11.10.2014 10.01.2016 | 10.44 | 76.88 | 1.43 |
| 19 | PWD road from Gudighat to NH 217 via Muribahal | 10.05 | 9.22 | 01.10.2013 31.03.2015 | 9.15 | 99.24 | 1.01 |
| 20 | Belpara-Bajalsagar-Bhanpur-Pithapathar road | 12 | 10.04 | 07.07.2014 06.07.2015 | 5.13 | 51.10 | 1.20 |
| 21 | Semiliguda-Mathiliput-Kakriguma road 15/00 to 30/00 km | 11.58 | 11.04 | 30.01.2014 29.07.2015 | 10.40 | 94.20 | 1.16 |
| 22 | Bahanga – Talapada road from 0.0 to 7.200 km | 8.36 | 7.51 | 07.08.2013 06.02.2015 | 6.43 | 85.62 | 0.84 |
| 23 | Salt road Balasore to Gud from 26 km to 41.200 km | 17.44 | 15.50 | 05.08.2013 04.08.2015 | 8.18 | 52.77 | 1.74 |
| 24 | Ranital - Kupari road from 0.0 to 8 km | 8.40 | 7.80 | 04.07.2014 03.05.2015 | 5.81 | 74.49 | 0.84 |
| 25 | Nuntikiri - Barapada road from 0.0 to 9.250 km | 11.90 | 12.20 | 19.06.2015 18.03.2016 | 7.52 | 61.64 | 1.19 |
| 26 | H.L. Bridge over river Birupa at 11th km of Barachana – Balichandrapur road | 17.55 | 16.82 | 04.03.2014 03.12.2015 | 14.04 | 83.47 | 1.76 |
| 27 | Randha Markandi road | 12.48 | 13.39 | 09.10.2013 08.04.2015 | 9.34 | 69.75 | 1.25 |
| 28 | HL Bridge over Pattanallah | 10.88 | 11.96 | 28.02.2014 27.08.2015 | 8.22 | 68.73 | 1.09 |
| 29 | HL Bridge over Nandini at 1st km | 6.34 | 6.91 | 09.10.2014 08.01.2016 | 3.40 | 49.20 | 0.63 |
| 30 | HL Bridge over river Koel with approaches at Jhirpani | 12.28 | 12.6 | 25.02.2009 24.02.2011 | 11.99 | 95.16 | 1.23 |
| 31 | HL Bridge over river Brahamani near Lalei | 27.12 | 29.21 | 09.10.2009 08.10.2011 | 27.24 | 93.26 | 2.71 |
| 32 | Barapada-Agarpada road from 0/0 to 15/700 km | 18.30 | 16.17 | 02.04.2012 01.04.2014 | 15.58 | 96.35 | 1.83 |
| 33 | Ichhapur-Basudevpur road from 12/00 to 24/150 km | 18.90 | 17.58 | 04.03.2014 03.09.2015 | 15.93 | 90.61 | 1.89 |
| 34 | Basudevpur-Anantapur Salt road from 0/0 to 7/00 km | 11.79 | 10.91 | 04.03.2014 03.03.2015 | 10.91 | 100.00 | 1.18 |
| Total | | 579.70 | 550.52 | | 403.03 | | 57.97 |

Appendix 3.1.1

(Refer paragraph 3.1.2.3 at page 37)

Details of physical / financial targets and achievements

| Sl. No. | Component | Unit | Physical | | | Financial (₹ in crore) | | |
|---------|---|------|----------|-------------|----------------------------------|------------------------|-------------|----------------------------------|
| | | | Target | Achievement | Extent of achievement (per cent) | Target | Achievement | Extent of achievement (per cent) |
| 1 | Establishment of Nurseries | No. | 71 | 38 | 54 | 5.69 | 4.50 | 79 |
| 2 | Establishment of New gardens | Ha | 22790 | 23602 | 104 | 27.19 | 25.25 | 93 |
| 3 | Rejuvenation | Ha. | 3250 | 2722 | 84 | 4.84 | 3.91 | 81 |
| 4 | Creation of water sources | No. | 5836 | 7042 | 121 | 35.08 | 38.06 | 108 |
| 5 | Protected Cultivation | Ha. | 11331 | 28665 | 253 | 52.15 | 88.09 | 169 |
| 6 | Organic Farming | Ha. | 42700 | 53318 | 125 | 14.83 | 17.29 | 117 |
| 7 | Vermi Compost Units/HDPE vermin beds | No. | 28822 | 37452 | 130 | 15.69 | 15.68 | 100 |
| 8 | Pollination support through Bee keeping | No. | 13400 | 9182 | 69 | 1.00 | 2.04 | 204 |
| 9 | Post Harvest Management Units | No. | 9999 | 5245 | 52 | 113.20 | 63.84 | 56 |
| 10 | Marketing Infrastructure | No. | 277 | 46 | 17 | 6.28 | 4.43 | 71 |

Appendix 3.1.2

(Refer paragraph 3.1.2.7 at page 39)

Details of excavation of community tank

| Name of the District | Year | No. of community tank | Cost for size of tank (100m x 100m x 3m = 30000 cum) for release of 100 per cent subsidy (₹ in lakh) | Cost per cum on prorata basis (Col. 4 / 30000 cum) (in ₹) | Size of tank excavated | Admissible cost of community tank on prorata basis (₹ in lakh) (col. 3 x 5 x6) | Total cost of farm pond provided in the estimate (₹ in lakh) | Total subsidy paid (₹ in lakh) | Total excess subsidy paid (₹ in lakh) (col. 9-7) |
|----------------------|---------|-----------------------|--|---|------------------------|--|--|--------------------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Boudh | 2013-14 | 6 | 15.00 | 50.00 | 54 m x 50 m x 3 m | 24.30 | 90.00 | 90.00 | 65.70 |
| | 2014-15 | 22 | 20.00 | 66.66 | 37 m x 37 m x 3 m | 60.23 | 110.00 | 110.00 | 49.77 |
| Kandhamal | 2013-14 | 3 | 15.00 | 50.00 | 35 m x 35 m x 4 m | 7.35 | 14.79 | 14.72 | 7.37 |
| | | 6 | 15.00 | 50.00 | 40 m x 40 m x 3.2 m | 15.36 | 29.11 | 29.33 | 13.97 |
| | | 1 | 15.00 | 50.00 | 65 m x 25 m x 3.2 m | 2.60 | 4.86 | 4.91 | 2.31 |
| | 2015-16 | 7 | 20.00 | 66.66 | 37 m x 37 m x 3 m | 19.16 | 35.00 | 33.67 | 14.51 |
| Total | | 45 | | | | 129.00 | 283.76 | 282.63 | 153.63 |

Appendix 3.1.3

(Refer paragraph 3.1.2.7 at page 39)

Details of excavation of individual farm pond without plastic lining

| Name of the District | No of individual farm pond (size 20m X 20m X 3m) excavated without plastic lining. | | | Total subsidy Paid (in ₹) |
|----------------------|--|------------|-------------|---------------------------|
| | 2012-13 | 2013-14 | Total | |
| Balangir | 110 | 194 | 304 | 1,68,14,537 |
| Sambalpur | 313 | 159 | 472 | 2,63,61,000 |
| Mayurbhanj | 98 | 58 | 156 | 85,85,711 |
| Boudh | 319 | 167 | 486 | 2,91,60,000 |
| Kandhamal | 0 | 19 | 19 | 10,91,958 |
| Total | 840 | 597 | 1437 | 8,20,13,206 |

Appendix-3.1.4

(Refer paragraph 3.1.2.13 at page 42)

Details of Establishment of market infrastructure

| Sl. No. | Name of the Component | Physical (in number) | | | Financial (₹ in crore) | | |
|---------|--|----------------------|-------------|---------------------------|------------------------|-------------|---------------------------|
| | | Target | Achievement | Achievement (in per cent) | Target | Achievement | Achievement (in per cent) |
| 1 | Terminal Markets | 3 | 0 | 0 | 1.09 | 0.05 | 5 |
| 2 | Functional Infrastructure for collection, sorting, grading, packing etc. | 33 | 14 | 42 | 1.94 | 0.51 | 26 |
| 3 | Functional infrastructure for collection, grading etc. | 1 | 0 | 0 | 0.05 | 0.00 | 0 |
| 4 | Market extension, quality awareness and market led extension activities for fresh products | 8 | 0 | 0 | 0.22 | 0.00 | 0 |
| 5 | Retail markets/outlets | 9 | 0 | 0 | 0.43 | 0.00 | 0 |
| 6 | Rural Market / Apni Mandi | 28 | 32 | 114 | 2.28 | 3.87 | 170 |
| 7 | Static / Mobile Vending Cart / platform with cool chamber | 195 | 0 | 0 | 0.27 | 0.00 | 0 |
| | Total | 277 | 46 | 17 | 6.28 | 4.43 | 71 |

Appendix 3.1.5

(Refer paragraph 3.1.3 at page 42)

Details of receipt and utilisation of funds

(₹ in crore)

| Year | Requirement as per Annual Action Plan | Opening balance as on 1 st April | Funds received from | | | Percentage of Annual Action Plan | Total Availability during the year | Expenditure during the year | Unspent balance as on 31st March | Percentage of expenditure |
|--------------|---------------------------------------|---|---------------------|--------------|---------------|----------------------------------|--|-----------------------------|----------------------------------|---------------------------|
| | | | GoI | GoO | Total | | | | | |
| 2011-12 | 63.00 | 1.48 | 53.55 | 9.45 | 63.00 | 100 | 64.48 | 61.33 | 3.15 | 95 |
| 2012-13 | 80.00 | 3.15 | 65.80 | 11.61 | 77.41 | 97 | 80.56 | 79.64 | 0.92 | 99 |
| 2013-14 | 100.00 | 0.92 | 84.10 | 14.84 | 98.94 | 99 | 101.55 (including interest ₹. 1.69 crore) | 100.14 | 1.41 | 99 |
| 2014-15 | 110.00 | 1.41 | 71.75 | 12.66 | 84.41 | 77 | 85.82 | 84.09 | 1.73 | 98 |
| 2015-16 | 115.00 | 1.73 | 54.45 | 45.88 | 100.33 | 87 | 102.06 | 75.14 | 26.92 | 74 |
| Total | 468.00 | | 329.65 | 94.44 | 424.09 | 91 | | 400.34 | | |

Appendix 3.3.1

(Refer paragraph 3.3 at page 56)

Details of Non-realisation of interest on delayed payment of NPV

| Sl. No. | Name of the Divisions | Name of the Lessee | Amount of NPV paid (in ₹) | Date of issue of demand notice | Due date of payment | Date of payment | period of delay (in days) | Total Interest due @ 9 per cent per annum (in ₹) | Amount of interest deposited after audit observation (in ₹) | Balance interest due (in ₹) |
|---------|-----------------------|--|---------------------------|--------------------------------|---------------------|-----------------|---------------------------|--|---|-----------------------------|
| 1 | Keonjhar | Dalpahar Iron and Manganese Mines of M/s D.C. Jain | 61836110 | 19/06/2010 | 18/07/2010 | 17/09/2013 | 1157 | 17641080 | 0 | 17641080 |
| 2 | Keonjhar | Naibuga Iron and Manganese Mines of Sri Tarini Prasad Mohanty | 1920840 | 22/06/2010 | 21/07/2010 | 08/06/2011 | 321 | 152036 | 152036 | 0 |
| 3(a) | Bonai | Mandajoda Iron and Manganese Mines of Sri B.C. Dagra | 8781900 | 05/06/2010 | 04/07/2010 | 24/02/2011 | 235 | 508869 | 0 | 508869 |
| 3(b) | Bonai | Mandajoda Iron and Manganese Mines of Sri B.C. Dagra | 2514270 | 05/06/2010 | 04/07/2010 | 27/03/2014 | 1362 | 844381 | 0 | 844381 |
| 4 | Bonai | Dalita Iron and Manganese Mines of Sri B.C. Dagra | 16180450 | 05/06/2010 | 04/07/2010 | 18/12/2010 | 167 | 666280 | 586486 | 79794 |
| 5 | Bonai | Nididihi Iron and Manganese Mines of M/s Freegrade and Co(P) Ltd | 3973390 | 05/06/2010 | 04/07/2010 | 23/12/2010 | 172 | 168515 | 166556 | 1959 |
| 6 | Bonai | Patmunda Manganese mines of M/s Sun Alloys and Minerals Ltd. | 356970 | 05/06/2010 | 04/07/2010 | 25/02/2014 | 1332 | 117243 | 117067 | 176 |
| 7 | Sundargarh | Basundhara East OCP of MCL | 47577750 | 21/06/2010 | 20/07/2010 | 24/02/2011 | 219 | 2569199 | 2569199* | 0 |
| 8 | Sundargarh | Fireclay at. Ghogharpali by M/s Rungta and Sons | 36018200 | 19/06/2010 | 18/07/2010 | 04/04/2014 | 1356 | 12042907 | 0 | 12042907 |
| 9 | Cuttack | Saruabil. Sukrangi Chromite Mines of OMC Ltd | 16967390 | 23/06/2010 | 22/07/2010 | 05/02/2014 | 1294 | 5413760 | 0 | 5413760 |
| 10 | Cuttack | Balipada (Mahagiri) Chromite Mines of M/s OMC Ltd. | 135641300 | 23/06/2010 | 22/07/2010 | 05/02/2014 | 1294 | 43278865 | 0 | 43278865 |
| 11 | Rairangpur | Suleipat Iron Ore Mines of Sri B.C. Dagra | 36551100 | 30/10/2010 | 28/11/2010 | 03/10/2011 | 309 | 2784893 | 0 | 2784893 |
| 12(a) | Angul | Jagannath Extension OCP by MCL | 2503200 | 19/06/2010 | 18/07/2010 | 17/12/2010 | 152 | 93819 | 0 | 93819 |
| 12(b) | Angul | Jagannath Extension OCP by MCL | 1043 | 23/11/2010 | 22/12/2010 | 02/02/2011 | 42 | 11 | 0 | 11 |
| 13 | Angul | Kalinga (Rajjharan, Nandichor) Coal Mines by OMC Ltd. | 4745000 | 08/06/2010 | 07/07/2010 | 10/12/2010 | 156 | 182520 | 0 | 182520 |

Audit Report (Economic Sector) for the year ended March 2016

| Sl. No. | Name of the Divisions | Name of the Lessee | Amount of NPV paid (in ₹) | Date of issue of demand notice | Due date of payment | Date of payment | period of delay (in days) | Total Interest due @ 9 per cent per annum (in ₹) | Amount of interest deposited after audit observation (in ₹) | Balance interest due (in ₹) |
|------------------------|-----------------------|--|---------------------------|--------------------------------|---------------------|-----------------|---------------------------|--|---|-----------------------------|
| 14 | Sambalpur North | IB River Valley Colliery of MCL | 622870 | 20/07/2010 | 18/08/2010 | 26/07/2011 | 342 | 52526 | 0 | 52526 |
| 15 | Sambalpur North | Orient Colliery of MCL | 35052870 | 20/07/2010 | 18/08/2010 | 26/07/2011 | 342 | 2955965 | 0 | 2955965 |
| 16 | Sambalpur North | Orient III Colliery of MCL | 9271060 | 20/07/2010 | 18/08/2010 | 26/07/2011 | 342 | 781817 | 0 | 781817 |
| 17 | Sambalpur North | New Gandghora Colliery of MCL | 8375880 | 20/07/2010 | 18/08/2010 | 26/07/2011 | 342 | 706328 | 0 | 706328 |
| 18 | Sambalpur North | Lillari OCP of MCL | 93587000 | 24/06/2010 | 23/07/2010 | 09/08/2011 | 382 | 8815126 | 0 | 8815126 |
| 19 | Boudh | Quartz Mining at Sekamal by M/s Indian Metal and Carbide Ltd. | 7662240 | 23/07/2010 | 21/08/2010 | 18/05/2011 | 270 | 510116 | 510116** | 0 |
| 20 | Kalahandi South | Kadalibahal Quartzite Mines of M/s Indian Metal and Carbide Ltd. | 291090 | 17/07/2010 | 15/08/2010 | 19/08/2011 | 369 | 26485 | 26485 | 0 |
| 21 | Sundargarh | Lime Stone and Dolomite Mines at Telighana | 1899460 | 19/06/2010 | 18/07/2010 | 26/07/2014 | 1469 | 688021 | 0 | 688021 |
| TOTAL: 21 cases | | | 532331383 | | | | 42 to 1469 | 101000762 | 4127945 | 96872817 |

* Excess amount of ₹ 258093 deposited by agency, hence actual interest due is taken.

** Excess amount of ₹ 1333513 deposited by agency, hence actual interest due is taken.

Appendix 3.4.1

(Refer paragraph 3.4 at page 56)

Details of non-disposal of timber and poles

| Sl. No. | IR No. Year | Para No. | Name of the Division | No. of cases | Volume in cft. (Size) | Rate (in ₹) | Money value (in ₹) | Volume of Logs (cft) | Rate (in ₹) | Money value (in ₹) | No. of Poles | Rate (in ₹) | Money value (in ₹) | Fire wood (Stack) | Rate (in ₹) | Money value (in ₹) | Total money value (in ₹) |
|---------|-------------|----------|----------------------|--------------|-----------------------|-------------|--------------------|----------------------|-------------|--------------------|--------------|-------------|--------------------|-------------------|-------------|--------------------|--------------------------|
| 1 | 04/2015-16 | 3 | Keonjhar(WL) | 97 | 517.582 | 299 | 154757 | 287.6 | 230 | 66148 | 61 | 52 | 3172 | 0 | 385 | 0 | 224077 |
| 2 | 06/2015-16 | 2 | Keonjhar | 10 | 90.601 | 299 | 27090 | 120.6 | 230 | 27738 | 393 | 52 | 20436 | 0 | 385 | 0 | 75264 |
| 3 | 08/2015-16 | 2 | Cuttack | 17 | 37.56 | 299 | 11230 | 52.68 | 230 | 12116 | 0 | 52 | 0 | 0 | 385 | 0 | 23347 |
| 4 | 09/2015-16 | 2 | Karanjia | 71 | 219.67 | 299 | 65681 | 298.11 | 230 | 68565 | 140 | 52 | 7280 | 0 | 385 | 0 | 141527 |
| 5 | 10/2015-16 | 3 | Athagarh | 20 | 15.46 | 299 | 4623 | 219.69 | 230 | 50529 | 0 | 52 | 0 | 0 | 385 | 0 | 55151 |
| 6 | 11/2015-16 | 2 | Rairangpur | 24 | 36.93 | 299 | 11042 | 136.96 | 230 | 31501 | 69 | 52 | 3588 | 0 | 385 | 0 | 46131 |
| 7 | 12/2015-16 | 3 | Dhenkanal | 77 | 0 | 299 | 0 | 1402 | 230 | 322460 | 213 | 52 | 11076 | 10.5 | 385 | 4043 | 337579 |
| 8 | 13/2015-16 | 2 | Baripada | 187 | 373.822 | 299 | 111773 | 439.004 | 230 | 100971 | 229 | 52 | 11908 | 0 | 385 | 0 | 224652 |
| 9 | 17/2015-16 | 2 | Athamalik | 23 | 185.13 | 299 | 55354 | 366.858 | 230 | 84377 | 0 | 52 | 0 | 0 | 385 | 0 | 139731 |
| 10 | 21/2015-16 | 2 | Boudh | 34 | 69.725 | 299 | 20848 | 620.768 | 230 | 142777 | 115 | 52 | 5980 | 1.3 | 385 | 501 | 170105 |
| 11 | 22/2015-16 | 2 | Khurda | 53 | 825.3189 | 299 | 246770 | 696.28 | 230 | 160144 | 0 | 52 | 0 | 0 | 385 | 0 | 406915 |
| 12 | 23/2015-16 | 2 | Deogarh | 28 | 119.29 | 299 | 35668 | 230 | 230 | 52900 | 22 | 52 | 1144 | 0 | 385 | 0 | 89712 |
| 13 | 24/2015-16 | 2 | Ghumsur (S) | 46 | 56.34 | 299 | 16846 | 817.54 | 230 | 188034 | 13 | 52 | 676 | 0 | 385 | 0 | 205556 |
| 14 | 25/2015-16 | 2 | Bonai | 4 | 0 | 299 | 0 | 159.02 | 230 | 36575 | 0 | 52 | 0 | 0 | 385 | 0 | 36575 |
| 15 | 26/2015-16 | 3 | Ghumsur (N) | 48 | 95.31 | 299 | 28498 | 743.648 | 230 | 171039 | 0 | 52 | 0 | 0 | 385 | 0 | 199537 |
| 16 | 27/2015-16 | 2 | Sundergarh | 26 | 0 | 299 | 0 | 591.298 | 230 | 135999 | 0 | 52 | 0 | 0 | 385 | 0 | 135999 |
| 17 | 29/2015-16 | 2 | Bamra(WL) | 48 | 217.9 | 299 | 65152 | 782.7 | 230 | 180021 | 0 | 52 | 0 | 73.5 | 385 | 28298 | 273471 |
| 18 | 32/2015-16 | 3 | Rayagada | 4 | 8 | 299 | 2392 | 92.3 | 230 | 21229 | 0 | 52 | 0 | 0 | 385 | 0 | 23621 |
| 19 | 35/2015-16 | 3 | Malkangiri | 21 | 279.56 | 299 | 83588 | 41.61 | 230 | 9570 | 0 | 52 | 0 | 0 | 385 | 0 | 93159 |
| 20 | 36/2015-16 | 2 | Hirakud(WL) | 55 | 104.09 | 299 | 31123 | 298.57 | 230 | 68671 | 10 | 52 | 520 | 0 | 385 | 0 | 100314 |
| 21 | 38/2015-16 | 2 | Jharsuguda | 15 | 129.575 | 299 | 38743 | 218.93 | 230 | 50354 | 110 | 52 | 5720 | 0 | 385 | 0 | 94817 |

Audit Report (Economic Sector) for the year ended March 2016

| Sl. No. | IR No. Year | Para No. | Name of the Division | No. of cases | Volume in cft. (Size) | Rate (in ₹) | Money value (in ₹) | Volume of Logs (cft) | Rate (in ₹) | Money value (in ₹) | No. of Poles | Rate (in ₹) | Money value (in ₹) | Fire wood (Stack) | Rate (in ₹) | Money value (in ₹) | Total money value (in ₹) |
|--------------|-------------|----------|----------------------|--------------|-----------------------|-------------|--------------------|----------------------|-------------|--------------------|--------------|-------------|--------------------|-------------------|-------------|--------------------|--------------------------|
| 22 | 39/2015-16 | 2 | Nabarangpur | 37 | 23.98 | 299 | 7170 | 75.835 | 230 | 17442 | 394 | 52 | 20488 | 0 | 385 | 0 | 45100 |
| 23 | 41/2015-16 | 4 | Nayagarh | 31 | 112.82 | 299 | 33733 | 1660.82 | 230 | 381989 | 5 | 52 | 260 | 0 | 385 | 0 | 415982 |
| 24 | 42/2015-16 | 2 | Phulbani | 19 | 19.07 | 299 | 5702 | 296.18 | 230 | 68121 | 0 | 52 | 0 | 0 | 385 | 0 | 73823 |
| 25 | 45/2015-16 | 3 | Kalahandi (S) | 42 | 76.55 | 299 | 22888 | 706.21 | 230 | 162428 | 50 | 52 | 2600 | 0 | 385 | 0 | 187917 |
| 26 | 46/2015-16 | 2 | Khariar | 8 | 21.53 | 299 | 6437 | 116.81 | 230 | 26866 | 6 | 52 | 312 | 0 | 385 | 0 | 33616 |
| 27 | 47/2015-16 | 2 | Parlakhemundi | 20 | 56.21 | 299 | 16807 | 362.23 | 230 | 83313 | 0 | 52 | 0 | 0 | 385 | 0 | 100120 |
| 28 | 48/2015-16 | 2 | Balangir | 20 | 109.72 | 299 | 32806 | 30.08 | 230 | 6918 | 484 | 52 | 25168 | 18.8 | 385 | 7238 | 72131 |
| 29 | 49/2015-16 | 2 | Rairakhhol | 34 | 175.49 | 299 | 52472 | 841.1 | 230 | 193453 | 50 | 52 | 2600 | 0 | 385 | 0 | 248525 |
| TOTAL | | | | 1119 | 3977.234 | 299 | 1189193 | 12705.43 | 230 | 2922249 | 2364 | 52 | 122928 | 104.1 | 385 | 40079 | 4274449 |

Appendix 3.5.1

(Refer paragraph 3.5 at page 57)

Details of Non-levy of interest on belated payment of royalty

| Sl. No. | IR No./ Year | Name of the forest division | No. of Lots | Total amount paid belatedly (in ₹) | Period of delay in months | Interest payable (in ₹) |
|--------------|--------------|-----------------------------|-------------|------------------------------------|---------------------------|-------------------------|
| 1 | 04/2015-16 | DFO, Keonjhar (WL) | 95 | 3728782 | 6 to 12 | 162968 |
| 2 | 12/2015-16 | DFO, Dhenkanal | 21 | 3369753 | 12 | 210610 |
| 3 | 20/2015-16 | DFO, Berhampur | 2 | 1025081 | 5 to 7 | 34762 |
| 4 | 24/2015-16 | DFO, Ghumsur (S) | 65 | 3427542 | 2 | 35704 |
| 5 | 29/2015-16 | DFO, Bamra (WL) | 110 | 2952510 | 2 to 20 | 124313 |
| 6 | 32/2015-16 | DFO, Rayagada | 1 | 111438 | 26 | 15091 |
| 7 | 35/2015-16 | DFO, Malkangiri | 17 | 1224362 | 3 to 15 | 19371 |
| 8 | 41/2015-16 | DFO, Nayagarh | 95 | 7244946 | 4 to 9 | 274730 |
| 9 | 44/2015-16 | DFO, Kalahandi(N) | 35 | 3158756 | 5 | 82259 |
| 10 | 45/2015-16 | DFO, Kalahandi(S) | 15 | 342150 | 5 | 8910 |
| 11 | 47/2015-16 | DFO, Parlakhemundi | 1 | 841951 | 5 | 21926 |
| 12 | 48/2015-16 | DFO, Balangir | 72 | 902277 | 3 to 39 | 39333 |
| Total | | | 529 | 28329548 | 2 to 39 | 1029977 |

Appendix 3.7.1

(Refer paragraph 3.7 at page 59)

Details showing unwarranted provision of Service Tax

| Name of the work | Estimated cost put to tender (₹ in lakh) | Description of item | Estimated rate per sqm/cum (in ₹) | Quantity provided (in sqm/cum) | Estimated amount (in ₹) | Total Service tax provided as per estimate (in ₹) | Agreement rate per cum/sqm (in ₹) | Agreement value (in ₹) | Total service tax provided as per agreement (in ₹) | Upto date expenditure (₹ in lakh) | Upto date Service Tax paid +10 per cent OHC of OCC (₹ in lakh) | Quantity executed (in sqm/cum) |
|---|--|---------------------------------------|-----------------------------------|--------------------------------|-------------------------|---|-----------------------------------|------------------------|--|-----------------------------------|--|--------------------------------|
| Renovation to Kurunti Drainage channel with structures (DC-7) | 590.80 | Clearing thickly grown water hyacinth | 1.82 | 147400.00 | 268268.00 | 0.00 | 3.80 | 560120 | 63461.60 | 82.70 | 3.73 | 46800 |
| | | Desiltation by dredging | 229.00 | 168793.41 | 38653690.89 | 3613866.908 | 206.00 | 34771442.46 | 3939604.43 | | | 15134 |
| Sectioning of river Makara from RD 2.700 to 6.8 km | 1160.03 | Clearing thickly grown water hyacinth | 1.80 | 155400.00 | 279720.00 | 0.00 | 4.00 | 621600 | 70427.28 | 1264.45 | 118.07 | 504900 |
| | | Desiltation by dredging | 229.20 | 504900.00 | 115723080.00 | 10809909 | 202.00 | 101989800 | 11555444.34 | | | 514372 |
| Improvement to Luna river from RD 7000 to 25300 m (dredging from RD 17.00 km to 31.24 km) Package-2 | 1077.69 | Clearing thickly grown water hyacinth | 1.80 | 598080.00 | 1076544.00 | 0.00 | 3.50 | 2093280.00 | 237168.62 | 1335.25 | 123.22 | 409790 |
| | | Desiltation by dredging | 229.00 | 465907.23 | 106692755.67 | 9975073.794 | 203.05 | 94602463.05 | 10718459.06 | | | 535589 |
| Total | 2828.52 | | | | | 24398849.70 | | | 26584565.33 | 2682.4 | 245.02 | 2026585 |

Appendix 3.9.1

(Refer paragraph 3.9 at page 61)

Details of extra expenditure due to adoption of item rate at higher cost

| Sl. No | Name of the work | Estimated cost (₹ in lakh) | Agreement value (₹ in lakh) | Quantity of burrow earth provided (in cum) | Estimated rate for manual excavation and mechanical transportation per cum (in ₹) | Agreement rate (in ₹) | Rate for manual excavation provided in estimate per cum (in ₹) | Rate for mechanical excavation per cum (in ₹) | Total extra cost (₹ in lakh) | Extra cost including tender premium (₹ in lakh) | Quantity executed (in cum) | Upto date expenditure (₹ in lakh) | Already passed to contractor (₹ in lakh) |
|--------|---|----------------------------|-----------------------------|--|---|-----------------------|--|---|------------------------------|---|----------------------------|-----------------------------------|--|
| 1 | Rehabilitation, extension and modernisation of distributary No.12 from 10.140 km to tail. Distributary No12 Gand 12G1 of Taladanda Canal under package No T3(B) | 562.60 | 664.56 | 116909.45 | 108.66 | 148 | 32.25 | 15.82 | 19.21 | 26.16 | 138637 | 679.42 | 31.02 |
| 2 | Rehabilitation, extension and modernisation of distributary No.13,13C,14,14A and 14B of Taladanda Canal under package No T3 (C) | 696.47 | 835.94 | 160012.45 | 105.85 | 143 | 32.25 | 15.82 | 26.29 | 35.52 | 175577 | 770.31 | 38.97 |
| 3 | Rehabilitation of Distributary No.12 from 00 to 10/140 km and distributary No 12E of Taladanda Canal under package No T3(A) | 659.53 | 765.01 | 170154.1 | 108.66 | 128 | 32.25 | 15.82 | 27.96 | 32.98 | 200018 | 767.04 | 38.77 |
| 4 | Rehabilitation extension and modernisation of Taladanda Canal from RD 24.46 km to 41.935 km package No-CW-NCB-T1(B) | 950.72 | 1056.23 | 96771 | 91.3 | 103 | 32.25 | 15.82 | 15.90 | 17.94 | 136937 | 1022.25 | 25.38 |
| 5 | Rehabilitation extension and modernisation of Taladanda Canal from RD 41.935 km to 79.020 km package No-CW-NCB-T2 | 1719.27 | 1920.63 | 463781 | 95.6 | 115 | 53.76 | 15.82 | 175.96 | 211.67 | 406841 | 932.29 | 185.68 |
| | Total | 4588.59 | 5242.37 | 1007628 | | | | | 265.31 | 324.27 | 1058009 | 4171.31 | 319.83 |

Appendix 3.10.1

(Refer paragraph 3.10 at page 62)

Details of excess payment due to non deduction of voids

| Sl. No. | Name of the work | Estimated cost (₹ in crore) | Gabion box size (in cum) | Quantity (in cum) | Actual quantity executed as per measurement (in cum) | Voids to be deducted (in cum) | Voids deducted (in cum) | Excess quantity measured for payment (in cum) | Excess payment made to contractors (in ₹) | Upto date payment (₹ in crore) |
|---------|--|-----------------------------|--------------------------|-------------------|--|-------------------------------|-------------------------|---|---|--------------------------------|
| 1 | Raising and strengthening of Chasisava sluice embankment from RD 00 m to 4000 m | 13.05 | 0.60 | 14309.00 | 15328.85 | 2554.81 | 1915.73 | 639.08 | 3514940.00 | 15.22 |
| | | | 1.5 | 1927.50 | 1951.80 | 325.30 | 0.00 | 325.30 | 1002574.60 | |
| 2 | Raising and strengthening of Sasanpata sluice embankment from RD 00 to 3000 m | 11.00 | 0.60 | 11920.00 | 10414.58 | 1735.76 | 1260.00 | 475.76 | 3054379.20 | 13.74 |
| | | | 1.5 | 1477.50 | 1796.25 | 299.38 | 0.00 | 299.38 | 1323259.60 | |
| 3 | Raising and strengthening of Rajanagar Gopalpur sluice embankment from RD 8050 to 14050 m | 15.06 | 0.60 | 16776.00 | 19538.26 | 3256.38 | 2442.28 | 814.10 | 5112548.00 | 20.92 |
| | | | 1.5 | 2988.00 | 2987.00 | 497.83 | 0.00 | 497.83 | 2090886.00 | |
| 4 | Raising and strengthening of Rajanagar Gopalpur sluice embankment from RD 15050 m to 19050 m | 10.54 | 0.60 | 11212.80 | 14369.82 | 2394.97 | 1796.23 | 598.74 | 3772062.00 | 14.57 |
| | | | 1.5 | 1987.50 | 1925.00 | 320.83 | 0.00 | 320.83 | 1363527.50 | |
| 5 | Raising and strengthening of chitrotpala Badaraula saline embankment (package -04) | 11.61 | 0.60 | 12834.00 | 1875.90 | 312.65 | 0.00 | 312.65 | 1281865.00 | 6.42 |
| | | | 1.5 | 1770.00 | 1195.00 | 199.17 | 0.00 | 199.17 | 537759.00 | |
| 6 | Raising and strengthening of Nagar saline embankment from RD 00 to 6660 m (package -01) | 14.67 | 0.60 | 12834.00 | 8746.96 | 1457.83 | 0.00 | 1457.83 | 5685537.00 | 6.86 |
| | | | 1.5 | 3982.50 | 1907.50 | 317.92 | 0.00 | 317.92 | 810696.00 | |
| 7 | Raising and strengthening of Tandahara singarpala saline embankment (package 08) | 5.89 | 0.60 | 6955.00 | 6354.22 | 1059.04 | 0.00 | 1059.04 | 5295200.00 | 7.82 |

| Sl. No. | Name of the work | Estimated cost (₹ in crore) | Gabion box size (in cum) | Quantity (in cum) | Actual quantity executed as per measurement (in cum) | Voids to be deducted (in cum) | Voids deducted (in cum) | Excess quantity measured for payment (in cum) | Excess payment made to contractors (in ₹) | Upto date payment (₹ in crore) |
|---------|--|-----------------------------|--------------------------|-------------------|--|-------------------------------|-------------------------|---|---|--------------------------------|
| | | | 1.5 | 862.50 | 570.00 | 95.00 | 0.00 | 95.00 | 313500.00 | |
| 8 | Raising and strengthening of Keutajanga saline embankment (package 02) | 12.75 | 0.60 | 17007.00 | 6063.40 | 1010.57 | 0.00 | 1010.57 | 4143337.00 | 9.33 |
| | | | 1.5 | 2017.50 | 1586.50 | 264.42 | 0.00 | 264.42 | 700713.00 | |
| 9 | Raising and strengthening of Saline Embankment Bandar to Khatagadi sluice from RD 17.380 to 24.774 km (Reach-2) | 27.57 | 0.60 | 32354.00 | 17911.39 | 2985.23 | 0.00 | 2985.23 | 13732058.00 | 20.37 |
| | | | 1.5 | 3672.00 | 3573.40 | 595.57 | 0.00 | 595.57 | 1905824.00 | |
| 10 | Raising and strengthening of Saline Embankment Bandar to Khatagadi sluice from RD 12.847 to 17.380 km (Reach-01) | 18.88 | 0.60 | 19541.00 | 10576.99 | 1762.83 | 65.98 | 1696.85 | 7635825.00 | 17.34 |
| | | | 1.5 | 2215.50 | 2230.50 | 371.75 | 0.00 | 371.75 | 1152425.00 | |
| | Total | 113.45 | | 178643.30 | 130903.32 | | | 14337.02 | 64428915.90 | 132.59 |

Appendix 3.12.1

(Refer paragraph 3.12 at page 64)

Details of undue benefit to contractors due to provision of extra lead

| Sl. No. | Name of the Work/ Division | Estimated cost (₹ in crore) | Description of item | Quantity of compacted materials (in cum) | Total quantity (in cum) | Lead Provided (in km) | Excess lead (in km) | Lead charges (in ₹) | Rate including tender premium and other charges (₹ in lakh) | Extra cost including tender premium (in ₹) | Payment made (₹ in crore) | Upto date quantity (in cum) | Net payment (in ₹) |
|---------|--|-----------------------------|---------------------|--|-------------------------|-----------------------|---------------------|---------------------|---|--|---------------------------|-----------------------------|--------------------|
| 1 | Widening of two lane VRC from 377/700 to 471/900 km | 181.35 | WMM | 94581 | 124846.9 | 54 | 13 | 83.2 | 67.62 | 8442107.32 | 42.19 | 38348.03 | 2593081.07 |
| | | | BM | 21777 | 32447.73 | | | 83.2 | 97.30 | 3157170.96 | | 8431.29 | 820366.29 |
| | | | SDBC | 14518 | 21196.28 | | | 83.2 | 98.77 | 2093519.64 | | 0.00 | 0.00 |
| 2 | Improvement to two lane JK Pur Muniguda-Bhawanipatna Road | 116.14 | WMM | 142981 | 188734.9 | 29 | 10 | 64 | 56.74 | 10708558.01 | 131.46 | 149998.38 | 8510700.37 |
| | | | BM | 28556 | 40263.96 | | | 64 | 84.08 | 3385469.70 | | 29928.89 | 2516477.52 |
| | | | SDBC | 14382 | 20997.72 | | | 64 | 84.63 | 1777086.27 | | 14951.00 | 1265338.18 |
| 3 | Improvement to Bhawanipatna Gunupur-Kasipur-Rupkana Road (Rayagada R&B) | 53.1 | WMM | 60881 | 80362.92 | 44 | 10 | 64 | 79.79 | 6412198.28 | 61.08 | 61076.45 | 4873321.02 |
| | | | BM | 13504 | 19040.64 | | | 64 | 71.77 | 1366518.62 | | 13426.16 | 963575.68 |
| | | | SDBC | 6752 | 9857.92 | | | 64 | 70.29 | 692942.06 | | 6688.59 | 470160.57 |
| 4 | Widening and Improvement to GBCL Road from 0/0 to 50 km | 72.12 | WMM | 80576 | 106360.3 | 58 | 30 | 192 | 216.38 | 23013996.32 | 71.16 | 79908.71 | 17290459.05 |
| | | | BM | 17618 | 26250.82 | | | 192 | 257.74 | 6765812.23 | | 17152.70 | 4420888.47 |
| | | | SDBC | 8809 | 12861.14 | | | 192 | 293.02 | 3768513.76 | | 4606.18 | 1349682.28 |
| 5 | Widening and Improvement from 50/0 km to 84/200 km | 50.69 | WMM | 53627 | 70787.64 | 46 | 30 | 192 | 243.51 | 17237504.47 | 46.5 | 49708.25 | 12104460.35 |
| | | | BM | 11917 | 17756.33 | | | 15 | 96 | 1898890.96 | | 10215.63 | 1092476.17 |
| | | | SDBC | 5959 | 8700.14 | | | 8.5 | 54 | 535194.48 | | 5333.69 | 328105.23 |
| 6 | Improvement to Malkangiri Mottu Road from 102/0 to 149/0 km (Malkangiri R&B) | 65.76 | WMM | 78549 | 103684.7 | 26 | 30 | 192 | 183.49 | 19024694.90 | 59.29 | 71413.83 | 13103443.32 |
| | | | BM | 17187 | 25608.63 | | | 192 | 233.14 | 5970474.47 | | 15777.55 | 3678426.35 |
| | | | SDBC | 8593.5 | 12546.51 | | | 192 | 229.52 | 2879638.56 | | 7696.60 | 1766501.29 |
| 7 | Widening and Improvement to JKMM Road from 1490/0 to 202/7 km | 87.74 | WMM | 85948 | 113451.4 | 98 | 30 | 192 | 230.38 | 26136579.42 | 100.28 | 87986.69 | 20270106.16 |
| | | | BM | 22919 | 34149.31 | | | 192 | 228.30 | 7796338.42 | | 22471.33 | 5130238.16 |
| | | | SDBC | 11460 | 16731.6 | | | 192 | 227.91 | 3813264.78 | | 11266.95 | 2567827.56 |

| Sl. No. | Name of the Work/ Division | Estimated cost (₹ in crore) | Description of item | Quantity of compacted materials (in cum) | Total quantity (in cum) | Lead Provided (in km) | Excess lead (in km) | Lead charges (in ₹) | Rate including tender premium and other charges (₹ in lakh) | Extra cost including tender premium (in ₹) | Payment made (₹ in crore) | Upto date quantity (in cum) | Net payment (in ₹) |
|---------|---|-----------------------------|---------------------|--|-------------------------|-----------------------|---------------------|---------------------|---|--|---------------------------|-----------------------------|---------------------|
| 8 | Widening and Improvement to CJP Road from 0/0 to 29/5 km | 35.75 | WMM | 47392 | 62557.44 | 72 | 30 | 192 | 251.63 | 15741294.04 | 7.92 | 7358.75 | 1851678.19 |
| | | | BM | 10532 | 15692.68 | | | 192 | 247.68 | 3886734.02 | | 1400.00 | 346749.42 |
| | | | SDBC | 5266 | 7688.36 | | | 192 | 252.78 | 1943466.42 | | 0.00 | 0.00 |
| 9 | Improvement to Malkangiri Balimela Road from 0/0 to 29/2 km | 35.19 | WMM | 69764 | 92088.48 | 36 | 7.5 | 54.4 | 57.68 | 5311577.16 | 33.43 | 48229.70 | 2781843.86 |
| | | | BM | 10353 | 15425.97 | | | 54.4 | 61.30 | 945622.98 | | 10048.32 | 615969.19 |
| | | | SDBC | 5176 | 7556.96 | | | 54.4 | 63.13 | 477104.43 | | 5024.16 | 317197.53 |
| 10 | Improvement to Balimela Junction to Tunnel | 38.56 | WMM | 40819 | 53881.08 | 35 | 30 | 192 | 174.87 | 9422378.43 | 24.86 | 24854.83 | 4346453.60 |
| | | | BM | 8925 | 13298.25 | | | 192 | 233.14 | 3100394.75 | | 6058.85 | 1412578.85 |
| | | | SDBC | 4463 | 6515.98 | | | 192 | 227.46 | 1482124.59 | | 2769.19 | 629879.86 |
| 11 | Widening and Improvement of KP Road from 0/0 to 30/0 km | 39.59 | WMM | 47970 | 63320.4 | 85 | 7.5 | 48 | 60.25 | 3815148.13 | 42.63 | 47862.24 | 2883771.03 |
| | | | BM | 10660 | 15883.4 | | | 48 | 48.99 | 778164.60 | | 10198.98 | 499671.68 |
| | | | SDBC | 5330 | 7781.8 | | | 48 | 54.68 | 425513.09 | | 5099.49 | 278842.91 |
| 12 | Improvement to GSM Road (Malkangiri R&B) | 80.54 | WMM | 63308 | 83566.56 | 94 | 30 | 192 | 174.57 | 14588353.04 | 14.93 | 9056.73 | 1581048.38 |
| | | | BM | 16319 | 24315.31 | | | 192 | 218.96 | 5324126.12 | | 1634.17 | 357820.94 |
| | | | SDBC | 8195 | 11964.7 | | | 192 | 283.97 | 3397579.77 | | 0.00 | 0.00 |
| | Total | 790.77 | | | 1568175 | | | | | 227516055.19 | 635.73 | 885982.31 | 123019140.57 |

Appendix 3.13.1

(Refer paragraph 3.13 at page 65)

Details of Extra cost due to inclusion of in-admissible charges

| Sl. No. | Name of the Work | Estimated. cost (₹ in crore) | Description of item | Quantity (in cum) | Total quantity (in cum) | Lead charges (in ₹) | Extra cost including other charges (in ₹) | Total extra cost including tender premium (in ₹) | Expenditure incurred (₹ in crore) |
|--------------|--|------------------------------|---------------------|-------------------|-------------------------|---------------------|---|--|-----------------------------------|
| 1 | Widening & Improvement to two lane of JKPur - Muniguda-Bhawanipatna road 0/0 to 49/500 km of SH-5 and 37/0 to 68/0 km of SH-6 | 116.14 | GSB | 169798 | 217341.44 | 255.60 | 11104939.17 | 8746307.94 | 140.68 |
| | | | WMM | 142981 | 188734.92 | 255.60 | 9643305.05 | 7126273.14 | |
| | | | BM | 28556 | 40263.96 | 255.60 | 2057264.49 | 2252621.34 | |
| | | | SDBC | 14382 | 20997.72 | 255.60 | 1072866.74 | 1182375.95 | |
| 2 | Widening & Improvement to 2-lane of Vijayawada-Ranchi corridor from 6/700 to 34/350 km (Boudh-Kiakata-Rairakhol road), from 65/100 to 101/875 km (Naktideul to Aunli road) and Aunli Bridge with approach road from 101/875 to 104/875 km | 122.86 | GSB | 145291 | 185972.48 | 613.60 | 22811131.47 | 17638256.6 | 101.84 |
| | | | WMM | 90880 | 119961.60 | 613.60 | 14714326.71 | 12461710 | |
| | | | BM | 22498 | 31722.18 | 613.60 | 3890999.46 | 4690632.26 | |
| | | | SDBC | 10948 | 15984.08 | 613.60 | 1960585.51 | 1681581.69 | |
| Total | | 239.00 | | | 820978.38 | | 67255418.60 | 55779758.92 | 242.52 |

Appendix 3.14.1

(Refer paragraph 3.14 at page 66)

Details of extra expenditure due to unwarranted provision of surface dressing

| Sl. No. | Name of the Work/ Division | Estimated Cost (₹ in crore) | Payment made (₹ in crore) | Quantity of Surface dressing provided (in sqm) | Rate per sqm (in ₹) | Amount (in ₹) | Quantity executed (in sqm) | Amount (in ₹) |
|---------|---|-----------------------------|---------------------------|--|---------------------|---------------------|----------------------------|---------------------|
| 1 | Widening of two lane VRC from 377/700 to 471/900 km (Berhampur-Taptapani-Rayagada road and Koraput-Laxmipur road) | 181.35 | 21.24 | 183612.38 | 6.00 | 1101674.28 | 9048.00 | 54288.00 |
| 2 | Improvement two lane JKPur Muniguda-Bhawanipatna road from 37/000 to 68/000 km | 116.14 | 131.46 | 577160.00 | 52.00 | 30012320.00 | 578313.00 | 30072276.00 |
| 3 | Improvement Bhawanipatna Gunupur-Kasipur-Rupkana road from 97/120 to 134/960 km (Rayagada R&B) | 53.10 | 57.02 | 270838.00 | 40.00 | 10833520.00 | 254270.00 | 10170800.00 |
| 4 | Widening and Improvement to Govindapalli-Balimela-Chittrakonda-Silleru road from 0/0 to 50 km | 72.12 | 69.00 | 352359.00 | 80.00 | 28188720.00 | 283325.00 | 22666000.00 |
| 5 | Widening and Improvement to Govindapalli-Balimela-Chittrakonda-Silleru road from 50/0 to 84/200 km | 48.10 | 46.50 | 238340.00 | 60.00 | 14300400.00 | 203858.00 | 12231480.00 |
| 6 | Improvement to Malkangiri Motu road from 102/0 to 149/0 km | 65.76 | 59.29 | 343740.00 | 70.00 | 24061800.00 | 313092.00 | 21916440.00 |
| 7 | Widening and Improvement to Jeypore-Kota-Malkangiri-Motu road from 149/0 to 202/7 km | 87.74 | 96.23 | 381990.00 | 60.00 | 22919400.00 | 366902.00 | 22014120.00 |
| 8 | Improvement to Malkangiri Balimela road from 0/0 to 29/2 km | 33.40 | 33.43 | 207060.00 | 61.00 | 12630660.00 | 200967.00 | 12258987.00 |
| 9 | Improvement to Balimella Junction to Tunnel camp via Dyke road from 0/0 to 25/0 km | 36.59 | 24.86 | 178500.00 | 70.00 | 12495000.00 | 111821.00 | 7827470.00 |
| 10 | Widening and Improvement of Kalimela Podia road from 0/0 to 30/0 km (Malkangiri R&B) | 37.58 | 40.94 | 213200.00 | 64.00 | 13644800.00 | 203980.00 | 13054720.00 |
| | Total | 731.88 | 579.97 | 2946799.38 | | 170188294.28 | 2525576.00 | 152266581.00 |

Appendix 3.15.1

(Refer paragraph 3.15 at page 67)

Details of avoidable extra expenditure due to execution of works in violation of Indian Roads Congress specifications

| Sl. No. | Name of the work taken up for improvement | Estimated cost (₹ in crore) | Agreement quantity for WMM (in cum) | Amount (₹ in lakh) | Length (in m) | Extra width provided in overlaying portion (in m) | Thickness (in m) | Quantity (in cum) | Rate per cum (in ₹) | Extra cost (in ₹) | Extra cost Including tender premium (₹ in lakh) |
|---------|---|-----------------------------|-------------------------------------|--------------------|-----------------|---|------------------|-------------------|---------------------|--------------------|---|
| 1 | Nimapara-Balanga-Satasankha road (ODR) from 14.000 to 22.000 km | 11.76 | 8846.46 | 147.63 | 5900.00 | 3.00 | 0.250 | 4425.00 | 1668.83 | 7384572.75 | 70.45 |
| 2 | Balakati-Balianta road (ODR) from 0/000 to 12.000 km | 17.65 | 11965.21 | 200.52 | 7980.00 | 3.00 | 0.250 | 5985.00 | 1675.86 | 10030022.10 | 89.27 |
| 3 | DeIanga-Pipili road (ODR) from 0.00 to 11.200 km | 17.64 | 7669.43 | 120.98 | 5115.00 | 3.00 | 0.250 | 3836.25 | 1577.48 | 6051607.65 | 58.68 |
| | Total | 47.05 | 28481.10 | 469.13 | 18995.00 | | | 14246.25 | | 23466202.50 | 218.40 |

Appendix 3.16.1

(Refer paragraph 3.16 at page 68)

Details of avoidable extra expenditure due to provision of dry lean concrete

| Sl. No. | Name of the Work taken up for improvement/widening | Estimated cost (₹ in crore) | CBR (in per cent) | MSA/ CVPD | Quantity provided (in cum) | Rate per cum (in ₹) | Amount (₹ in lakh) | Extra expenditure including tender premium (₹ in lakh) | Up to date executed Quantity (in cum) | Up to date extra expenditure including tender premium (₹ in lakh) |
|---------|---|-----------------------------|-------------------|-----------|----------------------------|---------------------|--------------------|--|---------------------------------------|---|
| 1 | Nagpur-Nayahat road 0.00 to 20.650 km | 24.95 | 4 | 1/128 | 3250.43 | 3432.6 | 111.57 | 110.34 | 3600.66 | 122.24 |
| 2 | Delanga Brahmagiri road 16.500 to 36.000 km | 29.10 | 4 | 2/141 | 867.68 | 3523.7 | 30.57 | 30.54 | 2299.75 | 80.96 |
| 3 | Nimapara-Balanga-Satasankha road from 14.000 to 22.000 km | 11.76 | 3 | 3/225 | 1514.70 | 3627.48 | 54.94 | 52.41 | 1668.92 | 57.75 |
| 4 | Balakati-Balianta road from 0/000 to 12.000 km | 17.65 | 4 | 3/203 | 1683.00 | 3623.57 | 60.98 | 54.27 | 890.90 | 28.73 |
| 5 | Delanga-Pipili road from 0.00 to 11.200 km | 17.65 | 3 | 3/223 | 4796.55 | 3485.72 | 167.19 | 162.11 | 5019.73 | 169.65 |
| 6 | Jagatsinghpur-Jaipur road from 0/000 to 13/440 km | 10.77 | 4 | 3/230 | 3204.30 | 3704.00 | 118.69 | 112.76 | 2736.24 | 96.28 |
| 7 | Ranpur-Siko-jankia road from 0/0 to 20.2 km | 15.77 | 3 | 3/145 | 134.27 | 3222.19 | 0.04 | 0.04 | 304.46 | 8.73 |
| 8 | Krushnaprasad janhikuda road from 0/0 to 20/250 km | 31.07 | 4 | 3/318 | 683.81 | 3513.90 | 24.02 | 26.42 | 269.00 | 10.40 |
| | Total | 158.72 | | | 16134.74 | | 568.00 | 548.89 | 16789.66 | 574.74 |

Appendix 3.17.1

(Refer paragraph 3.17 at page 69)

**Details of Inspection Reports / Paragraphs issued up to 31 March 2016 but not settled
by 30 June 2016**

| Sl. No. | Name of the Department | Reports awaiting settlement (Up to June 2016) | | Reports awaiting settlement for more than 10 years | | Reports to which even first reply has not been received |
|--------------|--|---|----------------------|--|----------------------|---|
| | | Number of Reports | Number of Paragraphs | Number of Reports | Number of Paragraphs | Number of Reports |
| 1 | Agriculture | 563 | 1,993 | 121 | 301 | 36 |
| 2 | Co-operation | 99 | 412 | 17 | 58 | 5 |
| 3 | Energy | 174 | 433 | 42 | 81 | 24 |
| 4 | Forest and Environment | 503 | 1,365 | 213 | 607 | 62 |
| 5 | Fisheries and Animal Resources Development | 433 | 1,541 | 162 | 380 | 41 |
| 6 | Industries | 19 | 101 | 2 | 2 | 5 |
| 7 | Micro Small and Medium Enterprises | 117 | 525 | 25 | 47 | 24 |
| 8 | Skill Development and Technical Education | 156 | 647 | 54 | 166 | 26 |
| 9 | Textile, Handloom and Handicraft | 58 | 252 | 1 | 2 | 29 |
| 10 | Tourism | 31 | 94 | 8 | 16 | 2 |
| 11 | Water Resources | 564 | 1,542 | 248 | 498 | 38 |
| 12 | Works | 340 | 872 | 131 | 224 | 20 |
| Total | | 3,057 | 9,777 | 1,024 | 2,382 | 312 |

Appendix 3.17.2

(Refer paragraph 3.17 at page 69)

Details of the year-wise break up of outstanding Inspection Reports / Paragraphs issued up to 31 March 2016 but not settled by June 2016

| <i>Year</i> | <i>Number of Inspection Reports</i> | <i>Number of Paragraphs</i> |
|--------------|-------------------------------------|-----------------------------|
| 1982-83 | 1 | 2 |
| 1983-84 | 1 | 3 |
| 1984-85 | 1 | 1 |
| 1985-86 | 5 | 9 |
| 1986-87 | 4 | 5 |
| 1987-88 | 3 | 5 |
| 1988-89 | 3 | 10 |
| 1989-90 | 17 | 32 |
| 1990-91 | 13 | 21 |
| 1991-92 | 18 | 31 |
| 1992-93 | 33 | 63 |
| 1993-94 | 25 | 57 |
| 1994-95 | 28 | 60 |
| 1995-96 | 36 | 85 |
| 1996-97 | 47 | 111 |
| 1997-98 | 39 | 76 |
| 1998-99 | 45 | 142 |
| 1999-00 | 66 | 131 |
| 2000-01 | 83 | 231 |
| 2001-02 | 83 | 202 |
| 2002-03 | 95 | 215 |
| 2003-04 | 147 | 406 |
| 2004-05 | 154 | 345 |
| 2005-06 | 160 | 342 |
| 2006-07 | 174 | 437 |
| 2007-08 | 162 | 406 |
| 2008-09 | 171 | 485 |
| 2009-10 | 218 | 557 |
| 2010-11 | 271 | 861 |
| 2011-12 | 93 | 277 |
| 2012-13 | 245 | 918 |
| 2013-14 | 174 | 692 |
| 2014-15 | 202 | 1,087 |
| 2015-16 | 240 | 1,472 |
| Total | 3,057 | 9,777 |

Appendix 3.17.3

(Refer paragraph 3.17 at page 69)

Details of serious irregularities noticed and reported in Inspection Reports

| Sl. No. | Objection in brief | Number of Paragraphs | Amount (₹ in Lakh) |
|---|---|----------------------|--------------------|
| A. Non-Compliance with rules and regulations | | | |
| 1 | Infructuous/ Unfruitful/ Avoidable/ Extra liability/Excess expenditure | 244 | 85,348.38 |
| 2 | Inadmissible/irregular payment | 6 | 1,008.08 |
| 3 | Advance payment/less recovery of advance | 39 | 8,928.59 |
| 4 | Surrender of Funds | 2 | 6,218.00 |
| Sub total (A) | | 291 | 1,01,503.05 |
| B. Audit against propriety / expenditure without justification | | | |
| 5 | Excess payment to firms/contractors | 3 | 14.10 |
| 6 | Loss, misappropriation and shortage of stores | 43 | 12,007.84 |
| 7 | Undue financial aid to contractors/firms | 75 | 36,049.43 |
| Sub total (B) | | 121 | 48,071.37 |
| C. Persistent and pervasive irregularities | | | |
| 8 | Idle surplus/unserviceable store/blockage of Government money | 49 | 1,40,247.39 |
| 9 | Demurrage/penalty | 6 | 1,937.21 |
| 10 | Short/non realisation of Government dues | 38 | 72,632.62 |
| Sub total (C) | | 93 | 21,4817.22 |
| D. Failure of oversight / governance | | | |
| 11 | Irregular purchase/non-accountal of stock/Non-adjustment of cost of materials | 9 | 664.64 |
| 12 | Non recovery of dues from firms/contractors and others | 17 | 3,364.80 |
| 13 | Under utilisation of departmental machinery | 1 | 1.30 |
| Sub total (D) | | 27 | 4,030.74 |
| Grand total (A+B+C+D) | | 532 | 3,68,422.38 |

Glossary of Abbreviations

A

| | |
|-----|------------------------------------|
| AAP | Annual Action Plan |
| ADH | Assistant Director of Horticulture |
| AoR | Analysis of Rates |
| APD | Additional Project Director |
| ATN | Action Taken Note |

B

| | |
|------|-------------------------------------|
| BBDT | Benkelman Beam Deflection Technique |
| BM | Bituminous Macadam |

C

| | |
|---------|---|
| CBEC | Central Board of Excise and Customs |
| CBR | California Bearing Ratio |
| CCEA | Cabinet Committee on Economic Affairs |
| CDA | Chilika Development Authority |
| CE, WBP | Chief Engineer, World Bank Projects |
| CMCE | Centre for Management of Coastal Eco System |
| CML | Coastal Management Laboratory |
| CRZ | Coastal Regulatory Zone |
| CVPD | Commercial Vehicle Per Day |

D

| | |
|------|--------------------------------------|
| DDH | Deputy Director of Horticulture |
| DFO | Divisional Forest Officer |
| DH | Director of Horticulture |
| DLC | Dry Lean Concrete |
| DoFE | Department of Forest and Environment |
| DPR | Detailed Project Report |
| DPI | Design Planning and Investigation |
| DTCN | Detailed Tender Call Notice |

E

| | |
|-----|--------------------|
| EE | Executive Engineer |
| EIC | Engineer-In-Chief |

F

FD Finance Department

G

GAD General Arrangement Drawing
 GoI Government of India
 GoO Government of Odisha
 GSB Granular Sub Base
 GSM Global System for Mobile

H

HL High Level
 HPC High Power Committee
 HUD Housing and Urban Development

I

ICZM Integrated Coastal Zone Management
 ICMR Indian Council of Market Research
 IDA International Development Association
 IIT Indian Institute of Technology
 IRC Indian Roads Congress
 ITDA Integrated Tribal Development Agency
 IWAI Inland Waterways Authority of India

L

LAO Land Acquisition Officer

M

MDR Major District Road
 MoA Ministry of Agriculture
 MoEF Ministry of Environment and Forest
 MoRT&H Ministry of Road Transport and Highways
 MT Metric Tonne
 MSA Milion Standard Axle

N

| | |
|--------|---|
| NABARD | National Bank for Agriculture and Rural Development |
| NH | National Highway |
| NHM | National Horticulture Mission |
| NPV | Net Present Value |

O

| | |
|-------|--|
| ODR | Other District Road |
| OFDC | Odisha Forest Development Corporation |
| OHC | Overhead Charges |
| OHDS | Odisha Horticulture Development Society |
| OCZMA | Odisha Coastal Zone Management Authority |
| OLA | Odisha Legislative Assembly |
| OTDC | Odisha Tourism Development Corporation |
| OPWD | Odisha Public Works Department |

P

| | |
|------|--|
| PA | Project Administrator |
| PAC | Public Accounts Committee |
| PCCF | Principal Chief Conservator of Forests |
| PCR | Project Completion Reports |
| PD | Project Director |
| PEA | Project Executing Agency |
| PMU | Project Management Unit |
| POL | Petroleum Oils and Lubricants |
| PSC | Pre-Stressed Concrete |
| PSU | Public Sector Undertaking |
| PVC | Polyvinyl Chloride |

R

| | |
|------|---------------------------------------|
| R&B | Roads and Buildings |
| RCPS | Regional Coastal Process Study |
| RCCF | Regional Chief Conservator of Forests |
| RCC | Reinforced Cement Concrete |
| RIDF | Rural Infrastructure Development Fund |

S

| | |
|------|--------------------------------|
| SDBC | Semi Dense Bituminous Concrete |
| SE | Superintending Engineer |
| SH | State Highway |
| SHG | Self Help Group |

| | |
|------|---------------------------------|
| SIM | Subscriber Identity Module |
| SLEC | State Level Executive Committee |
| SoR | Schedule of Rates |
| SPCB | State Pollution Control Board |
| SPMU | State Project Management Unit |
| SWMP | Solid Waste Management Project |

T

| | |
|-----|------------------------------|
| TAC | Technical Advisory Committee |
|-----|------------------------------|

U

| | |
|----|-------------------------|
| UC | Utilisation Certificate |
|----|-------------------------|

W

| | |
|------|--------------------------------------|
| WL | Wild Life |
| WMM | Wet Mix Macadam |
| WRTC | Wetland Research and Training Centre |

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