Audit Report of the
Comptroller and Auditor General of India
(Performance & Compliance)

for the year ended 31 March 2021

Government of West Bengal

Report No. 3 of the year 2022

TABLE OF CONTENT

APPENDICES

PREFACE

This Report for the year ended 31 March 2021 has been prepared for submission to the Governor of West Bengal under Article 151 of the Constitution of India.

This Report contains significant results of audit of 25 Departments, 44 Autonomous Bodies and 63 Government Companies and Statutory Corporations in West Bengal.

The instances mentioned in this Report are those, which came to notice in the course of test audit for the period 2020-21 as well as those which came to notice in earlier years, but could not be reported in the previous Audit Reports. Matters relating to the period subsequent to 2020-21 have also been included, wherever pertinent.

The audit has been conducted in accordance with the Auditing Standards issued by the Comptroller and Auditor General of India.

Chapter I

Overview of Audit

Chapter-I

Overview of Audit

1.1 Introduction

This Report of the Comptroller and Auditor General of India covers matters arising out of audit of State Government Departments, State Public Sector Enterprises (SPSEs) and Autonomous Bodies (ABs) under the audit jurisdiction of the Office of the Principal Accountant General (Audit-II) West Bengal.

As of 31 March 2021, there are 58 Administrative Departments in West Bengal, headed by Additional Chief Secretaries/ Principal Secretaries/ Secretaries, who are assisted by Directors/ Commissioners/ Chief Engineers and other subordinate officers. This report covers the functioning of 25 Departments ***(Appendix-1)*** under the jurisdiction of this office.

Of the total expenditure of ₹ 29,927.09 crore incurred by these (25) Departments during 2020-21, a major portion (82.47 *per cent*) was incurred by Urban Development and Municipal Affairs (28.46 *per cent*), Disaster Management and Civil Defence (22.97 *per cent*), Public Works (18.47 *per cent*), Power (6.75 *per cent*) and Public Health Engineering Department (5.82 *per cent*).

This chapter provides the planning and extent of audit and response to audit by various Departments.

1.2 About this Report

Findings arising from Performance and Compliance audits of 25 Government Departments, 44 ABs including two Regulatory Authorities ***(Appendix-2)*** and 63 SPSEs ***(Appendix-3)*** under the audit jurisdiction of this Office are included in this Report. Performance Audit examines whether the objectives of the programme/activity/Department are achieved economically, efficiently and effectively. Compliance Audit covers examination of transactions relating to expenditure of the audited entities to ascertain whether the provisions of applicable laws, rules, regulations and various orders and instructions issued by the competent authorities are being complied with.

1.3 Authority for Audit

The mandate for audit is derived from Articles 149 and 151 of the Constitution of India and the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) (DPC) Act, 1971. The audit of expenditure of the Departments of Government of West Bengal is conducted under Section 13 of the C&AG's (DPC) Act. In addition, the C&AG is the sole Auditor in respect of ABs, which are audited under Sections 19(2), 19(3) and 20(1) of the C&AG's (DPC) Act. Autonomous Bodies substantially funded by the Government are also audited under Section 14 of C&AG's (DPC) Act. Further, the C&AG conducts audit of Government Companies and Statutory Corporations in West Bengal under sections 19(1) and 19(2) of the C&AG's (DPC) Act. Principles and methodologies for various audits are prescribed in the Auditing Standards and the Regulations on Audit and Accounts issued by the C&AG.

1.4 Planning and Conduct of Audit

The audit process starts with assessment of audit risks of various Departments of the Government, based on parameters such as expenditure incurred, criticality/ complexity of their activities, level of delegated financial powers, assessment of overall internal controls and concerns of the stakeholders. 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 (IRs) 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 IRs. Wherever replies are received, audit findings are either settled or further action for compliance is advised.

1.5 Response to Audit

Seven compliance audit observations and two Performance Audits proposed for inclusion in this report were forwarded (between December 2021 and April 2022) to Additional Chief Secretary/ Principal Secretaries/ Secretaries of the Departments concerned with the request to send their responses. Departmental replies in respect of one Performance Audit and four Compliance Audits have been received till date (November 2022). The responses of concerned Departments as well as replies to initial audit memos, wherever received, have been suitably incorporated in the Report.

Audit Reports for the years 2015-16 to 2019-20 were sent to the State Government between February 2017 and December 2021 for tabling in the State Legislature. The Reports were presented in the State Legislative Assembly after three to twenty seven months from handing over, as detailed in ***Appendix-4***.

Further, the Departments concerned are required to furnish replies to the observations included in the Audit Reports within one month of their presentation in the State Legislative Assembly. Though the Audit Reports for the years 2006-07 to 2019-20 were presented to the State Legislature between March 2008 and March 2022, replies on 487 paragraphs, are yet to be received from 18 Departments under the audit jurisdiction of this office. Status of the pending replies as on 31 March 2022 is given in ***Appendix-5***. It would also be seen from the Appendix that replies to 313 paragraphs relating to Audit Reports from 2006-07 to 2016-17 were overdue. The delays ranged from 31 to 167 months.

As stipulated in the Rules of Procedure of the Public Accounts Committee (PAC) and Committee on Public Undertakings (CoPU), the administrative Departments are required to take suitable action on the recommendations made in the Reports of the PAC and CoPU presented to the State Legislature and submit comments on the action taken or proposed to be taken on those recommendations within six months.

Action Taken Notes on 21 paras contained in 14 Reports of the PAC presented to the Legislature from July 1999 to June 2019 had not been submitted by four Departments to the Assembly Secretariat as of November 2022.

Action Taken Notes on 29 paras contained in 13 Reports of the CoPU presented to the Legislature from July 2008 to July 2021 had not been submitted by two Departments to the Assembly Secretariat as of November 2022.

Inspection Reports issued to 20 Departments till 31 March 2022 were reviewed and it was found that 4,214 paragraphs relating to 799 IRs remained outstanding at the end of November 2022 ***(Appendix-6).***

1.6 Placement of Separate Audit Reports of State Autonomous Bodies and SPSEs

Separate Audit Reports (SARs) are the audit reports of the C&AG on the accounts of ABs and SPSEs. These reports are to be laid before the State Legislature as per the provisions of the respective Acts. The status of placement of SARs issued by the C&AG (up to March 2022) on the accounts of ABs and SPSEs in the State Legislature is shown in ***Appendix-7***. Forty SARs in respect of seven ABs and three SPSEs were issued to the Government during August 2011 to March 2022. These are yet to be placed in the State Legislature.

1.7 Significant Audit Observations

Performance Audit on Upgradation of Roads by PWD in West Bengal

Introduction

The State has incurred an expenditure of ₹19,603.84 crore (82.90 *per cent*) on construction/ upgradation of roads and bridges in the last six years against the total expenditure of ₹ 23,646.76 crore on roads and bridges.

In view of substantial investment made by the State Government on upgradation of roads, Performance Audit was taken up to ascertain whether the expenditure had been incurred in a prudent and efficient manner while adhering to aspects of quality, safety and mobility. ***(Paragraph 2.1)***

Audit was conducted between December 2020 and May 2021 and covered a period of five years (2015-16 to 2019-20). Out of total 995 road works undertaken in the 19 test-checked divisions in seven districts, 130 road works with an estimated cost of ₹ 3,037.93 crore was selected for detailed analysis.

(Paragraph 2.4)

Topographical survey was not conducted in 78 test-checked works. In the remaining 52 test-checked works where topographical survey was stated to have been conducted, the divisions failed to produce any records regarding such survey in 35 works.

(Paragraph: 2.7.1.1)

Use of non-rural road guidelines instead of the required rural road guidelines resulted in five divisions incurring an avoidable expenditure of ₹ 7.62 crore

(Paragraph: 2.7.2.4)

Sixteen roads were designed with higher specifications without following the guidelines meant for rural roads leading to avoidable expenditure of ₹ 15.70 crore.

(Paragraph: 2.7.2.6)

In four works, the divisions ignored the existing layers and laid layers with excess thickness leading to avoidable expenditure of ₹ 7.37 crore.

(Paragraph: 2.7.2.7)

No challans for 4,862.58 MT of bitumen costing ₹ 20.36 crore were produced to Audit. Further, 87 vehicles purportedly used to carry 1,065.52 MT of bitumen were two wheelers, three wheelers, small commercial vehicles, passenger vehicles like buses and even ambulances, which raises doubt regarding authenticity of these challans. ***(Paragraph: 2.8.4)***

Despite increase in the number of vehicles in West Bengal by 47.28 *per cent* from 2015-16 to 2019-20, the Department has neither formulated any policy guidelines nor issued any orders regarding road mobility.

There was no periodic quantification of vehicular traffic, congestion points were not identified, roads had variable width throughout its length, existence of a large numbers of weak and narrow bridges, encroachment of roadside pavements, *etc*. This hampered mobility which adversely affected productivity, fuel consumption and economic efficiency. ***(Paragraph: 2.11.1)***

Various measures suggested for ensuring road safety, such as installation of gantry signages and crash barriers, uniformity in maintaining accident database, developing a handbook for "Road Safety Design Guidelines" for use in urban and rural roads were not carried out. ***(Paragraph: 2.12)***

Performance Audit on Augmentation of Transmission Capacity in West Bengal by West Bengal State Electricity Transmission Company Limited

Introduction

Government of West Bengal unbundled (April 2007) the erstwhile West Bengal State Electricity Board (WBSEB) into West Bengal State Electricity Transmission Company Limited (WBSETCL) and West Bengal State Electricity Distribution Company Limited (WBSEDCL), both incorporated in February 2007. The transmission and load despatch activities of WBSEB were transferred to WBSETCL, a Government company wholly owned by Department of Power, GoWB. ***(Paragraph 3.2)***

WBSETCL had planned for higher capacity than required leading to declining trend in overall network utilisation between 2017-18 and 2020-21. The unutilised capacity ranged from 61.82 to 70.88 *per cent;* excess transformer capacity of 15,864 MVA in the five years was created at a cost of ₹ 517.17 crore. In the same period, transmission cost per unit rose from 17.87 paisa to 24.51 paisa. Assets utilisation was not commensurate with investment and consumers paid a higher per unit cost for transmission.

(Paragraph 3.7)

During 2016-21, WBSETCL's aggregate achievements for construction/ upgradation of sub-stations, additions to transformer capacity and transmission lines were 35.62 *per cent*, 65.74 *per cent* and 39.90 *per cent*, respectively.

(Paragraph 3.8.1)

Out of 35 selected projects, WBSETCL had closed or terminated four projects and one project was completed within schedule. While nine projects were delayed by 2 to 309 days from technical approval to award of work, 29 projects sustained delays of 15 to 2,536 days from award of work to issue of taking over certificate after completion of project. In consequence, WBSETCL incurred cost overrun of ₹ 62.31 crore. ***(Paragraphs 3.9.1 and 3.10.1)***

In eight projects, WBSETCL, in violation of General Conditions of Contract, issued Taking Over Certificates, although ancillary works such as dismantling of towers, stringing of conductors, submission of 'as built' drawings/ documents *etc.* were not completed. Since dates of completion of projects were reckoned retrospectively, LD of ₹ 19.14 crore was not imposed on contractors of these projects. ***(Paragraph 3.10.5)***

WBSETCL did not have a hotline maintenance division, leading to total dependence on shutdown maintenance, with attendant risks of breakdown and ineffective utilisation of resources. Furthermore, WBSETCL had not achieved 100 *per cent* energy metering at boundary points. The shortfall ranged from 15.37 *per cent* to 21.55 *per cent* of boundary points. Consequently, transmission losses were overstated due to determining loss based on norms (3.40 *per cent*) and not actuals (2.29 *per cent* to 2.76 *per cent*). ***(Paragraph 3.11.3)***

Compliance Audit on post Amphan relief and restoration works

Introduction

The Super Cyclonic Storm "AMPHAN", made landfall on 20 May 2020 along the West Bengal-Bangladesh coast. Heavy rainfall was experienced over the coastal Odisha and Gangetic West Bengal on 20 and 21 May, 2020 with wind-speeds upto 133 kmph which affected 16 districts of the State. The super cyclone affected nearly 60 *per cent* of the State population and claimed 99 human lives apart from causing destruction of dwelling houses, agriculture, horticulture, fisheries, animal resources, forest, power, irrigation canals, health infrastructure and industrial sectors.

Government of West Bengal (GoWB) reported damage to the extent of ₹ 1,02,442 crore and sought for central assistance of ₹ 35,018 crore from National Disaster Response Fund (NDRF). Against which, central assistance of ₹ 2,707.77 crore was recommended from NDRF, subject to adjustment of 50 *per cent* of balance available in the State Disaster Response Fund (SDRF) account as on 31 March of the preceding financial year. The assessment of damages by GoWB for claiming Central Assistance was exaggerated and unrealistically high and it was not supported by proper evidence of damages.

(Paragraph 4.1 & 4.7)

The damage assessed by the DMCD Department could not be verified in Audit in absence of district-wise damage assessment report. ***(Paragraph 4.5.1.1)***

Upto June 2020, House Building grant to all damaged households (fully or partially damaged) were given at the rate of ₹ 20,000 each. However, after June 2020, households with fully damaged houses got ₹ 20,000 each and households with partially damaged house got ₹ 5,000 each. The rationale for fixation of the rates of HB grant by the GoWB was not found on record. Thus, distribution of relief by GoWB for HB grant was not fair and equitable.

(Paragraph 4.8.2)

House Building grant was credited more than once into the bank accounts of 9,226 beneficiaries involving payments of ₹ 18.07 crore indicating not only serious deficiencies in the process of selection of beneficiaries but also absence of adequate checks and balances before making DBT to prevent such multiple payments.

(Paragraph 4.8.5)

There was mismatch between the account numbers mentioned in the beneficiary lists and those found in the IFMS Vouchers/Bank Scrolls of successful transactions in South 24 Parganas, Nadia, Paschim Medinipur and Purba Medinipur. Such discrepancy was found in 1,44,175 cases involving ₹ 125.07 crore

(Paragraph 4.8.13)

Horticulture assistance of ₹ 2.82 crore was paid to 5,627 beneficiaries on the basis of beneficiary list prepared for cyclone 'Bulbul' that hit West Bengal in November 2019.

(Paragraph 4.10.1)

Individual Observations of Compliance Audit

West Bengal Khadi and Village Industries Board under MSME&T Department incurred an irregular expenditure of ₹ 3.45 crore in procurement of 4,254 Rotary Sewing Machines in contravention of mandatory provision of West Bengal Financial Rule at a higher rate.

(Paragraph 5.1)

The Department paid ₹ 8.78 crore as Marketing Incentive (MI) under National Handloom Development Programme to 202 ineligible Primary Handloom Weaver' Cooperative Society (PWCS) and additional MI under WBIS 2013 to PWCS in contravention of the Scheme Guidelines**.**

(Paragraph 5.2)

Siliguri Jalpaiguri Development Authority went ahead with the construction of Pineapple Development Centre (PDC) without procuring required land for approach road. As a result, newly constructed facility could not be put to use even after eight years from completion, resulting in unfruitful expenditure of ₹ 18.78 crore.

(Paragraph 5.3)

Dues of ₹ 15.61 crore towards price of earth against unauthorised extraction of 18.51 crore cft of earth without valid permits were not recovered/short recovered in 877 cases by 11 District Land & Land Reform offices.

(Paragraph 5.4)

Non/ short realisation of rent, cess and surcharge of ₹ 32.12 crore in 12,415 cases pertaining to land used for commercial purpose.

(Paragraph 5.5)

Five District Land & Land Reforms Officers failed to realise ₹ 4.53 crore from the lessees/contractors/brick field owners on account of royalty and cess levied on extraction of earth/ sand/ stone.

(Paragraph 5.6)

Chapter II

Performance Audit on Upgradation of Roads by PWD in West Bengal

Chapter-II

Performance Audit

Public Works Department

2 Performance Audit on Upgradation of Roads by PWD in West Bengal

2.1 Introduction

Road transport is the dominant mode of freight and passenger movement in India, primarily on account of the ease of accessibility, door-to-door service and flexibility of operations. A wide and well maintained road network is a critical infrastructure for the overall socio-economic development of any State or region. Roads include National Highways (NHs) and Expressways, State Highways (SHs), Major District Roads (MDRs), Other District Roads (ODRs) and Village Roads (VRs).

SHs and MDRs constitute the secondary system of road transportation after NHs. SHs are the broader road network connecting the District Headquarters in the State, important towns, tourist centres, minor ports, major towns/cities within a State and also NHs and SHs of neighbouring States. District roads are key roads within a district and comprise MDRs and ODRs connecting the district headquarters with major rural areas. They function as the arterial infrastructure network of the rural economy by connecting production centres with markets and enable movement of passengers within and between districts. SHs and MDRs are constructed and maintained by the State Government through the State Public Works Department (PWD). ODRs and Village Roads are also constructed and maintained by institutions such as Zilla Parishads, Municipalities and Panchayats.

The total road network in West Bengal as per Basic Road Statistics of India (2017-18), Ministry of Road Transport and Highways (MoRTH) is 3,29,126 km. The Public Works Department of West Bengal has 15,530 km (4.82 *per cent*) of various categories of roads like SHs (3,612 km), MDRs (9,500 km), ODRs and VRs (2,418 km) under their jurisdiction[1] as of January 2021.

PWD executes road development works through its two Directorates *viz.,* the Public Works Directorate and the Public Works (Roads) Directorate. Each Directorate has three[2] Zonal offices. The Public Works Directorate and Public Works (Roads) Directorate have under them 11 and eight circle offices respectively which are associated with execution of road development works under their respective zones. The 19 circle offices have 61[3] divisional offices, which are responsible for ensuring proper planning, execution, monitoring & supervision and adequate quality control in road development works of PWD.

The Department had also set up West Bengal Highway Development Corporation Limited (WBHDCL) in 2012-13 for development of State Highways. Through WBHDCL, the State Government contemplated creation of a Special Purpose

[1] *Egiye Bangla website of Government of West Bengal.*

[2] *North Zone, South Zone and West Zone.*

[3] *33 divisional offices under PW Directorate and 28 divisional offices under PW (Roads) Directorate.*

Vehicle (SPV) to upgrade and maintain the core road network (mainly SHs) in the districts and adopt Public Private Partnership (PPP) as an instrument for delivery of better roads by collection of user charges or toll.

Details of budget *vis-à-vis* expenditure on capital outlay on roads and bridges by the PWD on up-gradation of various types of roads including construction of new roads in the State during 2015-16 to 2020-21 are shown in **Table 2.1**.

Table 2.1: Year wise Budget and Actual Expenditure on roads by PWD

(₹ in crore)

Year	Budget	Actual Expenditure	Excess (+)/ Savings (-)
2015-16	3,407.44	1,956.92	(-) 1,450.52
2016-17	2,722.03	1,885.82	(-) 836.21
2017-18	3,935.30	3,527.64	(-) 407.66
2018-19	4,363.03	5,059.08	(+) 696.05
2019-20	5,922.12	4,127.66	(-) 1,794.46
2020-21	2,917.92	3,046.72	(+) 128.80
Total	**23,267.84**	**19,603.84**	**(-) 3,664.00**

(Source: Budget Publications of Government of West Bengal)

The State has incurred an expenditure of ₹ 19,603.84 crore (82.90 *per cent*) on construction/upgradation of roads and bridges in the last six years against the total expenditure of ₹ 23,646.76 crore (Capital expenditure ₹ 19,603.84 crore + Revenue expenditure ₹ 4,042.92 crore) on roads and bridges.

In view of substantial investment made by the State Government on upgradation of roads during the last five years, Performance Audit was taken up to ascertain whether the expenditure had been incurred in a prudent and efficient manner while adhering to aspects of quality, safety and mobility.

2.2 Audit Objectives

Audit was conducted with a view to assess whether:

- Upgradation of roads was undertaken after proper planning and the required survey & investigation;
- Projects were completed on time and the roads developed as per the specifications laid down in Detailed Project Reports (DPRs) and extant codes and SoRs of PWD;
- Laid down mechanism for monitoring and quality control were adequate and the same were adhered to;
- Upgradation of roads resulted in increased mobility; and
- Road safety measures were executed as per extant norms.

2.3 Audit Criteria

The audit criteria were drawn from the following:

- Schedule of Rates (SoRs) of PWD (Road & Bridge works) 2008, 2014, 2015 and 2018;
- Indian Road Congress (IRC) guidelines;
- Ministry of Road Transport and Highways (MoRTH) Specifications 2001 (Fourth Revision) & 2013 (Fifth Revision);

- Terms and conditions in Standard Contract Agreement (Form 2911) of PWD; and
- Contract agreements & Standard Bidding Document of WBHDCL

2.4 Scope of Audit

The audit was conducted between December 2020 and May 2021 and covered a period of five years (2015-16 to 2019-20). Three districts[4] from West zone and two each from South[5] and North zone[6] were selected on the basis of the highest expenditure on road works. All the 19 divisions[7] of PW Directorate and PW (Roads) Directorate in the seven selected districts along with WBHDCL were selected for the purpose of detailed audit. An amount of ₹ 8,778.48 crore was incurred on road works in these test-checked divisions during the period under audit.

Out of total 995 road works undertaken in the 19 test-checked divisions, 130[8] road works with an estimated cost of ₹ 3,037.93 crore were selected for detailed analysis in seven districts. Selection of the works was done in the divisions on the basis of expenditure incurred, with adequate representation from various categories of Roads such as SHs, MDRs, ODRs and VRs. The road works selected were mainly i) Widening & Strengthening, and ii) Strengthening. Out of the 130 selected projects, 25 were selected for quality control examination.

2.5 Audit Methodology

The following methodology was adopted in the Performance Audit.

- An Entry Conference was held on 22 December 2020 with the Additional Secretary of the Department wherein audit objectives, scope, criteria *etc*., were discussed and the inputs of the Department were obtained.
- Scrutiny of files and records *viz*., Detailed Project Reports (DPRs), Technical Estimates and files related to projects/works.
- Joint physical verification of projects with departmental staff.
- Interaction with stake holders like members of bus owners' associations and interviews with pedestrians and drivers along with departmental officers.
- Analysis of data from other Government departments on post project traffic increase (Motor Vehicles Department, District Magistrate offices *etc*.) wherever available.
- An Exit Conference was held on 01 June 2022 where audit observations were discussed with the Department.

2.6 Macro level Planning

Road network is a critical infrastructure and its creation and upgradation as well as maintenance is a capital intensive activity. Judicious and planned approach

4 *Bankura, Birbhum and Purba Burdwan.*

5 *North 24 Parganas and South 24 Parganas.*

6 *Alipurduar and Cooch Behar.*

7 *Alipurduar, Cooch Behar, Bankura, Burdwan North, Burdwan South, Birbhum-I, Birbhum-II, South 24 Parganas, Diamond Harbour & Barasat-I (Highway Divisions) and Alipurduar, Cooch Behar, Birbhum, Burdwan, South 24 Parganas, Bankura, Barasat, Bishnupur & Barrackpore (PW Divisions).*

8 *52 projects of PWD, 75 projects of PW (Roads) and 3 project of WBHDCL consisting of 29 SHs, 61 MDRs, 13 ODRs and 27 Village Roads.*

in this regard is essential to ensure that such investments are made where these are most required, thereby maximising returns to the State in terms of accrued benefits and also ensuring optimum utilisation of scarce resources.

The plan for upgradation of roads should ideally aim to progressively widen the existing roads, strengthen the pavements to carry heavier vehicles and improve geometrics to ensure better operating speeds with adequate road safety measures, based on scientific assessment of traffic load and connectivity requirements. New habitations or habitations that do not have all weather road connectivity need to be identified so that upgradation of existing infrastructure as well as additional infrastructure to be created can be given adequate attention. The plan should also prioritise improvement of those routes which provide linkage to industrial growth centers, agriculture produce market centers, heritage and tourist centers, power generating centers, medical and institutional hubs, ports, State and international borders, *etc*.

2.6.1 Absence of plan for development of roads

PWD had prepared a 20 years' master plan for development of roads in the State, which was effective till 2000-2001. Thereafter, no long term plans have been made by the Department as also brought out in the Report of the Comptroller and Auditor General of India (Economic Sector) for the year ended 31 March 2012. The Department also did not provide any response to audit regarding existence of long term/short term plans for road development. Thus, PWD has been functioning without any such formalised plans, either long-term or short term.

For effective planning of developing road infrastructure, a comprehensive data base of the road network and periodic analysis of traffic on the roads is essential. The Department did not provide any response to audit on whether they have a consolidated database of the road network. Though the concerned divisions do maintain a database of roads with information on the classification of roads by type, their length and width and whether they are surfaced, no standardisation of format was seen across the divisions and each Division was maintaining the database as per their convenience. The database did not include information on details of last work done or the composition of the road pavement *etc*., which would be essential in effective planning for upgradation or maintenance. Further, it was seen in the divisions that no mechanism was in place for consultation with stakeholders like District Administration, Transport Department or Police for assessing the local demands or requirements of stakeholders.

Traffic census to assess the growth of traffic flows over time should be one of the inputs to assess the requirement for planning and implementing road works so as to ensure that road infrastructure is adequately developed and maintained to keep pace with traffic load. The Department did not respond to queries on whether any regular traffic census was mandated or conducted by them. The divisions conducted traffic census on roads taken up for upgradation for preparation of DPRs only. However, traffic load assessment through traffic census was not found to be a factor in deciding the works to be taken up by the divisions.

Though WBHDCL had prepared (March 2016) a baseline master plan incorporating the list of roads for which development works were to be taken up in order of priority, there was nothing on record to suggest that execution of work was taken up as per the list.

It is, thus, evident that there is no institutionalised system of collecting data on roads, traffic flows and volumes and no comprehensive data base of assets of the PWD to provide inputs for planning development and maintenance of the road infrastructure. In the absence of a formalised system of planning, road works were stated to be taken up by divisions on the basis of condition of the roads.

2.6.2 Non prioritisation of road works

In 16[9] of the 19 test-checked divisions, no assessment of traffic was conducted on the existing roads to identify or prioritise road development works. It was also confirmed during joint physical verification along with departmental officers that roads in very poor condition had not been prioritised for taking up works as detailed below:

a. Audit observed that the entire road from Lalpur near Samuktala to Chuniajhora T.G. under Alipurduar Highway Division was damaged (0.0 km to 16.45 km). The road was taken over (December 2017) from Alipurduar Zilla Parishad (ZP) in poor condition with the wearing course being worn out. This road serves as an important mode of connectivity of nearby villages to the market at Shamuktala and many tourist spots (Jayanti, Phaskhawa and Bhutanghat). However, no upgradation work of the road has been initiated till date (December 2020) despite demand by the villagers and the Sabhadhipati of the ZP.

   Interaction with the local road users jointly with the departmental staff (December 2020) revealed that this road had been in poor condition for the last three years resulting in inconvenience to the users including farmers to carry their farm produce to the nearby local markets.

Fig.2.1: Worn out Bituminous surface at 0.5 km of road from Lalpur near Samuktala (20.12.2020)

Fig.2.2: Worn out Bituminous surface at 14 km of road from Lalpur near Samuktala (20.12.2020)

b. Audit observed (January 2021) that WMM (Wet Mix Macadam) of Silipal–Sarenga-Bamundia Ghat Road (SH) of Bankura Highway Division was exposed (wearing and binder courses had worn out) for the stretch from 9.00 km to 17.00 km. The strengthening work of the road for the

9 *Alipurduar, Cooch Behar, Bankura, Burdwan North, Burdwan South, Birbhum-I, Birbhum-II, South 24 Parganas, & Barasat-I (Highway Divisions) and Alipurduar, Cooch Behar, Birbhum, Burdwan, South 24 Parganas, Bankura & Barasat (PW Divisions).*

stretch from 9.00 km to 21.4 km and from 17.00 km to 21.4 km was last taken up in 2007 and 2014-15 respectively. Interaction with a bus driver also revealed that the condition of the road was poor since 2018-19 as a result of which journey time from Simlipal to Bamundia Ghat had doubled besides increasing the wear and tear of vehicles.

The Division in reply (January 2021) stated that tender is being finalised for the improvement of the road. However, the fact remains that the road has been in poor condition for the last two years.

	
Fig.2.3: Interaction with stakeholder (driver) at Simlipal-Sarenga- Bamundiaghat Road (16.01.2021)	**Fig.2.4: WMM exposed at 9.5 km of Simlipal-Sarenga- Bamundiaghat Road (16.01.2021)**

c. Similarly, WMM in some stretches and sub-grade in other stretches was found (February 2021) exposed throughout the Nalhati Bhabanandapur (2.67 km to 14.50 km) road (MDR) under Birbhum Highway Division-I along with numerous depressions (upto sub-grade) in the stretch from 3.3 km to 6.00 km. The road is important as it connects with the stone quarry of the Nalhati area. Interaction with stakeholders revealed that the road has been in poor condition for the last four years adversely affecting traffic movement to and from the quarry.

	
Fig.2.5: Meeting with stakeholder on Nalhati Bhabanandapur Road under Birbhum Highway Division-I (27.02.2021)	**Fig.2.6: Subgrade exposed at various locations of Nalhati Bhabanandapur Road under Birbhum Highway Division-I (27.02.2021)**

In reply, the Department stated (February 2022) that the work was delayed due to some technical problems which has now been sorted out. However, the fact remains that the Division could not commence the work even after five years.

2.6.3 Non-assessment of intended benefits

Construction of roads and bridges augments the economic activity of the whole State and have an impact on socio-economic aspects like breaking the isolation of remote areas, agriculture, employment generation, income and poverty alleviation, health and education *etc*. As such, construction of new roads and upgradation of existing roads requires an analysis of its impact in the areas where the construction activities have taken place.

The Department while preparing DPRs of road works have to assess the projected intended benefits that would accrue to the society both economically and socially after completion of the works. However, this exercise was not conducted in all the projects. Audit observed that out of 130 works, 127 related to widening and strengthening. In 46 test-checked works ***(Appendix-8)*** with estimated cost of ₹ 847.68 crore, the Department did not assess the intended benefits. In 81 works, though the intended benefits were assessed in the DPRs, the Department did not analyse the actual benefits accrued after completion of the works.

Thus, in the absence of assessment of actual benefits, the Department was not aware whether the completed projects had achieved the targeted socio-economic benefits.

The Department stated (February 2022) that after completion of projects it was obvious that socio-economic development would take place in and around the area. However, the fact remains that due to failure to conduct impact analysis, actual impact of the construction of the road could not be assessed.

2.7 Project Planning

For planning of individual road project, a Detailed Project Report is to be prepared by Sub-divisions/divisions after conducting soil investigation, assessment of traffic volume and topographic study. For projects upto ₹ 1.00 crore, technical sanction is provided by the Executive Engineer (EE), for projects above ₹ 1.00 crore to ₹ 2.50 crore by the Superintending Engineer (SE) and for projects above ₹ 2.50 crore to ₹ 5.00 crore by the Zonal Chief Engineer (ZCE). For projects, valuing more than ₹ 5.00 crore and up to ₹ 10.00 crore, the ZCE accords technical sanction only after the approval of the Zonal Project Screening Committee[10] (ZPSC). Projects outlays beyond ₹ 10.00 crore are technically sanctioned by Chief Engineer Planning, after approval of the State Project Screening Committee[11] (SPSC).

Roads are to be designed on the basis of scientific assessment of traffic load (initial and future growth), geometrics to ensure better operating speeds with

[10] *ZPSC comprise of Zonal Chief Engineer, Assistant Chief Engineer (monitoring), Assistant Chief Engineer (Planning), SE of the concerned circle and one officer not below the rank of SE.*

[11] *SPSC comprise of Principal Secretary PWD, E-I-C and ex-officio secretary PWD, CE (Hqrs) PW Directorate, CE (Hqrs) Roads Directorate, CE Planning Roads Directorate, CE & Director RBRI, CE Planning PW Directorate, SE Bridge Planning Circle, SE State Highway Planning Circle.*

adequate road safety measures and connectivity requirements. These factors together determine the composition and thickness of different layers to be used in construction of the road.

A road is constructed in layers (Sub-Grade, Sub-Base, Base course, Binder course and Wearing course) with different kind of materials like earth, moorum, sand, stone dust, stone aggregates, lime stone dust, bitumen, *etc.* ***(Fig. 2.7)***.

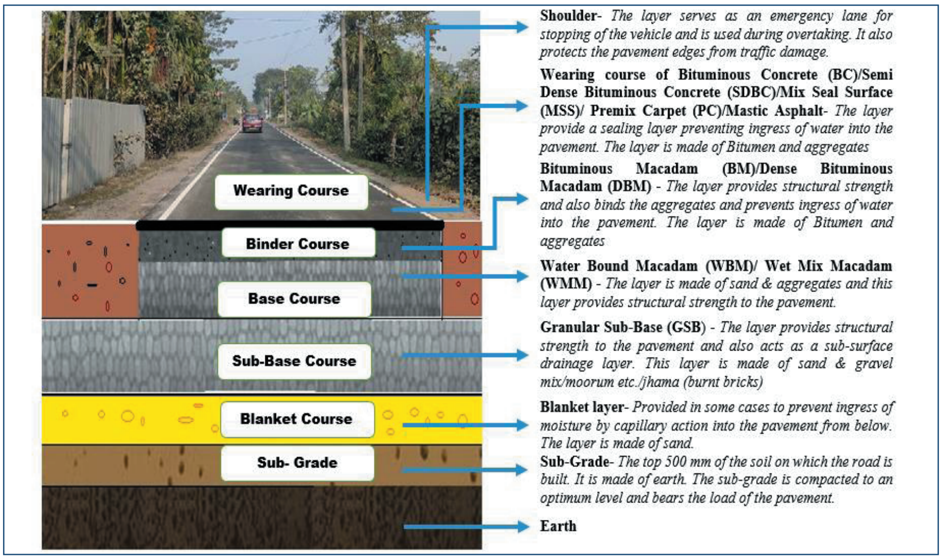

Fig. 2.7: Schematic diagram of different layers of a road

Audit observed that there were lapses at all levels (EE, SE, ZCE, ZPSC and SPSC) in designing and approval of road pavements which led to avoidable/ unfruitful/wasteful expenditure as a consequence of unnecessary execution of works as discussed in the subsequent paragraphs.

2.7.1 Preliminary Investigation

Prior to execution of any road work, it is essential to conduct preliminary investigations like topography survey, soil investigation, traffic survey, *etc*. The topographical survey reveals the alignment of the road, the curves of the road and the water level around the road. Soil investigation reveals the nature and load bearing capacity of the soil. The traffic survey of a road helps to assess the quantum and nature of traffic that would ply on the road after completion of the work. These factors together determine the thickness of different layers to be used in construction of the road. Thus, it is imperative that such tests are done before preparation of DPRs to ensure that the road work is effectively designed and executed as per the site and traffic requirements.

2.7.1.1 Topographical Survey

As per IRC guidelines[12], topographical survey is necessary for improving existing roads so as to remove inherent deficiencies with respect to sight distance/ visibility in horizontal and vertical plane, cross-drainage structures, roadside drainage provisions, area drainage considerations as well as safety features.

Topographical survey was not conducted in 78 test-checked works having an estimated cost of ₹ 1,433.64 crore. Out of the remaining 52 test-checked works

[12] *SP-19:2001 clause 4.2.*

where topographical survey was stated to have been conducted, the division failed to produce any records regarding such survey in 35 works having an estimated cost of ₹ 1,313 crore.

Failure to conduct topographical survey could lead to erroneous planning and design of the roads. Besides, requirement of drainage may also be overlooked. Some instances where topographical survey was not conducted resulting in subsequent need for additional work and consequent delays in completion of works are shown in **Table 2.2**.

Table 2.2: Additional works taken up for execution due to failure to conduct topographical survey

Sl. No.	Name of the work	Tender cost (₹ in crore)	Additional/ excess items	Additional cost (₹ in crore)	Time overrun (in days)	Reason for extra works/additional works
1	W&S of Beliatore-Sonamukhi-Patrasayar-Rasulpur Road, Bankura PW Division	36.68	GSB, WMM, cement concrete pipe (NP4) *etc.*	2.50	260	Water overtopping during monsoon season was not noticed
2	Improvement of MKKS Road, Burdwan South Highway Division	11.76	Surface drain and additional layer of 200 mm GSB	0.20	186	Proper surface drainage system was not provided
3	Strengthening of Hingalganj - Dulduli Road from 12.50 to 33.60 km, Barasat PW Division.	7.29	Extra earthwork, WBM and Bullah piling	0.47	122	Deficiency of earth on embankment and low level of the road.
4	W & S of Rampurhat-Tarapith Road, Birbhum Highway Division-I	38.83	M-15 grade concrete and 17 cross drains.	2.62	273	Due to change in design and number of cross drains.
Total		**94.56**		**5.79**		

(Source: Records of the PW/Highway divisions)

These instances of increase in cost and delay in completion of the projects could have been avoided by the Department if proper topographical survey was conducted during preparation of DPRs. The failure of the divisions to conduct the topographical survey was also overlooked by the SE, ZC, ZPSC or the SPSC while according technical sanction to the projects.

The Department stated (February 2022) that in case of one work[13], topography survey was not done as the work was strengthening in nature. In case of another work[14], it was stated that submergence of road during monsoon was not taken into account during preparation of DPR. The reply is not tenable as topography survey prior to taking up of any kind of road project is required to remove inherent deficiencies of the road, which was not done in the instant cases.

2.7.1.2 Investigation of soil and existing layers

As a part of preliminary investigation, soil test is required in order to calculate the California Bearing Ratio (CBR)[15] of the sub grade[16]. The different layers

[13] *Improvement of MKKS Road, Burdwan South Highway Division.*

[14] *Strengthening of Hingalganj - Dulduli Road from 12.50 to 33.60 km, Barasat PW Division.*

[15] *Load bearing capacity of soil. Higher CBR value means the surface is strong enough to bear higher traffic load.*

[16] *Soil on which the road is constructed.*

and thickness of flexible pavement of any road to be upgraded depends on the CBR value and the traffic volume of the road. Investigation of existing layers of the road is also necessary for laying additional layers required for the proposed development/upgradation.

Out of the 130 test-checked works, soil test for determination of CBR was required to be conducted in 116 works. In 93 works where CBR was stated to have been determined in the DPR and used in pavement designing, the divisions could not provide any evidence of this being done for even a single work. As a result, authenticity of CBR value used in designing the roads could not be verified. In two works ***{Appendix-9(i)}*** with estimated cost of ₹ 31.77 crore, it was seen from the DPRs that CBR tests were done at locations beyond (10 kms away from the project) the project length of the road. In another work[17] executed at a cost of ₹ 7.62 crore, CBR taken into consideration pertained to another nearby road which was attributed to urgency. In two works ***{Appendix-9(ii)}*** with an estimated value of ₹ 31.17 crore, DPRs were prepared without investigating the existing layers of the road. As a result, while executing the works, the divisions found the existence of a bituminous layer beneath the existing granular layer of the roads which if not removed, would result in slippage and deformation of the newly laid layers.

Such deficient soil investigation prior to the commencement of work exposes the newly constructed roads to the risk of slippage and deterioration.

The Department while accepting (February 2022) the observation in case of Burdwan South Highway Division, offered no comments in the case of the other two divisions[18].

2.7.1.3 Traffic Census

As per IRC guidelines[19], traffic census provides information of the volume and type of traffic plying on the road for designing pavement of roads to be constructed. Any deficiency in designing would lead to deterioration of roads, well before its design life. The traffic census[20] should be conducted:

(i) for three days with 24 hours each day, twice a year[21], in case of rural roads;

(ii) at least for seven days with 24 hours each day for SH and MDR;

(iii) at a point of the road away from the urbanised development and village areas;

(iv) the collected field data should be recorded in prescribed format[22]; and

(v) by enumerators under the supervision of trained supervisors.

Scrutiny of records of test-checked works revealed the following irregularities in conducting traffic census.

a) In four works ***(Appendix-10A)*** with estimated cost of ₹ 33.84 crore, it was

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[17] *Strengthening of Hingalganj-Dulduli Road, 12.50 km to 33.60 km of Barasat PW Division.*

[18] *Barasat and Cooch Behar PW Divisions.*

[19] *IRC-37:2012 and IRC–SP-72:2007 & 2015.*

[20] *IRC-9:1972: clause 3.1, 4.1, 5.2 & 5.3 and IRC-SP-72:2015: clause 3.4.1 for rural roads.*

[21] *Once during peak harvest season and other during the lean season.*

[22] *Plate-I is the IRC prescribed format to record data collected by enumerator in the field.*

noticed that the estimates were prepared on the basis of CE's order without conducting any traffic census. In another 10 works with estimated cost of ₹ 57.58 crore, the divisions did not provide information regarding conduct of traffic census.

b) In 19 works ***(Appendix-10B)*** with estimated cost of ₹ 499.02 crore, the census was not done for seven days as required for SHs and MDRs. The Department stated (February 2022) that in case of Burdwan and Bankura PW Divisions traffic census was done for three days only as there was no such variation in traffic noticed during this period. In case of Cooch Behar and Bankura Highway, it stated that seven days traffic census was not done due to urgency in preparation of DPR. The reply is not tenable as a reasonable assessment of variation in traffic cannot be done in 3 days and was not as per IRC guidelines.

c) In four works ***(Appendix-10C)*** with estimated cost of ₹ 36.89 crore, traffic census was not done for three days as required for ODRs and VRs. It was seen in one work[23] that traffic census was conducted for three days but for 16 hours instead of 24 hours each day.

d) In 30 works ***(Appendix-10D)*** with estimated cost of ₹ 335.59 crore, traffic census was done in one season only instead of two seasons (lean and peak). The Department stated (February 2022) that traffic census could not be done for both the seasons as the DPRs were to be submitted urgently. The reply is not tenable as leaving out one season may lead to distortion in calculation of the traffic volume which may lead to erroneous design of the road.

e) In 16 works ***(Appendix-10E)*** with estimated cost of ₹ 210.65 crore, location where the census was conducted was not recorded. The Department accepted (February 2022) the observation in case of South 24 Parganas Highway Division. No replies were furnished in case of other Divisions.

f) In 67 works ***(Appendix-10F)*** with estimated cost of ₹ 1,510.81 crore, the divisions failed to provide field reports[24] of any of the traffic census that were reported to have been conducted while designing the roads. As such, the reliability of the traffic count could not be ascertained in audit and the possibility of incorrect traffic volume being considered for pavement designing could not be ruled out. The Department accepted (February 2022) the audit observation and stated that it has been noted for future guidance.

g) In four road works ***{Appendix-9(iii)}*** with an estimated cost of ₹ 21.19 crore, total traffic count in the approved DPR included buses as one of the types of traffic plying on the roads. However, during joint meeting (6 January 2021) with the stakeholders[25] of the roads and Divisional personnel, it came to light that no buses plied on the roads. The fact was also accepted by the two divisions concerned. This raises doubt on the authenticity of the census itself. The erroneous traffic count gave rise to an inflated Million

[23] *Construction of Road from Gantimore to Gandharbapur for a length of 4.150 km of Burdwan South Highway Division.*

[24] *The report in which the enumerator records the traffic data at the census points.*

[25] *Commercial Bus Owners Association of Cooch Behar District.*

Standard Axles (*msa*) for the roads. As the inflated *msa* was found to be more than two, the roads were designed as per IRC guidelines[26] which recommended laying bituminous layers on the roads. If correct traffic, excluding the buses, were taken into account, the *msa* for all these roads would have been less than 2. Thus, the use of unnecessary bituminous layer due to incorrect traffic count led to an extra additional expenditure of ₹ 2.25 crore. The Department, in case of Cooch Behar PW Division stated (February 2022), that plying of buses in the road may not be a regular phenomenon because during picnic/tourist season, buses ply in many roads where there are no regular buses. The reply is not tenable as traffic census should not be conducted during abnormal condition of traffic as per extant IRC guidelines.

h) The Bankura PW Division while executing two works ***{Appendix-9(iv)}*** with estimated cost of ₹ 83.34 crore, conducted the traffic census at a busy locality (bazar) which raises doubt on the accuracy of the traffic count used in designing the roads and the use of higher than necessary specifications for these roads cannot be ruled out.

i) As per IRC guidelines[27], traffic census should be conducted for 24 hours, dividing a day into three shift of eight hours each. In one road work ***{Appendix-9(v)}***, Burdwan North Highway Division decided to increase the specification of the road, while the work was in progress, on the ground that the road had to support heavily loaded sand-filled trucks. Thus, it was evident that the original traffic census was incorrect. The Department stated (February 2022) that the specification was increased due to plying of sand filled trucks and the GSB was extended to the edge to facilitate sub-surface drainage. The reply is not tenable as proper traffic census would have captured the sand filled trucks. Moreover, the contention of the Department regarding extension of GSB due to sub-surface drainage seems to be an afterthought as no such reason was mentioned in the excess-less statement of the work.

j) Burdwan South Highway Division while executing a work[28] with an estimated cost of ₹ 35.83 crore, revised the pavement design while the work was ongoing. The volume of traffic used in the revised design was 50 *per cent* more than the traffic volume used in the original design. Thus, increase in traffic volume led to laying of extra bituminous layer thereby incurring avoidable expenditure of ₹ 0.39 crore. The Department stated (February 2022) that during execution of the work, an increase in traffic volume was noticed and so the change was affected. The reply is not tenable as the Division should have done a fresh traffic census instead of arbitrarily inflating the previous traffic census.

k) As per IRC guidelines[29], when a new road is being planned, Origin-Destination (OD) traffic survey is to be conducted to find out the traffic likely to use the road when the road is completed. It was observed

[26] *IRC-37-2012: clause 2.1 and clause 10.*

[27] *IRC-9-1972: clause 5.1.*

[28] *Strengthening & upgradation of Hatgobindapur-Purbabalisha Road, 0.00 km to 15.36 km.*

[29] *IRC-SP-21-2001: clause 6.3.1.*

that Diamond Harbour Highway Division, while constructing a new road[30] (MDR), conducted traffic survey on nearby existing roads and took 40 *per cent* of the traffic count for designing the new road, without assigning any reasons. As the project was a new road, the Division was required to conduct an OD survey.

Thus, it is evident that the extant guidelines were regularly violated at the divisional level and higher authorities like SE, ZCE and ZPSC also overlooked the aspect of traffic survey while approving the DPRs.

2.7.2 Designing of roads pavements

Analysis of records related to selected roads in the test-checked divisions revealed various errors/irregularities in designing of road pavements leading to avoidable/ unfruitful/wasteful expenditure as discussed in the following paragraphs.

2.7.2.1 Execution of road works without pavement design

As per IRC guidelines[31], pavement designing has to be done to decide upon the thickness of the road and the various bituminous and non-bituminous layers to be laid. In order to design a pavement, various factors such as the volume of traffic, CBR of the sub-grade, the design life, proposed width and the rate of growth of traffic of the road are taken into consideration.

Audit observed that in eight works ***{Appendix-9(vi)}*** with estimated cost of ₹ 52.65 crore, thickness of the pavement as well as the thickness of the various layers were laid arbitrarily without any calculation as required under IRC guidelines. As the design of these roads was not as per the norms, possibility of quality being compromised or unnecessary layers being provided, could not be ruled out. Of these eight works, it was noticed in three works ***{Appendix-9(vii)}*** with estimated cost of ₹ 20.17 crore, that the divisions did not calculate the pavement design and thickness of different layers were fixed as per directions of the Chief Engineer (Head Quarter), PW (Roads) Directorate.

In one of these three roads[32], 50 mm BM and 25 mm SDBC was laid in the stretch from 6 km to 11 km, at a cost of ₹ 1.61 crore as per directions of the Chief Engineer. However, the contiguous section from 0 km to 6 km of the road was constructed with 75 mm BM and 25 mm SDBC after calculating the pavement design as per extant IRC guidelines. Joint physical verification revealed that the stretch from 0 km to 6 km, which was designed as per extant IRC guidelines, was in good condition while the other had deteriorated, although both the stretches were constructed more or less during the same period.

2.7.2.2 Violation of IRC guidelines in pavement design of Non-Rural Road – Avoidable expenditure of ₹ 0.39 crore

IRC guidelines[33] recommend thickness of pavement and various bituminous and non-bituminous layers of a road, based on the *msa* and CBR. Providing more

[30] *Construction of New Link Road from Taranagore more 4.6 km to Kaliala more 13.8 km of Joynagar Jalaberia Kultali Road.*

[31] *IRC-37 for Non-Rural Roads and IRC-SP-72:2007 and 2015 for Rural roads.*

[32] *Strengthening of Joydeb Kenduli Illambazar Road, 6 km to 11 km of Birbhum Highway Division*-I.

[33] *IRC-37:2012 "Guideline for the design of flexible pavements".*

thickness than that recommended would result in avoidable expenditure while a lesser thickness would result in construction of a sub-standard road prone to damage. Birbhum Highway Division, while executing two road works, did not adhere to the recommendation of the IRC guidelines which led to avoidable expenditure as shown in **Table 2.3**.

Table 2.3: Pavement layer required as per IRC guidelines *vis-à-vis* actually laid

Name of the work	Type of road	Layer recommended as per IRC guidelines	Layer actually laid	Excess layer laid	Additional cost (₹ in crore)
W & S of Rampurhat Tarapith Road of Birbhum Highway Division-I	MDR	DBM- 90 mm	DBM-100 mm	DBM-10 mm	0.28
W & S of Tilpara Massanjore Road of Birbhum Highway Division-I	MDR	DBM-55 mm	BM-75 mm	DBM-20 mm	0.11
				Total	**0.39**

(Source: Records of the PW/Highway divisions)

Thus, as a result of not following the extant IRC guidelines, the divisions laid excess layers and incurred extra avoidable expenditure of ₹ 0.39 crore.

The Department stated (February 2022) that in one work[34] extra thickness of bituminous layer would increase the life of the road. In case of the other work[35], it was stated that 55 DBM was converted to 75 BM. However, the fact remains that the Department had to incur extra expenditure.

In another work[36], the layers designed as recommended by IRC guidelines was rejected by the State Project Screening Committee (SPSC) without assigning any reason. The guidelines recommended laying 75 mm BM and 25 mm SDBC. However, the SPSC cancelled the BM and substituted 25 mm SDBC by 20 mm Premixed Carpet & Seal Coat. As a result, the road upgraded (October 2018) at a cost of ₹ 8 crore deteriorated within two years of its construction.

2.7.2.3 Unjustified use of wearing course – Avoidable expenditure of ₹ 3.84 crore

As per IRC guidelines[37], the recommended wearing course[38] is Semi Dense Bituminous Course (SDBC) when *msa* of the road is upto five. In cases where *msa* is more than five, Bituminous Concrete (BC) is recommended. The guidelines also stipulates that wearing course such as Mastic Asphalt can be used only in case of heavy duty road pavements.

Audit observed that in six works ***{Appendix-9(viii)}*** with estimated cost of ₹ 139.41 crore, the divisions designed the pavement adopting IRC-37: 2001 & 2012. As the *msa* of these roads were less than five, the divisions were required

34 *W & S of Rampurhat Tarapith Road.*

35 *W & S of Tilpara Massanjore Road.*

36 *Strengthening of Kusumgram Shamaspur Road, 0 km to 12 km of Burdwan PW Division.*

37 *IRC-37:2012 and IRC-107-1992 tentative specifications for bitumen Mastic wearing courses.*

38 *The top most layer of the pavement which is laid over the binder course.*

to lay 25 mm SDBC as wearing course. However, the divisions used 30 mm BC (costlier item) as wearing course in four of the works ***{Appendix-9(ix)}*** in violation of the guidelines while in case of the remaining two works ***{Appendix-9(x)}***, where the *msa* was 2.5, the Division laid costly Mastic Asphalt as a wearing course, although SDBC would have sufficed as per the IRC guideline. The Division laid Mastic Asphalt on one of the roads[39] on the ground that the road was prone to deterioration due to discharge of lubricating oil from nearby motor garages. However, as per IRC guidelines[40], Mastic Asphalt is not to be provided in oil dripping areas as it damages the coating and leads to deterioration of the road surface. In the case of the other work, no justification for providing Mastic Asphalt was found on record.

Thus, use of BC and Mastic Asphalt, instead of recommended SDBC led to an avoidable expenditure of ₹ 3.84 crore.

The Department stated (February 2022) that BC was used in place of SDBC as per the decision of State Project Screening Committee (SPSC) to sustain heavily loaded vehicle plying on the roads. It was also stated that Mastic Asphalt was used due to submergence of the road during rainy season. The reply is not tenable as neither the decision of SPSC nor any order to this effect was produced to audit. The contention of heavy vehicle plying on the roads is also not tenable as *msa* of the roads was calculated considering heavy vehicles during the traffic census. As regard to use of Mastic Asphalt, the issue of submergence was not mentioned in the DPR nor in any other record.

2.7.2.4 Erroneous msa calculation-Avoidable expenditure of ₹ 7.62 crore

As per IRC-37:2012, any non-rural road having *msa* of less than two is required to be designed as per guidelines[41] meant for designing of rural roads. As per the rural roads guidelines, if Equivalent Standard Axle Load (ESAL)[42] of the road is more than 15 lakh, a binder course of 50 mm BM is required.

Scrutiny of records of three roads ***{Appendix-9(xi)}*** works with estimated cost of ₹ 35.56 crore revealed that *msa*s of the roads were more than two as per the DPRs, and accordingly the road pavements were designed as per the guidelines meant for designing the non-rural roads (IRC-37:2012). However, Audit calculated the *msa* of these roads as per the IRC guidelines with the available data in the DPR and found that in all the three roads, the *msa* was less than two and pavement design guidelines[43] meant for rural roads should have been used.

It was further seen in two other road works ***{Appendix-9(xii)}*** with estimated cost of ₹ 35.56 crore that though the *msa* of the roads were less than two as per the DPRs, the divisions did not design the road as per the specification meant for rural road.

[39] *Strengthening of Alipurduar Patlakhawa Road 0 km to 14.5 km of Alipurduar PW Division.*

[40] *IRC-107:1992, clause 3.*

[41] *IRC-SP-72:2007 & 2015 Guideline for design of flexible pavements for low volume rural roads.*

[42] *The estimated or projected magnitude and occurrence of various traffic, loading are converted to the total number of passes of Equivalent Standard Axel Loading (ESAL) usually the equivalent of 80 KN single axel load.*

[43] *IRC-SP-72:2007 & 2015.*

Due to use of non-rural road guidelines instead of rural road guidelines, the divisions incurred an avoidable expenditure of ₹ 7.62 crore as shown in **Table 2.4**.

Table 2.4: ESAL of roads and excess of pavement layers

Name of the work	*msa* as per DPR	Actual *msa*	ESAL of the road	Excess layers laid in mm	Specifications as per IRC in mm	Avoidable cost (₹ in crore)
W & S of Boxirhat Jorai Road, Alipurduar PW Division	2.50	1.50	10,84,591	BM-50 mm	No Binder Course	2.44
IRQ of Vivekananda Street, Cooch Behar PW Division	2.00	0.99	5,29,306	BM-50 mm	No Binder course	0.40
W&S of Kholapota Baduria Maslandapur Habra Road of Barasat PW Division	9.00	0.36	14,03,801	DBM-75 mm & BC -40 mm	No Binder course & OGPC[44]- 20 mm	3.37
Strengthening of Bhatar Bonpas Road 0 km to 14.5 km, Burdwan North Highway Division	1.74	NA	14,41,279	DBM-50 mm	BM-50 mm as per Benkelman beam deflection test	0.60
Anandapur- Kharki- Boynan- Tadah Road 0 km to 15.1 km, South 24 Parganas Highway Division	1.90	NA	19,72,510	DBM-50 mm & SDBC-25 mm	BM-50 mm and PC &SC-20 mm	0.81
					Total	**7.62**

(Source: Records of the PW/Highway divisions)

The Department accepted (February 2022) the audit observation in case of Alipurduar and Cooch Behar PW Divisions. In respect of Barasat PW Division, it was stated that IRC-37:2012 was used for designing as the road was MDR. The reply is not tenable as the value of *msa* was below 2 and the road was to be designed as per IRC-SP:72:2015.

2.7.2.5 Consideration of wrong specifications-Avoidable/unfruitful expenditure of ₹ 2.13 crore

Audit observed that in two test-checked works ***{Appendix-9 (xiii)}*** with estimated cost of ₹ 76.87 crore, the divisions interpreted the guidelines erroneously while designing the pavement of the roads leading to extra expenditure of ₹ 2.13 crore as detailed below:

a) Burdwan PW Division, erroneously provided 75 mm BM and 80 mm DBM as binder course in the widening portion of the road against 85 mm DBM layer recommended in the extant IRC guidelines in W & S of Burdwan Kalna Road (27 km to 51 km). After construction of 6.2 km (against a total of 24 km) with 75 mm BM and 80 mm DBM, the error was realised by the Division and it was decided (December 2015) to lay only 85 mm DBM in the rest of the widening portion of the pavement. This led to avoidable expenditure of ₹ 1.02 crore on laying the unnecessary bituminous layer of 75 mm BM.

b) As per guidelines[45], a blanket layer[46] is to be constructed with sand or non–plastic moorum having Plasticity Index less than five only and for up-gradation of CBR of the sub grade, a layer of 500 mm of better CBR

[44] *Open Graded Premix Carpet.*

[45] *IRC-37:2001, Annexure-4 part-III and IRC-37:2012: clause 5.2.*

[46] *Blanket layer is an effective intrusion barrier provided on the expansive soil sub grade as a sub base.*

material (materials having a higher CBR than the existing CBR of the sub grade) is to be laid on the sub grade.

Birbhum Highway-I Division provided a blanket layer of 300 mm stone dust in Strengthening of Nalhati–Rajgram Road (0 km to 15 km) to increase the CBR of the sub-grade from four *per cent* to eight *per cent.* The Division laid non-specified material like stone dust as blanket layer and also did not lay the layer of material with better CBR to a thickness of 500 mm. Thus, the purpose of laying a blanket layer or the intended increase in CBR was not achieved. This led to an unfruitful expenditure of ₹ 1.11 crore incurred on laying of the 300 mm stone dust layer.

The Department stated (February 2022) that to achieve better CBR, 300 mm stone dust was provided. However, as per IRC-37:2012, effective CBR can only be achieved by providing sand layer of at least 500 mm.

2.7.2.6 Erroneous designing of rural roads-Avoidable expenditure of ₹ 15.70 crore

As per IRC guidelines[47], for designing of rural roads[48], value of ESAL and CBR of the sub-grade is to be calculated in order to decide on the composition of the road pavement. As per the extant guidelines, roads having ESAL below 15 lakh did not require any bituminous binder course. In the case of 13 village road works ***{Appendix-9(xiv)}***, it was seen that the roads were designed without following the guidelines meant for rural roads and bituminous binder course were provided unnecessarily. Similarly, in two other village roads, excess sub base, base and wearing course were laid. Further, in another village road ***{Appendix-9(xv)}***, though the guidelines for rural road were used for designing the pavement, the division used higher specification of wearing course of Mastic Asphalt instead of the recommended OGPC. These anomalies resulted in avoidable expenditure of ₹ 15.70 crore as detailed in **Table 2.5**.

Table 2.5: Excess layers provided on rural roads

Sl. No.	No. of works	Guideline used for designing	Guideline to be used	ESAL of the road (in lakh)	Layers to be provided in mm	Excess layers provided in mm	Avoidable expenditure (₹ in crore)
1	13	IRC-37:2001 & 2012	IRC-SP 72: 2007&2015	0.96 to 14.55	No Binder course	BM-50 mm	13.99
2	1[49]	IRC-37:2012	IRC-SP-72:2015	18.20	BM-50 mm OGPC-20 mm	DBM-50 mm SDBC-25 mm	0.44
3	1[50]	IRC-37:2012	IRC-SP-72:2015	15.50	GSB-200 mm WMM-225 mm OGPC-20 mm	GSB-100 mm WMM-25 mm SDBC-25 mm	0.61
4	1	IRC-SP: 72:2015	IRC-SP 72:2015	16.31	OGPC-20 mm	Mastic Asphalt-25 mm	0.66
						Total	**15.70**

(Source: Records of the PW/Highway divisions)

47 *IRC-SP-72:2015 Table 4.*

48 *Other District Road (ODR) and Village Road (VR).*

49 *W&S of Junbedia Amarkanan Road of Bankura Division, PWD.*

50 *W&S of Rajgram-Surpanagar Road of Bankura Division, PWD.*

The Department stated (February 2022) that BM were laid on these roads as the rate of growth of traffic as provided in the IRC guidelines were not applicable in these areas. However, the reply is not tenable as the IRC guidelines prescribes five *per cent* annual growth of traffic in cases where the actual data of growth of traffic is not available.

2.7.2.7 Non-consideration of existing layer-Avoidable expenditure of ₹ 7.37 crore

For improvement of a road pavement, existing layers of the road is to be assessed for further required layers as per extant IRC guidelines. Audit observed that in four works ***{Appendix-9(xvi)}*** with estimated cost of ₹ 164.78 crore, the roads had usable existing sub-base and granular base layers. The divisions should have considered these layers and accordingly laid fresh layers to meet the design requirement. However, it was seen that the divisions ignored the existing layers and laid layers with excess thickness, which led to avoidable expenditure of ₹ 7.37 crore as shown in **Table 2.6**.

Table 2.6: Usable pavement layer and excess layer laid

Name of the road	Existing layer	Additional layers required	Layers provided	Excess layer laid	Avoidable expenditure (₹ in crore)
W&S of Simlipal Khatra 0 km to 26.4 km, Bankura Highway Division	WMM-130 mm	WMM-120 mm	WMM-150 mm	WMM-30 mm	2.74
	-	GSB-180 mm	GSB-230 mm	GSB-50 mm	
W&S of KNS Road 10 km to 18 km, Burdwan North Highway Division	BM- 100 mm equivalent DBM-70 mm	DBM-7 mm	DBM-50 mm	DBM-43 mm	0.79
W&S of Ahmedpur-Kirnahar-Ramjibanpur Road 0 km to 29.106 km, Birbhum Highway Division-II	WMM-100 mm	WMM-150 mm	WMM-250 mm	WMM-100 mm	2.96
Strengthening of Bashirhat-Pifa-Raghavpur Road 11 km to 27 km, Barasat Highway Division-I	WMM-50 mm	WMM-200 mm	WMM-250 mm	WMM-50 mm	0.88
				Total	**7.37**

(Source: Records of the PW/ Highway divisions)

The Department stated (February 2022) that excess layers were laid in the four divisions due to various reasons such as less Resilient Modulus of the existing BM, wastage of WMM while picking the bituminous layer and practical experience.

In respect of weak Resilient Modulus of existing BM layer, the reply is an afterthought as it was not mentioned in the sanctioned estimate. Further, wastage of WMM could have been avoided by using milling method of picking up of the existing bituminous layers.

2.7.2.8 Erroneous design due to non-consideration of effective CBR - Avoidable expenditure of ₹ 4.00 crore

As per IRC guidelines[51], CBR of the sub-grade can be improved by laying 500 mm of better quality sub-grade material having higher CBR (materials

[51] *IRC-37:2012, clause 5.2.*

having higher CBR than that of the existing sub grade). For the purpose of designing pavement with effective CBR, a resultant of the existing CBR and the newly laid sub grade material should be considered as per the extant guidelines. Audit observed that in four works pertaining to three divisions, the extant provision of the guidelines on effective CBR had not been followed resulting in avoidable expenditure of ₹ 4.00 crore as detailed below:

a) In two works ***{Appendix-9(xvii)}*** with estimated cost of ₹ 76.17 crore, the divisions decided to improve the CBR of the sub-grade by laying better quality of sub-grade materials on the existing sub-grade. In one of the works[52], whose original CBR was three *per cent,* it was decided to lay 350 mm of sand layer and in the other work[53], where the CBR was 3.5 *per cent*, it was decided to lay 300 mm of stone dust layer. After laying these sub-grade materials, the divisions took the effective design CBR as seven *per cent* and eight *per cent* respectively and designed the road pavement accordingly. The claim of the divisions that the CBR had increased was not backed by any calculation. The process of calculation of effective CBR, as provided in the IRC guidelines is applicable only when 500 mm of sub-grade layer is laid. Laying of sub-grade materials with thickness less than 500 mm would not result in increasing the sub-grade CBR as per the IRC guidelines. Thus, the expenditure of ₹ 3.49 crore incurred on laying these sub-grade materials was unfruitful. The Department stated (February 2022) that CBR can be raised by laying 300 mm stone dust or 350 mm sand as per IIT-Pave technique provided in IRC-37:2018. The reply is an afterthought as the designing was done as per IRC-37:2012 and not as per IRC-37:2018.

b) In one work[54] with estimated cost of ₹ 38.60 crore, the Division laid 500 mm of medium sand over the sub-grade. The Division, while designing the pavement, did not calculate the effective CBR achieved due to laying of 500 mm of medium sand. It designed the non-bituminous pavement thickness of 600 mm based on the existing sub-grade CBR of three *per cent.* Audit observed that after laying 500 mm of sand, the effective CBR would have been five *per cent* and accordingly, IRC guidelines provides for 550 mm of non-bituminous pavement thickness.

Thus, by not considering the effective CBR, the Division laid 50 mm excess pavement thickness leading to an avoidable expenditure of ₹ 0.51 crore.

2.7.2.9 Erroneous drainage layers

As per IRC guidelines[55], sub-surface drainage is important for long life and better performance of the pavement. The moisture which reaches the lower layers of the pavement from different sources like the pavement surface, seepage from shoulders, and capillary rise of moisture from the ground is termed as sub-surface moisture. Disposal of this moisture away from the pavement body is termed as sub-surface drainage.

[52] *W&S of Saptagram-Tribeni-Kalna-Katwa Road 83 km to 102.34 km of Burdwan North Highway Division.*

[53] *Strengthening of Murarai-Mitrapur Road, 0 km to 13.5 km of Birbhum Highway Division-I.*

[54] *W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km under Birbhum PWD.*

[55] *IRC-SP-42:2014: section 5 Guidelines of Road Drainage.*

As per IRC guidelines[56], upper GSB layer is called the drainage layer which can be used to drain the moisture from the pavement/shoulder. It also stipulates that lower GSB layer shall serve the purpose of separation or filter layer, which will prevent the ingress of sub-grade soil into the upper pavement. Further, the filter layer along with the drainage layer shall run concurrently till the edge of the embankment.

Scrutiny revealed that in 11 works ***{Appendix-9(xviii)}*** with estimated cost of ₹ 332.19 crore, five divisions did not provide the drainage and filter layer concurrently till the edge of the embankment, raising the risk of ingress of sub soil into the drainage layer. This would lead to non-functioning of the sub-surface drainage system, thereby affecting the performance and longevity of the pavement.

The Department stated (February 2022) that the filter layer was not extended till the embankment because the adjacent area had water level higher than the drainage layer during the monsoon. The reply is not justifiable as the same was not considered while laying the drainage layer up to the edge of the embankment.

2.7.2.10 Erroneous design of Dense Bituminous Macadam- Avoidable expenditure ₹ 2.29 crore

As per IRC guidelines[57], VG 40 grade bitumen should be used when *msa* of the road exceeds 30, provided that the air temperature in that location exceeds 40°C in summer. Furthermore, the guidelines[58] also provides that unit thickness of DBM with VG-30 equals 0.833-unit thickness of DBM with VG-40. IRC guidelines[59] also provide that one unit thickness of BM equals to 0.70 unit thickness of DBM.

Scrutiny revealed that in three works, excess thickness of BM/DBM was laid using VG-40 as detailed below:

a) In one work[60] with estimated cost of ₹ 50.23 crore under Bishnupur PW Division, 90 mm DBM was laid with VG-30 though the *msa* of the road was more than 30. Besides, the road was in a region (Bankura district) where the temperature exceeds 40^{0}C in summer. Thus, as per IRC guidelines, the Division should have used VG-40 bitumen. This would have reduced the required thickness of the DBM layer to 75 mm. As a result, the Division incurred an avoidable expenditure of ₹ 1.03 crore due to laying excess thickness of 15 mm DBM.

b) In one work[61] with estimated cost of ₹ 24.64 crore, the Division laid 75 mm BM using VG-40. However, as per IRC guidelines[62], the required thickness of the pavement should have been 53 mm DBM using VG-30

56 *IRC-SP-42:2014, clause 5.2 sub cause 5.2.1, clause 5.2 sub clause 5.2.1 (ii), Figure 5.3 and IRC-37:2012, clause 7.2.1.3.*

57 *IRC-37:2012, Table VII-1 of Annexure VII, Annexure-III.*

58 *IRC- 37:2012, Annexure-III.*

59 *IRC-81:1997, clause 7.4.*

60 *Upgradation of Bishnupur-Kotulpur Road, 0 km to 18 km.*

61 *W&S of Nabanda Joykrishnapur Road, 10 km to 28.6 km of Bankura Highway Division.*

62 *IRC-37:2012 "Guidelines for the design of flexible pavements", clause 10.*

which is equivalent to 44 mm DBM with VG-40[63]. This when converted to BM with VG-40, the thickness would be 63 mm of BM with VG-40. Thus, the Division by laying 75 mm BM instead of 63 mm BM (excess 12 mm BM), incurred an avoidable expenditure of ₹ 0.56 crore. The Department stated (February 2022) that the actual requirement of BM with VG-40 was 78.57 mm and so lying of 75 mm BM was not excessive. However, the Department did not provide any calculation for the same.

c) In another work[64], the Division erroneously converted the required thickness of 90 mm of DBM with VG-30 to 80 mm DBM with VG-40. However, as per IRC, the thickness of DBM with VG- 40 would be 75 mm. Thus, due to erroneous calculation, extra thickness of DBM of 5 mm was laid resulting in avoidable expenditure of ₹ 0.23 crore.

2.7.2.11 Erroneous designing of low volume concrete pavement – Avoidable expenditure of ₹ 1.21 crore

As per IRC guidelines[65], for construction of concrete pavement roads having Commercial Vehicle Per Day[66] (CVPD) not exceeding 450, the base on which the concrete pavement is to be laid shall comprise of 100 mm GSB followed by 150 mm WMM.

Scrutiny revealed that in one work with estimated cost of ₹ 11.66 crore, CVPD of the road was less than 450 (here 257). However, the division provided excess layers of GSB, WMM and even provided a layer of Dry Lean Concrete (DLC) whose use is not mentioned in the guidelines as shown in **Table 2.7**.

Table 2.7: Excess layer of GSB, WMM and DLC laid on low volume concrete pavement

Name of the work	Value of CVPD	Thickness of layers required as per IRC	Existing usable layers	Thickness of the layers actually laid	Excess thickness of layers laid	Avoidable expenditure (₹ in crore)
Strengthening of Khagra- Joydev Road from 0 km to 8 km, Birbhum Highway Division-II	257	GSB-100 mm WMM-150 mm	None	GSB–330 mm WMM-250 mm DLC-150 mm	GSB-230 mm WMM-100 mm DLC-150 mm	1.21
					Total	**1.21**

(Source: Records of the PW/ Highway divisions)

Thus, the use of excess layers underneath the concrete pavement led to an extra avoidable expenditure ₹ 1.21 crore.

The Department in reply stated (February 2022) that at present, the traffic is very high as numerous heavy sand laden trucks ply on the road. The reply is not tenable as the designing was done taking into consideration future volume of traffic. So, the present increase as stated had already been taken into consideration for designing the pavement.

[63] *IRC-37:2012, Annexure III.*

[64] *W&S of Mahachanda Road, 0 km to 10.45 km of Burdwan Division PW Division.*

[65] *IRC-SP-62:2014, clause 1.4,2 and 3.6.2.3.*

[66] *It is the number of commercial vehicle plying on a road per day, having a weight of 3 Tonne or more.*

2.7.2.12 Erroneous design of interlocking concrete block pavement- Avoidable expenditure of ₹ 3.09 crore

As per IRC guidelines[67], the base on which the paver blocks are to be laid should be made of bound material like lean concrete or unbound material like WMM or WBM. The sub-base should be of granular material. The thickness of both the base and sub-base should not exceed 250 mm each under any circumstances. Furthermore, the thickness of the paver block is decided by the *msa* of the road. The following deviations from the guidelines were observed by Audit in three works:

a. In one work[68] with estimated cost of ₹ 17.22 crore, the Barasat Highway Division-I provided GSB layer of 350 mm instead of the prescribed 250 mm. In another work[69] with estimated cost of ₹ 42.94 crore, the pavement already had 200 mm sub-base (Jhama) and 150 mm base (WBM). The Division should have considered 50 mm of the existing WBM as sub base making the total sub base 250 mm. In addition to this, a fresh WMM layer of 150 mm on the pavement would have made the base layer 250 mm as required by the guidelines. However, the Division laid fresh 250 mm of WMM on the pavement which resulted in laying 100 mm WMM unnecessarily. Thus, laying of additional layers of GSB (100 mm) and WMM (100 mm) led to an extra avoidable expenditure of ₹ 2.62 crore. The Department stated (February 2022) that existing 100 mm Jhama/GSB were considered for increasing the CBR of the road. The reply is not tenable as the existing Jhama and GSB layers also provides structural strength to the pavement.

b. In case of another road[70] with estimated cost of ₹ 16.48 crore, instead of laying 80 mm paver blocks as per IRC guidelines, the Division laid 100 mm decorative paver blocks (costlier item) on a stretch of 1.25 km. No justification was also provided for using excess thickness and the costlier decorative paver blocks. Thus, the use of 100 mm decorative paver block in lieu of the recommended 80 mm paver blocks resulted in an avoidable expenditure of ₹ 0.47 crore.

2.7.2.13 Erroneous design for construction of Crash Barrier on Bridges- Wasteful expenditure of ₹ 3.45 crore

In order to prevent vehicles from topping over from bridges and causing fatal accidents, PWD decided (January 2018) to install crash barriers on all new bridges. It was decided to install crash barrier in case of old bridges having one-meter wide-footpath and railings on those without a foot path.

Accordingly, three test-checked divisions[71] installed crash barriers on 10 existing bridges during January 2018 to March 2018 at a cost of ₹ 0.72 crore. However,

[67] *IRC-SP-63:2004 "Guidelines for the use of interlocking concrete block pavement": clause 4.5 and Table 1 under clause 6.1.*

[68] *Construction of rigid pavement- Jessore Road, 13.7 km to 14.7 km of Barasat Highway Division-I.*

[69] *W&S of Dumdum Lauhati Road, 0.75 km to 12.00 km of Barasat Highway Division-I.*

[70] *W&S of Garia Railway Station to Gangajowara Road, 0 km to 4.43 km of South 24 Parganas Highway Division.*

[71] *Alipurduar PW Division and Alipurduar & Cooch Behar (Highway Divisions).*

PWD reversed its decision (July 2019) of installation of crash barriers on old bridges on the ground that additional load on those bridges was not considered in the original design and could have a detrimental effect on the bridge structures. It was also decided that the divisions which had already constructed crash barriers on old bridges had to remove the same.

Audit observed that the three divisions were in the process of removing the crash barriers from 10 such bridges[72] at a cost of ₹ 2.73 crore, thereby incurring wasteful expenditure of ₹ 3.45 crore.

Thus, from the above it is evident that the Department frequently deviated from the extant IRC guidelines leading to erroneous designing of road pavements. The Department needs to correct this approach and provided reasons for such deviations in the DPR. Further, there was lack of due diligence on the part of the divisions in preparation of DPRs. Though the DPRs were checked and approved by the higher authorities, they failed as is evident from the numerous instances of lapses in design resulting in total avoidable/excess/wasteful expenditure of ₹ 56.01 crore.

2.8. Contract Management

The PWD generally engages contractors for execution of road works through e-tendering. The estimate of the works are prepared by the Department and Notice Inviting Tenders are issued. The technical bids offered by the bidders are evaluated and thereafter, the financial bids are opened. Once a bidder is selected, the Department enters into a contract with the bidder through a contract agreement, which spells out the various terms and conditions of the works.

2.8.1 Defect Liability Period on road signages

As per the standard conditions of contract[73], the security deposit deducted from the contractor's bill shall not be refunded before the expiry of the Defect Liability Period (DLP) which is generally three years from the date of completion of the work. If any defect is noticed after completion of the work and the same is not rectified by the contractor during DLP, the security deposit of the contractor shall be used to make good the damage.

In November 2016, PWD introduced minimum warranty period of seven years[74] on road signages made of retro-reflective sheets. As such, it was decided to install road signages for a cluster of roads in a district through separate tender, so that a minimum of seven years of DLP could be obtained on signages.

Audit observed that in 16 road projects ***(Appendix-11)***, under seven test-checked divisions, expenditure on road signages was ₹ 0.55 crore during 2016-2020. However, no separate contract incorporating DLP of seven years for installation of road signages were entered into by the concerned SEs. As a result, the Department lost the opportunity to avail seven years warranty on road signages.

72 *Raidak Bridge, Linalool Bridge, Mora Raidak Bridge, Sutagna Bridge (at 1st km), Goramara Bridge, Khutamara Bridge, Ghargharia bridge, Mora Kaljani, Sutagna Bridge (at 5th km) and Turturi Bridge.*

73 *Form No 2911 volume (i, ii & iii).*

74 *PWD Memorandum No.: 264/SPW/2016 date 10/11/2016.*

The Department stated (February 2022) that the works, in respect of three divisions[75], were executed before the order of November 2016. The reply is not acceptable as NIT of all the works were issued after November 2016.

2.8.2 Undue advantage to agencies due to not obtaining Additional Performance Security - ₹ 0.49 crore

As per order (April 2017) of the Department, the bidders quoting abnormally low rates for a work had to submit an Additional Performance Security (APS) of 10 *per cent* of the tendered value of the work. This was to be obtained from the successful bidder if the contractual rebate offered was less than 20 *per cent* of the estimated cost of the work, provided that the contractor had his own prime machineries for executing the work.

In three test-checked divisions, Audit observed that 18 works ***(Appendix-12)*** were executed without obtaining APS from the contractors, though the tenders were accepted with contractual rebates ranging between 22 *per cent* and 42 *per cent*. An amount of ₹ 0.49 crore in the form of APS was not obtained from these successful bidders, thereby extending undue benefits to them.

2.8.3 Delay in execution of work

As per the standard conditions of contract[76], work allotted to a contractor is required to be completed within the allotted time. The Department, in order to avoid delay in completion of projects, directed (August 2014) the divisions to complete substantial pre-construction works such as site clearance, land acquisition *etc*., before awarding the original work. Provision has also been made in the contract agreement that if the progress of the work is delayed due to some hindrance, then the Engineer-in-charge has the discretion to provide extension of time on reasonable grounds to complete the work. NITs of the works also provided that no extension of time was to be granted for pre-construction works or due to non-availability of materials.

Audit observed that in 24 works under 12 divisions ***(Appendix-13)***, extension of time was granted on the ground of non-clearance of sites and non-availability of materials. The works were allowed to be completed with extension of time ranging from 21 days to 618 days, thereby providing undue advantage to the contractors. Further, in four works ***{Appendix-9(xix)}***, where the delays ranged from 102 to 475 days, no reason for the delays was provided by the divisions despite requisition.

The Department stated (February 2022) that extensions of time were provided on the ground of monsoon, non-clearance of sites *etc*. The reply is not tenable as monsoon period was considered while fixing the scheduled period of completion in the tender agreement. Delays attributed to non-clearance of site is also not tenable as the Department is required to clear the site prior to issuing work orders as per extant departmental order.

2.8.4 Doubtful use of bitumen in road works

Standard format of NIT stipulates that the contractors executing road works would furnish the authenticated challans of the bitumen procured and used in

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[75] *Alipurduar & Cooch Behar PW Divisions and Burdwan South Highway Division.*

[76] *Form 2911:clause 2 and 5 of condition of contract.*

the work. The challans provide information of the source of the procurement of bitumen and also provides assurance about the quality of the bitumen being brought to site by the contractors.

Audit observed that in 20 works ***(Appendix-14)*** under 10 test-checked divisions, 15,870.144 MT of bitumen was used. However, no challans for 4,862.58 MT (30.64 *per cent*) of bitumen costing ₹ 20.36 crore were produced to Audit. In the absence of challans, it is not clear how the Department obtained assurance about the quantity and quality of bitumen used in these works.

Audit also cross-checked the vehicle numbers mentioned in the challans of 10,032.13 MT (63 *per cent*) of bitumen costing ₹ 35.75 crore with the registered vehicle database maintained by the Transport Department. Records revealed that 87 vehicles purportedly used to carry 1065.52 MT bitumen (11 *per cent* of 10,032.14 MT) to work sites were two wheelers, three wheelers, small commercial vehicles, passenger vehicles such as buses and even ambulances, which raises doubt regarding authenticity of these challans.

Thus, the Department failed to put in place an effective mechanism to check the challans of bitumen resulting in payment against fictitious challans.

2.8.5 Lack of financial control

a. WBHDCL had appointed a Supervisory Consultant (SC) for the work of Widening and Strengthening of Ghatakpukur-Malancha-Sarberia Section of Kolkata Basanti Road. The SC was to check and certify the price adjustment payment made to the contractor. As per the contractual agreement, the contract price was to be adjusted for increase or decrease in rates of labour, material, fuel and lubricants *etc.,* in accordance with the formula given in the contract. The contract stipulated that the base index to be used for calculation of price adjustment was to be 28 days prior to the date of opening of financial bid for the contract.

b. However, while calculating the price adjustment, the opening date of the technical bid[77] was reckoned. This led to consideration of base index rate of April 2014 in place of May 2014 leading to an over payment of ₹ 1.25 crore towards price adjustment to the contractor.

c. The WBHDCL entered (2014) into contracts for the execution of two works ***{Appendix-9(xx)}***. As per agreement, the contractors were required to submit 10 *per cent* of the tendered value in the form of financial instrument as Security Deposit (SD). The SDs were to be retained by the Company till 28 days from the date of expiry of the DLP of the work (three years). Scrutiny revealed that the SD of one work[78] had validity upto November 2019, whereas the DLP of the work was upto January 2021. It was revalidated (July 2020) by the contractor after a lapse of 227 days. In case of the other work[79], SD was valid upto February 2020 while DLP

[77] *Technical bid is opened before financial bid and date of opening of financial bid of eligible bidder is considered.*

[78] *W&S to 2-lane/ 2-lane with paved shoulder configuration of Ghatakpukur-Malancha-Sarberia section of Kolkata-Basanti Road SH-3 (31 km).*

[79] *W&S to 2-lane/ 2-lane with paved shoulder configuration of Chanditala-Seakhala-Champadanga section of SH-15 (36.20 km).*

was upto October 2020. The validity of the SD expired 254 days prior to completion of DLP and was not re-validated. This lack of internal financial checks had exposed the WBHDCL to unnecessary financial risk.

d. As per the Standard Bidding Document (SBD) of the works, the contractors engaged in the works were required to buy insurance policy, in the joint names of WBHDCL and the contractor, to cover loss on damage to works, plant and materials, equipment, property and injury or death. The policy was to cover the period from the date of commencement of work till the end of DLP. In case insurance was not done by the contractor, the WBHDCL was to buy the insurance and recover the premium paid from the contractor.

e. WBHDCL completed (March 2020) four road projects having estimated cost of ₹ 537.74 crore. Scrutiny revealed that in case of three test-checked works ***{Appendix-9(xxi)}***, no insurance was taken by the contractors. The WBHDCL also did not buy any policy on behalf of the contractors. In case of the remaining test-checked work[80], Audit observed that the insurance policy was provided for 20 months (11 Nov 2014 to 20 July 2016) leaving the work uncovered for 51 months till the end of DLP (09 Oct 2020), thus providing undue advantage to the contractors.

2.8.6 Avoidable expenditure of ₹ 1.02 crore due to excess carriage of materials

As per the Departmental SoR (Road and Bridge works), cost of carriage of materials to be brought from source to the work site is to be calculated as per the rates provided in the SoR. In order to do so, it is required to determine the distance between the source and the mid-point of the road under development.

Audit observed that in three works with estimated cost of ₹ 61.55 crore, while calculating the distance between the source of material (aggregates) and the mid-point of the work site, the divisions considered longer distance than actual resulting in avoidable expenditure of ₹ 1.02 crore as detailed below:

a. In one work[81], the Division allowed carriage of 45 km for aggregates from Bankura Railway Station to the mid-point of the work site. However, Audit calculated the shortest distance using SH-9 and found the distance to be only 32 km. It was also found that the Division while executing another work ***{Appendix-9(xxii)}*** in an adjacent location used SH-9 for transportation of aggregates from Bankura Railway Station to the work site. Due to consideration of longer route, extra mileage of 13 km was provided in the work resulting in excess expenditure of ₹ 0.66 crore toward transportation of aggregates.

b. In two other works ***{Appendix-9(xxiii)}*** of Diamond Harbour Highway Division, executed in 2015 and 2017, the Division decided not to obtain aggregates from the nearest Railway stack yard (Baruipur Railway Station) but opted for a distant Railway stack yard (Ballygunge Railway Station). Audit observed that the Division had provided Baruipur as the nearest

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80 *W&S to 2-lane/2-lane with paved shoulder configuration of Chanditala-Seakhala-Champadanga section of SH-15 (36.20 km).*

81 *W&S of Beliatore-Sonamukhi-Patrasayar Road, 0 km to 20 km of Bankura PW Division.*

Railway stack yard in another work[82] executed in 2018. As a result, the Division provided excess carriage of 19 km in these two works, leading to excess expenditure of ₹ 0.36 crore.

2.8.7 Use of old machineries

As per West Bengal Financial Rules amended in 2012, bids shall be invited in two parts (technical and financial) for high value purchases exceeding ₹ 10 lakh. Only after a bidder qualifies in the technical bid would he be considered for the financial bid. As per NIT for the works in PWD, technical bid consists of technical details along with commercial terms and conditions including declaration by the bidder regarding possession of Plant, Machinery and Equipment (PM & E) required for the work. The NIT further stipulates that the permissible maximum age of plants and machineries should not be more than five years on the date of publication of NIT. The age of Plant and Machineries could, however, be extended up to seven years, if fitness certificates are obtained from the manufacturer. In case of equipment, the age should not be more than eight years. These credentials were to be evaluated by the tender committees created[83] (January 2014) by the Department in each Circle. Audit observed the following discrepancies in this regard:

Audit observed that nine works ***(Appendix-15)*** under two divisions[84] were awarded to bidders having 31 P&M older than 6 years 4 months to 19 years. None of these P & M had fitness certificates for use beyond five years. Further, age of 10 equipment, offered for use was between 8 years 3 month and 17 years. Thus, the agencies were selected disregarding the eligibility criteria of PM&E. As a result, there was no assurance regarding workmanship of these works valuing ₹ 46.30 crore.

The Department had directed (2017) all the tender inviting authorities to mention in the NIT, the types of machineries and equipment that would be required against items of works. These machineries and equipment were to be listed by the bidders in their technical bid. Audit observed that in two NITs ***{Appendix-9(xxiv)}***, all the prime machineries required for the works were not mentioned. Further, in one ***{Appendix-9(xxii)}*** of the NITs, some of the machineries mentioned did not even exist in the list of machineries to be used in PWD works.

Thus, it is evident that the tender inviting authorities were providing leeway to the bidders to use old and non-standardised machineries, which could be detrimental to the quality of the executed work.

The Department stated (February 2022) that age limit is restricted to prime machineries only and is not applicable for minor machineries. The reply is not tenable as such age violation was done on the prime machineries also.

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82 *Strengthening of Jaynagar- Jalaberia- Kultali Road, 7.4 km to 19.8 km of Diamond Harbour Highway Division.*

83 *PWD Order No: 02-CRC/2M-7/2008 dated 29/01/2014 read with PWD Memo no 797-W(c)/1M-24/15 dated 06/12/2017.*

84 *Alipurduar PW Division and Cooch Behar PW Division.*

2.9 Monitoring and supervision

2.9.1 Monitoring

Project monitoring refers to the process of keeping track of all project related metrics including performance of agencies appointed for execution of the work, identifying potential problem areas and taking corrective action necessary to ensure that the project can be completed as envisaged within the allotted time and budget outlay. Monitoring is essential to ensure that execution is carried out as per plan and is capable of fulfilling the desired expectations of stakeholders. Similarly, projects are also required to be supervised to ensure that they are being executed according to approved plans, specifications, adopted codes and as per contract documents. In order to ensure that proper monitoring of projects are done, the Department entrusted this responsibility to the two Chief Engineers (CEs) of Headquarter of PWD and PW (Roads) Directorates and to the six Zonal Chief Engineers (ZCE)[85] of both the Directorates. Besides, CEs and ZCEs, Superintending Engineers and Executive Engineers were also required to visit the work sites for having a better perspective of the ongoing works. Findings on deficiencies in monitoring are discussed below:

A. Maintenance of Site Order Book

The Site Order Book of a work is a monitoring tool that records instructions of the departmental officer visiting the site to monitor the projects. The book also records the action taken by the contractors on the instructions provided by the departmental officers. The book is required to be submitted along with the final bill, so that the payment to the contractor is released only after obtaining assurance that the instructions passed by the supervisory officers have been duly complied with.

PWD Code[86] stipulates inspection of various works by the concerned SE within the Circle. Any suggestions or advice of the SE is required to be noted in the site order book. It was also stated (April 2021) by the ZCEs of PW (Roads) Directorate that in order to monitor various ongoing works, site visits were done by the concerned ZCEs, SEs and EEs.

ZCE, West Zone, PWRD, in reply to Audit Query stated (January 2021) that major decisions were taken through orders passed after the visit and minor decisions were recorded in site order book. ZCE North Zone PWRD stated (January 2021) that instructions were provided verbally and ZCE, South Zone, PWRD stated (April 2021) that such instructions were not recorded at all.

However, out of 19 test-checked divisions, 10 divisions[87] stated (between December 2020 and April 2021) that no site order books were maintained for works and one Division[88] stated that although site order books were used, the same were not preserved. The remaining eight divisions maintained the book.

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[85] *ZCE North Zone PW (Roads), ZCE West Zone PW (Roads), ZCE South Zone PW (Roads), ZCE North Zone PWD, ZCE West Zone PWD and ZCE South Zone PWD.*

[86] *PWD Code Volume-I GoWB: clause 55.*

[87] *Alipurduar, Cooch Behar, Bankura, Birbhum-I & Birbhum-II (Highway Divisions) and, Burdwan, Birbhum, Barasat, South 24 Parganas & Alipurduar (PW Divisions).*

[88] *Cooch Behar PW Division.*

Thus, in the absence of site order books, it is not clear how the Department was able to ensure quality of works and regulate payments to the contractors.

In reply, the Department stated (February 2022) that site order books were not preserved. The reply is not tenable as the books were to be submitted along with the final bills for preservation. However, the Divisions while furnishing the final bills of the works did not submit the site order books.

B. Maintenance of Method Statement

As per IRC guidelines[89], 'method statement[90]' is a monitoring tool to be submitted by the contractors before commencement of any work to ensure construction as per approved methodology and sequential constructional activities. However, it was seen that out of 25 works selected by Audit for supervisory and quality assurance checks, no such method statement was submitted by the contractors in 14 works ***(Appendix-16)*** pertaining to 12 divisions. Though such statements were stated to have been maintained in respect of the remaining 11 works ***(Appendix-16)*** pertaining to eight divisions, the same could not be produced to Audit. In the absence of such mandated statements, it is not clear how the Department could ensure that proper methodology and sequence was followed by the contractors in execution of works.

The Department stated (February 2022) that bar charts provided by the agencies are sufficient and thus a Method statement is not required. The reply is not tenable as Method statement contains various procedures of how the work would be executed by the agencies, whereas the bar chart depicts only the sequence in which the various items of the work would be executed.

C. Maintenance of bar charts

As per PWD contract agreement (Form 2911), a bar chart is to be submitted by the contractor before the actual commencement of the work, indicating the schedule of progress of the work. The bar chart thus acts as an important tool to monitor the progress of work with reference to the approved time frame.

Audit observed that no such bar charts were submitted by the contractors in 13 works having estimated cost of ₹ 250.90 crore in 10 divisions out of 25 test-checked works. Five divisions stated (March 2021) that charts were submitted by the contractors in respect of seven works having estimated cost of ₹ 129.34 crore. However, relevant documents could not be provided in support. In the case of the remaining five works of three divisions, the bar charts were produced to Audit as detailed in ***Appendix-16***. The Department accepted (February 2022) that the bar charts were not preserved and so could not be produced to audit.

D. Generation of fortnightly reports on potholes/ditches

In order to keep the road free from potholes/ditches that may cause fatal accidents, the Department directed (February 2019) the SEs to send fortnightly reports on the status of the roads under their jurisdiction to the concerned ZCEs. The ZCEs were to send the consolidated report to the Department every month

89 *IRC-SP-57:2000, clause.4.3.2 (a) and 4.5.*

90 *Detailed proposals of constructing agencies which are approved by EIC. No change shall be carried out from the procedures prescribed in the method statement without first obtaining approval to such change from EIC. IRC-SP-57:2000, clause 4.3.2 (a) and 4.5.*

through the Chief Engineer, Headquarter. However, out of six ZCEs, only one (ZCE, South Zone PWRD) could provide such reports which were sent to the Department. In the absence of these vital information and reports, there was little scope for the Department to monitor the condition of roads.

2.9.2 Supervision of works

As per PWD contract agreement form 2911, the works are to be inspected and supervised by the EIC and his subordinates. Audit observed that while executing the works, the divisions were overlooking the various aspects of supervision as detailed below:

2.9.2.1 Absence of Work Order Book

As per standard tender agreement[91], the Work Order Book is to be maintained by the concerned Sub-Divisional Officer for works under his jurisdiction. The instructions to the contractor shall be provided through the Work Order Book and contractors shall regularly note the entries made in the Work Order Book and also record thereon the action taken there against. Audit observed that 11 divisions did not maintain Work Order Books pertaining to 15 out of the 25 works test-checked. Though seven divisions stated that Work Order Books were maintained for 10 works, no evidence could be furnished in this regard as detailed in ***Appendix-16***. As a result, it could not be ensured whether the contractors carried out the instructions of the Sub-Divisional Officers. In the absence of Work Order Books, there was no assurance regarding quality of the works executed by the divisions.

The Department stated (February 2022) that such a Work Order Book is maintained only in case of group tender works. The reply is not tenable as it has to be maintained as per the standard tender agreement.

2.9.2.2 Commencement of subsequent pavement layer without approval

As per standard form of contract agreement, after completion of an item of work, contractors are to inform the divisions within five days (in writing) prior to laying the subsequent layer. The next layer shall only be laid after approval from the concerned EE. This provision is to ensure that the completed items are measured properly prior to it getting covered up by subsequent items of work.

Audit observed that in 21 works under 15 divisions, no such intimations were provided by the contractors after completion of items of works. In reply, the divisions stated (December 2020 and April 2021) that the process was done verbally with the contractors. In four works under three divisions, though such approval was stated (May 2021) to have been sought by the contractors in writing, no documentation to this effect could be produced to Audit as detailed in ***(Appendix-16)***.

Thus, it is evident that supervising officers did not ensure that subsequent layers were laid only after properly measuring or assessing quality of the layers laid underneath.

The Department stated (February 2022) that such approvals are provided verbally after proper inspection of the constructed layers. The reply is not

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[91] *Form 2911: section 3 (Special terms and conditions).*

tenable as the standard tender agreement specifies that such approval are to be provided in writing.

2.9.2.3 No fulltime supervision of works

IRC guidelines[92] provide that all the works are to be fully supervised by the departmental staff irrespective of the type of road. Audit observed that nine works under nine divisions were executed without full supervision by the departmental staff as detailed in ***Appendix-16***. It was seen that one[93] of these nine roads deteriorated within one and a half years of its construction. In reply, the divisions stated (May 2021) that full time supervision could not be carried out due to shortage of departmental supervisory staff.

Audit further observed that in 18 of the test-checked divisions[94], there were 761 sanctioned posts of Assistant Engineers, Junior Engineers and Work Assistants directly involved in maintaining the quality of road works. However, 50 *per cent* of the sanctioned posts were vacant. These vacancies had and will have a detrimental effect on the various monitoring and supervisory activities of the divisions.

The Department stated (February 2022) that although the works, in case of five divisions[95], were not supervised fully, they were closely monitored. However, the same was not in line with IRC guidelines.

2.9.2.4 Appointment of Supervisory Consultants (SCs) and Highway Project Monitors (HPMs)

In order to improve quality checking of works during implementation, the Department decided (May 2014) to employ SCs for supervising works valuing more than ₹ 25 crore. Subsequently (September 2019), the value was increased to more than ₹ 50 crore. Similarly, it was decided (May 2014) to employ HPMs for supervising works valuing between ₹ 10 and ₹ 25 crore which was also subsequently (September 2019) revised to ₹ 25 to ₹ 50 crore.

Audit selected 25 works for supervision and quality assurance checks in the selected 19 divisions, of which 10 works were eligible for appointment of SCs and 8 works for HPMs. It was observed that appointment of SCs served no purpose as quality checking of the works during the implementation was poor as detailed below:

a. SCs were not engaged for two eligible works ***{Appendix-9(xxv)}***. In the remaining eight works ***{Appendix-9(xxvi)}*** where SCs were appointed, only 43 *per cent* of the required number of quality control tests were performed.

b. Of the eight works requiring such appointment, HPMs were not appointed in three works ***{Appendix-9(xxvii)}***. In one work[96], HPM was appointed

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[92] *IRC-SP-57:2000, clause 3.3 Table 3.1 Sl. No. 4.4.*

[93] *W&S of Beliatore-Sonamukhi-Patrasayar Road, 20.00 Km to 44.876 Km of Bankura PW Division.*

[94] *Excluding Diamond Harbour Highway Division.*

[95] *Burdwan North, Burdwan South, Bankura, Birbhum-I and Barasat-I Highway Divisions.*

[96] *W&S of Canning Dock Ghat Tiger Project Office to Uttar Taldi Janakalyan More Road, 0.00 km to 8.10 km under South 24 Parganas PW Division.*

after the completion of 90 *per cent* of the works and in another work[97], HPM was appointed after 26 days of completion of work.

The Department while accepting the audit observations stated (February 2022) that during the absence of SC and HPM, the works were supervised by departmental personnel. The reply is not tenable as the fact remains that SC and HPM were engaged for better and independent supervision of works.

Thus, from the above it is evident that the Department failed in every aspect of monitoring of the ongoing projects for ensuring quality of roads constructed. Full time supervision of works could not be made due to acute shortage of manpower. Even the purpose of appointing SCs and HPMs was defeated as they failed to do the work assigned to them.

2.10 Quality Control in Road work

Quality Control in road construction involves compliance with standards of material and workmanship to ensure performance of roads as per design and specifications. This also involves monitoring and supervision mechanism to ensure that the asset being created is of standard quality and workmanship.

Schedule of Rates (SoR) of PWD provides a list of mandatory tests of materials that are to be conducted prior to their use in the works as well as during the execution of work. Besides, Ministry of Road Transport and Highways (MoRTH) specifications for Roads and Bridges, IRC guidelines and standard terms and conditions of contract (Form 2911) supplement the required checks that are mentioned in the SoR. These also specify the type of monitoring and supervision that are to be followed before and during the execution of road works to ensure quality. Non-compliance to the extant quality control norms is one of the primary reasons for short life of roads, which entail additional government expenditure on repairs as well as cause inconvenience to the public.

A total of 130 works were selected for detailed scrutiny in Audit across 19 divisions and WBHDCL. Of these 130 works, 25 were selected specifically for test checking the extent of compliance to quality control norms during execution. Audit check was done to analyse the extent of quality control ensured by the divisions on non bituminous items like earth, GSB, WBM, WMM and Bituminous items like BM, DBM, SDBC, BC and Mastic Asphalt.

2.10.1 Quality check of materials prior to commencement of works

Quality Control in construction involves compliance with standards of materials to ensure that the materials used in the works conform to the required specifications.

2.10.1.1 Earthwork

As per IRC guidelines[98] and Departmental SoRs, divisions are required to perform various quality checks[99] of the earth prior to execution of earthwork. The checks

[97] *Strengthening of Betberia Station to Dhosa Road, 0 km to 13 km of South 24 Parganas PW Division.*

[98] *IRC-36:1970, clause 3.8.*

[99] *Deleterious content test, Clay content test, Liquid and Plastic limit test, Maximum Dry Density, Highest Sub-Soil Level & Soil Water Level and Sieve Analysis.*

are performed to determine that the earth is free from organic materials and that the soil does not easily deform when in contact with moisture. Dry density value and Optimum Moisture Content (OMC) are also to be determined to assess the required level of compaction of the earth at optimum moisture level.

Scrutiny of records showed that out of the 25 road works, earthwork measuring 4.14 lakh cum (costing ₹ 6.15 crore) were executed in 10 works ***(Appendix-17)*** in six divisions. Though a total of 70 quality tests were required to be done to check the suitability of the earth, it was seen that 50 *per cent* (35 out of 70) of the required tests were not done as detailed in ***(Appendix- 18)***.

Moreover, in case of tests that were stated to have been done, 57 *per cent* (20 out of 35 tests) of the test reports could not be produced to Audit by the divisions.

Thus, suitability of the soil was not ensured before use in works thereby compromising the quality of the works. The Department accepted (February 2022) the audit observation.

2.10.1.2 Granular layers

The main ingredients of granular layers (Granular Sub Base, Water Bound Macadam and Wet Mix Macadam) of pavements are stone aggregates and sand. Various tests[100] for aggregates and its mix have been prescribed in Departmental SoRs[101].

Out of 25 test-checked works, 10 works involved GSB, seven works involved WBM and 24 works involved WMM having aggregate cost of ₹ 122.15 crore as detailed in ***Appendix 19***. Scrutiny of records revealed deficiencies in conducting the tests of materials prior to their use in the granular layers.

In 10 works which involved GSB valuing ₹ 19.28 crore, 25 *per cent* (10 out of 40) of the tests required for materials of granular layers were not done prior to its use in the work. Further, the division could not provide 37 per cent (11 out of 30) of the reports for tests claimed to have been done.

Similarly in 25 works which involved WBM/WMM valuing ₹ 102.87 crore, it was observed that 32 *per cent* (44 out of 138) of the required tests of materials to be used in these two items were not done. The divisions also could not provide 15 *per cent* (14 out of 94) of the reports for tests claimed to have been done as detailed in ***Appendix- 20***. Thus, the use of materials without complete mandated quality checks points to compromise with the quality of road works.

The Department in its reply stated (February 2022) that five divisions accepted the audit observation and three divisions stated that the relevant records were not available. Seven divisions did not provide any reply.

2.10.1.3 Mix design of granular layers

Mix design is a combination of aggregates (for GSB and WMM) which ensures a durable pavement with sufficient strength to bear traffic load. As per the

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100 ***Tests for GSB:*** *water absorption test for aggregates, gradation test for mix, Atterberg limit and moisture content for screening materials.* ***Tests for WBM:*** *Aggregate Impact Value (AIV), CF&E and water absorption test for the aggregates, liquid limit and plastic limit for the screening and binding materials.* ***Tests for WMM*** *: AIV, CF&E and water absorption test for the aggregates and plasticity test for the screening materials.*

101 *PWD (Road & Bridge works) SoR-2014, SoR-2015 and SoR-2018: clause 2.11.2.2, 2.11.3.2, 2.14.2.4, 2.14.2.5, 2.15.2.1.1, 2.15.2.1.2.*

Departmental SoRs[102] and IRC-57:2000[103], mix design is required to be prepared by the contractor and is to be approved by the EE before commencement of work.

Audit observed that in two works ***{Appendix-9(xxviii)},*** mix design of GSB and WMM valuing ₹ 4.88 crore was approved by the EEs after full/partial execution of the layers. Further, in four works ***{Appendix-9(xxix)}*** involving GSB valuing ₹ 7.37 crore and in six works ***{Appendix-9(xxx)}*** involving WMM valuing ₹ 15.60 crore, the approved mix designs for both could not be furnished to Audit by the divisions.

This indicates that proper quality control for granular items were not being done by the divisions which could have a negative impact on the load bearing capacity and durability of the roads.

2.10.1.4 Bituminous layers

The main constituents of bituminous items are stone aggregates and bitumen. Quality checks of these materials and its mix are required to ensure a durable pavement. Departmental SoRs stipulated various tests like Aggregate Impact Value (AIV)[104], Combined Flakiness and Elongation (CF&E)[105], Gradation[106], Water Absorption Test[107], Coating & Striping[108], Quality of Bitumen, Mix Design, *etc*., to ensure quality of bituminous works.

Out of the 25 test-checked works, one work[109] had no bituminous items. In the remaining 24 works ***(Appendix- 21),*** Audit observed deficiency in quality checks (partially conducted) of materials of bituminous items[110] (valued at ₹ 177.69 crore) before being used in work. The divisions were required to conduct 468 tests for the bituminous items in 24 works. However, the division did not conduct 181 (38 *per cent*) of the required tests as detailed in ***Appendix- 22***.

Further, seven test-checked divisions[111] claimed to have done 39 tests for which no records were provided.

As 38 *per cent* of the required quality tests were not done prior to execution of the work, use of sub-standard materials in the bituminous works, which might lead to the premature failure of the pavement, cannot be ruled out.

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[102] *PWD (Road & Bridge works) SoR-2014, SoR-2015 & SoR-2018, clause 2.22.3.3.*

[103] *IRC SP- 57:2000, clause 3.3 table 3.1 Sl. No 6.2.*

[104] *for determination of measure of resistance to sudden impact or shock.*

[105] is used to determine the particle shape of the aggregates specimen and each particle *shape being preferred in specific condition.*

[106] *aggregate gradation influence every important properties of the mix like stiffness, stability, durability, permeability, workability, fatigue resistance, skid resistance and resistance to moisture damage.*

[107] *for determination of the moisture content.*

[108] *determines the property of the bitumen to adhere to aggregates in presence of water.*

[109] *Construction of Road from Ganti More to Gandharbapur of Burdwan South Highway Division*

[110] *Bituminous Macadam (BM), Dense Bituminous Macadam (DBM), and wearing courses like Semi Dense Bituminous Macadam (SDBC), Bituminous Concrete (BC), Mastic Asphalt.*

[111] *Alipurduar, Cooch Behar, Bankura, Burdwan, Birbhum & Barasat (PW Divisions) and Burdwan South Highway Division.*

The Department in its reply stated (February 2022) that three Divisions accepted the audit observations, two Divisions stated that there were no records and 10 divisions did not furnish any replies.

2.10.2 Quality control checks during execution of the works

Departmental SoRs and MoRTH specifications recommend various quality control checks while executing different items of road works. These tests are required to be done in order to check whether approved materials were being used in the execution and also to ascertain whether the execution was as per the design criteria. The types of tests and frequency of such tests have specifically been mentioned. The tests were to be conducted by contractors in the presence of Divisional representatives.

2.10.2.1 Earthwork

As per Departmental SoRs, divisions need to conduct various tests on earth works at the prescribed frequency during execution of the base layer in order to ascertain that approved materials were being used and the desired level of compaction of the earth had been achieved. Any compromise of this base layer may lead to depression of the pavement.

Out of the 25 test-checked works, earthwork (valued at ₹ 6.15 crore) was executed in 10 works. No quality control tests were conducted during execution of two works ***{Appendix-9 (xxxi)}*** involving 36,529 cum of earthwork (valued at ₹ 0.49 crore). In the remaining eight works where 3,77,092 cum of earthwork was done (valued at: ₹ 5.66 crore), 71 *per cent* (2,195 number) of the required quality checks were not carried out as detailed in ***Appendix- 23***.

Further, out of 29 *per cent* of the tests stated to have been done by the divisions, 73 *per cent* of tests (653 numbers) could not be substantiated with test reports. The Department accepted (February 2022) the audit observation.

2.10.2.2 Granular layers

Departmental SoRs[112] stipulate carrying out of various tests of materials used in execution of GSB, WBM and WMM items at the prescribed frequency. The purpose of these tests is to ascertain whether materials of approved quality are being used and executed as per approved design mix to achieve the desired level of compaction.

In this context, Audit noticed that in 25 test-checked works, there were 10 works with GSB, seven works with WBM and 24 works with WMM. In 10 works having items of GSB, six works of WBM and 23 works of WMM, there were shortfalls in conducting required quality control tests as per the Departmental SoRs. Of the required number of tests to be conducted, 47 *per cent* of the tests were not done (4,474 out of 9,541) by 15 divisions ***(Appendix-24)***. Further, 13 *per cent* (661 out of 5,067) of the tests that were claimed to have been done by four divisions[113] could not be substantiated in the absence of test reports.

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[112] *PWD SoRs (Roads and Bridges) 2014, 2015 & 2018: quality control tests for site activities Sl. no. 5 (bases and sub-bases).*

[113] *Cooch Behar, Birbhum & Burdwan (PW Divisions) and Burdwan South Highway Division.*

None of the quality control tests were done in one work[114] with WBM (valued at ₹ 0.20 crore) and no test reports were furnished for WMM valued at ₹ 1.92 crore in another work[115].

The Department attributed the deficit in the number of tests to shortage of manpower and stated that necessary corrective steps would be taken.

2.10.2.3 Bituminous layers

Quality checks of materials used in bituminous layers ensure that the approved materials, *i.e.*, stone aggregates and bitumen had actually been used as per the approved design mix for a durable pavement. Departmental SoRs stipulates various tests of the materials used in execution of the bituminous items and also the quality of execution of these items.

Stipulated tests[116] in respect of BM, DBM, SDBC, BC, and Mastic Asphalt (valued at ₹ 174.64 crore) were done partially (57 *per cent*) in 23 works. Shortfall in the requisite tests is detailed in ***Appendix- 25***. Further, the divisions could not produce test reports to substantiate 14 *per cent* (889 of 6,356) of the tests that were claimed to have been done. Test reports were not furnished by Birbhum Highway Division-II in respect of one work[117] having BM and SDBC (valued at ₹ 2.06 crore).

In one road work[118] with estimated cost of ₹ 11.09 crore, only 11 *per cent* (61 of 544) of the required quality control tests such as grading of aggregates, bitumen quality test, binder content test, density of compacted bituminous layers *etc*., were conducted. Audit observed that the road deteriorated within the DLP of three years.

Similarly in another road work[119] with estimated cost of ₹ 17.91 crore completed in February 2019, it was observed that the Division did not conduct 44 *per cent* of the quality control tests such as density and gradation tests of WMM, CF&E test of aggregates, density and binder content test of Bituminous Concrete. Audit observed that 25 *per cent* of the road got damaged within two years of completion.

The Department accepted (February 2022) the observation and stated that corrective steps would be taken.

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[114] *W&S of Seorakuri-Kulkuri Road via Fullaipur and connecting Md. Bazar, 0.00 km to 9.50 km of Birbhum, PW Division.*

[115] *Strengthening of Joydeb-Kenduli-Illambazar Road, 0.00 km to 6.00 km of Birbhum Highway Division-II.*

[116] *AIV, C F & E, Stripping and coating value, Water Absorption test, Water Sensitivity test, Moisture Susceptibility test, Soundness test, Quality of binder test, Grading of mix, Binder content test, Density of compacted layers, Hardness number, Stability and Void analysis test, Sand equivalent test, plasticity index test, polished stone value and Percentage of fractured faces of aggregates.*

[117] *Strengthening of Joydeb-Kenduli-Illambazar Road, 0 km to 6.00 km of Birbhum Highway Division-II.*

[118] *IRQ of Chowhatta-Hatia-Sainthia Road, 0 km to 18.80 km of Birbhum Highway Division–I.*

[119] *W&S of Ranirhat Kamat Changrabandha Road, 0.00 km to 5.76 km of Cooch Behar Highway Division.*

2.10.3 Deficient infrastructure and monitoring of quality control

2.10.3.1 Lack of laboratories

For an effective system of quality control, well equipped laboratories are required. As per IRC specifications[120], the Department should have laboratories at central, regional (circle) and divisional levels. However, the Department had only one central laboratory *viz.,* Road & Bridge Research Institute (RBRI) at Kolkata. There were no laboratories at the regional level. In the test-checked divisions, there was only one divisional laboratory at Burdwan South Highway Division. The laboratory was equipped to conduct various investigations and quality control tests. However, in the absence of laboratory personnel such as regional assistants and soil lab assistants, the laboratory could not be utilised.

2.10.3.2 Deficient supervision of tests by Divisional personnel

IRC[121] guidelines stipulates that about 10 *per cent* of the quality tests are to be performed in the presence of EE, 20 *per cent* in the presence of AE and 70 *per cent* in the presence of JE in the laboratory of the contractors.

Audit observed that out of 25 works selected for quality assurance checks in the test-checked divisions, in 16 works ***{Appendix-9(xxxii)}***, required percentage of tests were not conducted in the presence of concerned EEs. On an average, the supervision of tests done by the EEs was just three *per cent*. In the case of eight works ***{Appendix-9(xxxiii)}***, no information was provided by the divisions and in case of the remaining one work[122] only, the required supervision was done by EE. This points to lack of quality control monitoring by the Head of the Division.

The Department accepted (February 2022) the observation and stated that corrective steps would be taken.

2.10.3.3 Deficiency in monitoring of tests by higher authorities

IRC guidelines[123] recommends that quality control test data be sent to SEs/CEs by the EEs with a view to ensure continuity as well as compatibility of the specifications in practice. The data was also required to be sent to Central Laboratory for the purpose of feedback.

However, it was seen that quality control data was not sent to these authorities for their perusal and feedback in 14 test-checked divisions ***(Appendix-26)***. In case of the remaining five divisions, no records to this effect could be furnished. This indicates that authorities beyond the divisions were not involved in the quality control process of any work.

2.10.3.4 Payment to contractors without ensuring quality control tests

IRC guidelines[124] provide that the test results are required to be presented with every third running account bill, so that payment gets linked with assured quality

[120] *IRC-SP-11:1984 "Handbook for quality control for construction of roads and runways", clause 1.3.2.*

[121] *IRC-SP-11:1984, clause 1.11.*

[122] *W&S of Memari Monteswar Road, 0 km to 31.30 km of Burdwan PW Division.*

[123] *IRC-SP-11:1984, clause 1.3.3.*

[124] *IRC-SP-11:1984, clause 1.11.*

of work. Further, WBFR (Rule 217) requires that full rates as per agreement should be allowed only if the quality of work done is as per the stipulated specifications.

However, it was seen that in the 25 works selected for quality assurance checks, full payments were made to the contractors despite the fact that they failed to carry out the required number of tests. This shows that the divisions were not exercising quality control norms and providing undue advantage to the contractors at the cost of the quality of works.

2.10.3.5 Untrained personnel for quality control works

IRC guidelines[125] recommends that in order to bring awareness among officers of the Department and to update their knowledge on methods of testing, regular workshops on quality control are held which would make the personnel aware of up to date information on specifications, required test acceptance criteria, frequency of testing and methodology of tests for understanding the quality control system.

However, no such training session was held for personnel of 14 ***(Appendix-26)*** of the 19 test-checked divisions during 2015-16 to 2019-20. Thus, the concerned personnel of the Department remained unaware of the latest technology and requirements for quality control works.

Thus, it is evident that the Department failed to monitor the conduct of required number of quality control tests thereby compromising the quality of the work. There is no mechanism in place to link payment to the contractors with the quality control checks performed and as a result, the contractors were being paid despite not conducting the required number of tests.

2.11 Road Mobility

Mobility in the context of roads and transportation refers to the ability and level of ease of moving people as well as goods and services. Mobility is expected to contribute to a safer, more efficient and sustainable transport system by putting the right modes of transport infrastructure in the right places for seamless connection. Mobility also means that mode of transport is also adapted for safe and speedy congestion free journeys. Lack of mobility leads to economic inefficiency, consequential air pollution and affects accessibility. Examples of mobility include providing designated truck lanes on interstate highways to increase the overall amount of goods transported, improving congestion management systems *etc*. The Working Group on Roads for the 11th Plan had recommended that each State may identify a core network of NHs, SHs, and MDRs, which carry bulk of the road traffic and develop the same by following a corridor concept such that it would be possible to reach from one end of the State to the other at an average speed of 70-80 km per hour; the objective should be that a commercial vehicle can cover 500-600 km on such a network in one day.

The rapid growth in India's population and wealth and increased trade and commerce have consequentially increased the quantum of vehicles over the last few decades which had a marked effect on the mobility of its citizens in terms of accessibility to safe, speedy and well-connected modes of transport.

Audit analysed mobility in terms of road alignment, provisions of by-passes (to avoid congested roads), bus bays, removal of encroachments, uniform width of the

[125] *IRC-SP-11:1984, clause 1.12.*

roads, homogeneity of bridge width with connecting road, connectivity of roads over rivers with no bridges and existence of weak bridges. 130 roads under the jurisdiction of PWD were analysed in 19 divisions of seven districts and WBHDCL to assess mobility. Audit findings are discussed in the succeeding paragraphs.

2.11.1 Departmental policy on Mobility

The Department has not formulated any policy guidelines nor issued any orders regarding road mobility. This is despite the fact that issues like congestions on roads, encroachment of roadside pavements, large number of weak and narrow bridges which hamper traffic mobility *etc*., exists on PWD roads. In addition to these there has been an increase in the number of vehicles in West Bengal by 47.28 *per cent* from 2015-16 to 2019-20 ***(Appendix-27)*** and 39 *per cent* in the test-checked seven districts ***(Appendix-28)*** during the same period. Audit observed that despite increase of traffic by 39 *per cent* during the period under audit in the test-checked districts, no analysis was done on requirement of new roads. No new roads were constructed during this period by the test-checked divisions, except in Birbhum PW Division, where three new roads[126] of 14.23 km length was stated to have been constructed.

2.11.2 No periodic quantification of Vehicular Traffic

As per NITI Aayog[127], traffic congestion is one of the main reasons for impeding mobility of traffic which adversely affect productivity, fuel consumption and economic efficiency. Thus, in order to ensure free movement of vehicular traffic on the roads, it is vital to know the growth of traffic on the road and assess whether the road is capable of handling the increase in traffic. To determine the increase in traffic, it is necessary that periodic monitoring of the traffic is done. However, Audit observed that no such periodic traffic census was conducted to assess the load of traffic. Audit observed during joint physical verification (January 2021) that in one widening work[128] of MDR, which was executed (2017) without conducting traffic census and where no periodic traffic census was conducted, there was heavy congestion.

Fig.2.8: NN Road at 0.850 km (01.01.2021)

Fig.2.9: NN Road at 0.400 km (01.01.2021)

126 *Angargoria Mamudpur Road, Angargoria Kabilpur Shahnagar Road and Bagdola Joyrampur Road.*

127 *Transforming India's Mobility, A Perspective (September 2018).*

128 *Widening & Improvement of NN Road (1.81 Km) of Cooch Behar PW Division.*

2.11.3 No identification of congestion points

As congestion of traffic has been identified as one of the main factors affecting road mobility, periodic inspections to identify congestion points are imperative so that corrective steps can be initiated to address the easing of those points to increase mobility.

However, out of test-checked 19 divisions, only six divisions[129] claimed that they had carried out periodic inspection. The other divisions had never done this exercise to identify congested stretches and mitigate the problems by constructing alternative routes, bye passes, under passes and bus bays and other such measures. Out of the six divisions where such analysis was done, it was observed by Audit during joint physical verification of two roads[130] that there existed at least three congestion points on these roads which had not been identified earlier by the divisions.

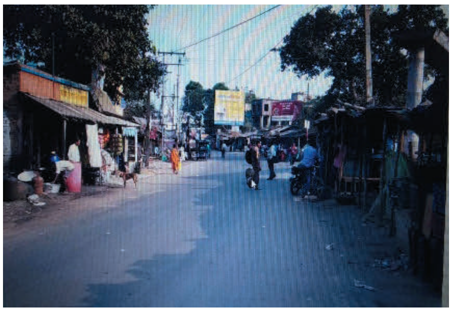

Fig.2.10: Congestion point at Nasigram Maldanga intersection of Monteswar Dainhat Road (Burdwan North Highway Division) due to encroachment of Road Shoulders (11.02.2021)

Fig.2.11: Congestion point at New Town Bazar on Cross Road (Alipurduar PW Division) due to unauthorised market (20.12.2020)

This indicates that though the divisions had done congestion point identification, the exercise was not done in a detailed and comprehensive manner.

Further, meeting with stakeholders[131] held in Cooch Behar district revealed existence of two[132] roads where the average speed of traffic movement ranged between 10 and 20 km. The Keshob Road, an SH, was extremely narrow while the other Road (Dewanhat Chilkirhat Road-I), an ODR, had numerous curves. The Division was not aware of the condition of the Keshob Road vis-à-vis traffic load on the road and stated that the matter would be investigated. In case of the other road, the Division stated (January 2021) that they had no solution for the issue of multiple curves. This indicates that PWD is not aware of the extent of mobility on its roads nor has any policy to mitigate the impediments affecting mobility.

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[129] *Burdwan North, Birbhum-I & Birbhum-II (Highway Divisions) and Alipurduar, Bankura & Birbhum (PW Divisions).*

[130] *Monteswar Dainhat Road of Burdwan North Highway Division and Cross Road of Alipurduar PW Division.*

[131] *Cooch Behar Zilla Minibus Owner Association, Cooch Behar Zilla Bus Owner Association, Cooch Behar Truck Malik Kalyan Samiti, Cooch Behar PWD & Cooch Behar Highway Division Authorities and Audit.*

[132] *Keshob Road and Dewanhat-Chilkirhat Road-I of Coochbehar PWD.*

2.11.4 Variable Width of Roads

For steady movement of traffic on a road, it is required to have uniform width throughout its stretch. Audit observed that in 25 roads under six divisions[133], the width of the roads were not uniform throughout the entire stretch. The difference of width between the narrow stretches with the rest of the road ranged from 1.5 m to 11 m ***(Appendix-29)***.

Two divisions[134] accepted the fact that the varied width was affecting traffic mobility, while the other four divisions did not provide any reply. No comprehensive plan has been framed by the Department to address this problem. The Department stated (February 2022) that the narrow stretches of the roads will be widened gradually.

2.11.5 Narrow Bridges

Existence of narrow bridges on roads also act as an impediment in the free flow of traffic. They also pose road safety hazard.

During the course of audit, it was observed that 29 roads under nine test-checked divisions had 44 narrow bridges which were hampering the mobility of traffic as detailed in ***Appendix-30***.

The Department stated (February 2022) that six of the bridges has been replaced, work was in progress in four bridges and in case of 19 bridges no action has been taken. The Department did not comment on the remaining 15 narrow bridges.

2.11.6 Weak Bridges

The existence of weak bridges affects mobility of traffic on roads and restrictions are inevitable on speed as well as weight of the vehicles plying through those bridges.

Audit observed that in nine divisions, there were 47 weak bridges ***(Appendix-31)*** where speed and load restrictions are imposed, affecting mobility of traffic.

The Department, in case of South 24 Parganas PW Division, stated (February 2022) that priority has been given for rehabilitation and replacement of weak bridges. However, there has been delays due to issues like acquisition of land, encroachments and paucity of funds.

2.11.7 Seamless mobility

Audit observed that 17 roads ***(Appendix-32)*** under seven divisions terminated abruptly on riverbanks with no means to cross to the other side. As a result, the traffic had to take a circuitous route or cross the river by ferry *etc*., to reach their destination. In one such road *viz.,* Chandrakona-Goaltore-Sarenga-Simlighat Road of Bankura Highway Division, additional 20 km had to be covered to reach Jhargram District due to absence of a permanent bridge on the Kangsabati River, thereby affecting mobility.

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[133] *Alipurduar, Birbhum-II, South 24 Parganas Highway Division, Barasat-I & Burdwan North (Highway Divisions) and Bishnupur PW Division.*

[134] *Birbhum Highway Division –II and Barasat Highway Division-I.*

Fig. 2.12: Chandrakona-Goaltore-Sarenga-Simlighat Road of Bankura Highway Division. A make shift bridge which becomes unusable in monsoon

The Department stated (February 2022) that new bridges will be constructed only after proposals are received from local administration/populations and also after conducting economic studies.

Thus, the Department is yet to develop a policy/action plan to improve mobility. Congestions arising due to absence of periodic traffic survey of the roads, existence of narrow and weak bridges which hampers traffic mobility, variable width of the roads *etc.,* are yet to be analysed by the Department for taking up remedial measures.

2.12 Road Safety

Road safety is a concern all over the world as road accidents have emerged as a major cause of death and injury with increasing traffic on roads and rise in numbers of heavy and high speed vehicles. Road safety in India is amongst the poorest in the world as per MoRTH[135] with one fatality every four minutes. A total of 4,49,002 road accidents have been reported by States and Union Territories (UTs) in the calendar year 2019, claiming 1,51,113 lives and causing injuries to 4,51,361 persons.

To ensure road safety in the country, the Government of India adopted (March 2010) the National Road Safety Policy. The Policy outlines the initiatives to be framed by the Government to improve road safety in the country.

Supreme Court Committee on Road Safety (SCCRS) was constituted (April 2014) to measure and monitor the implementation of various laws relating to road safety. The SCCRS directed (March 2015) the States to formulate State Road Safety Policy and set up a State Road Safety Council. It also sought to establish protocols for identification of black spots on roads, their removal and further monitoring to assess the effectiveness of the action taken. Other measures included strengthening enforcement related to traffic rules, patrolling of roads, taking engineering measures, removal of hoardings and objects that obstruct driving or distract drivers, preparing a Road Safety Action Plan (RSAP), take effective measures to remove encroachment on pedestrian paths and lastly to establish a Road Safety Fund.

[135] *As per Road Accidents Report 2019.*

2.12.1 State Road Safety Policy

The State Road Safety Policy was framed (February 2016) with a vision of safe road network for all road users to achieve 'zero road accident figure' in the long run and reducing road accidents as well as fatalities to 20 *per cent* by 2020. The objectives inter alia included:

(i) Improving road engineering and design, increasing road safety awareness, strict enforcement of rules and provision for emergency care;

(ii) Developing an "Accident Information System" for better accident management;

(iii) Coordinated action by departments and ensuring accountability, evaluation, funding and research; and

(iv) Achieving substantial reduction in road fatalities and injuries, with special attention to Vulnerable Road Users.

The key actions to be undertaken as per the policy were;

(i) Strengthening road crash database system

(ii) Safe planning and design of roads

(iii) Safe driving

(iv) Awareness, education and training for road users

(v) Enforcement of safety laws

(vi) Emergency Medical Services for road accidents

(vii) Research for road safety, and

(viii) Strengthening legal and financial environment for road safety.

The measures that were envisaged to be taken for planning and design of roads included measures for periodic identification and rectification of accident-prone zones (black spots) through proper planning, design and construction techniques; implementation of road markings on all NHs, SHs and installation of safety furniture; introduction of traffic calming measures to physically reduce speed in vulnerable areas near schools/hospitals/busy locations; conducting road safety audit through expert agencies; construction of wayside amenities/service centres on major road networks and developing a handbook on 'Road Safety Design Guidelines' to be used by engineers at all levels in all road sector agencies covering urban and rural roads. However, the Department was yet to prepare a handbook for 'Road Safety Design Guidelines'. In the absence of such guidelines there were no established norms in road safety design that could be followed and the divisions had to depend on the decision of the higher authorities for implementation of road safety measures, which were not uniform or coordinated.

2.12.2 Incomprehensive black spot identification

Action Plan for Road Safety in West Bengal (2015) was made under the directive of SCCRS to promote safety on roads and reduce accidents across the State by identification of black spots. Accordingly, the Department prepared a black spot protocol and defined it as a specific spot on a road at midblock section or at any junction with the occurrence of a minimum of 10 accidents and/or a minimum of five fatalities in a year.

However, it was seen from the records that identification of black spots was not being done jointly by the Department and the Police Department with the help of experts as envisaged in the Action Plan. Police identified black spots simply on the basis of the accidents occurring repeatedly on the spot without consulting the Department or any experts. As envisaged in the Action Plan, the information also did not contain nature of the accidents and extent of damage to property.

Once the black spots are identified, the same is sent to the Road Safety Cell[136] of PWD. The Cell then analyses the black spots and recommends long-term[137] and short-term measures[138] to rectify them and the recommendations are sent to the concerned divisions for execution.

A total of 103 black spots were identified by the Road Safety Cell of the Department in 14 test-checked divisions during the period from 2016-17 to 2019-20 as detailed in ***Appendix-33***. Lapses in implementation of the recommendation on black spots by Road Safety Cell were observed by Audit during joint physical verification of the roads as discussed below:

a. Birbhum Highway Division-I was to construct bump in a black spot at 2.7 km of Nalhati Bhabanandapur Road. It was stated that the measures were implemented in the action taken report sent by the Division to Road Safety Cell. However, it was found during joint physical verification that no such measures had been taken.

Fig.2.13: Intersection at 2.7 km on Nalhati Bhabanandapur Road under Birbhum Highway Division-I (27.02.2021)

b. Road Safety Cell identified (2018) three black spots on Madarihat-Falakata Road under Alipurduar Highway Division and recommended measures like Retro-reflective Pavement Marking on both sides of the road, rumble strips, speed unit signage boards, cautionary signage boards, zebra crossings, illumination of electric posts, installation of solar lights, installation of high mast lights, road shoulder improvement *etc*. However, it was seen that some of the recommendation like rumble strips, speed limit, cautionary signages and reflective studs on the road were not installed at all. In reply, the Division stated (December 2020) that the measures were taken but they were damaged due to heavy traffic and rainfall. The reply is not tenable as rumble strips, speed breaker and retro-reflective pavement markers are unlikely to get damaged due to traffic and rain within a year of their installation. As regards illumination at black spots, it was stated that the responsibility was

[136] *Cell created by PWD in 2015 to act as a Nodal Agency for Road Safety issues pertaining to entire PW Department. The cell is headed by CE, Planning PW (Roads) Directorate and assisted by four SEs acting as nodal officer for the three zones and Headquarters.*

[137] *Minor corrections in geometric design of the road.*

[138] *Installation of signages, pavement markings, construction of rumble strips, speed-breakers, temporary restoration of pavement conditions.*

with Panchayat or Municipalities, but no records of communication made with such authorities were found on record.

c. Two black spots in one road[139] of Birbhum Highway Division-II were identified with recommendation (2018-19) to install high mast illumination. However, no such high mast illumination was observed in the site. On this being pointed out, the Division accepted (April 2021) the delay and stated that prompt action in this regard would be taken.

d. In Cooch Behar Highway Division, Audit observed that three black spots were identified in 2018-19 on Changrabandha-Mathabhanga Road, where the Division was required to construct speed breakers. However, no such construction was done by the Division (December 2020).

Thus, the divisions were not prompt in rectifying the black spots although they were to take up short term measures within a period of 90 days. Partial remedial measures indicate lackadaisical attitude of the Department on a vital aspect of road safety and indicates lack of accountability and follow-up mechanism in the system. It also keeps the road users exposed to the dangers of road accidents and fatalities.

The Department stated (February 2022) that almost all the short-term measures were implemented. However, no records relating to such implementation was produced to Audit. In respect of long term measures, the Department stated that those will be implemented in due course.

2.12.3 Road Safety Measures

As per Ministry of Shipping, Road Transport and Highways and IRC guidelines[140], traffic signs and road markings are essential tools for guiding the drivers, regulating their movement, cautioning of dangers ahead and informing the drivers of the facilities available en-route. No road should be considered to be fit for traffic unless it has been provided with adequate system of traffic signs and road markings. Further, Action Plan of Road Safety stipulates that carriageway and sides of roads must be free of encroachment and roads in market and built up areas, intersections *etc*., should be properly illuminated.

2.12.3.1 Non-implementation of Road Safety Measures

In seven test-checked divisions, road safety measures such as road traffic signages, pavement markings, speed breakers, road markings and retro-reflective pavement markers were not implemented fully on all the roads till date (May 2021) even after five years of the enactment of the Road Safety Policy in the State. There were in total 375 roads under the jurisdiction of these seven divisions. It was observed that 83 roads did not have adequate road safety measures, 154 roads were not properly illuminated and there were encroachments on 177 roads ***(Appendix-34)***.

The Department, in respect of Cooch Behar Highway Division, stated (February 2022) that Road safety measures on all its roads have since been implemented. However, no records in this regard were produced to Audit. In case of other six divisions, no reply has been furnished.

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[139] *Illambazar-Dubrajpur Road, SH(21 km to 48.80 km).*

[140] *IRC-35:2015, IRC-67:2012 and IRC-SP-88:2010.*

2.12.3.2 Absence of Gantry signages and uniform accident recording format

The Transport Department, the nodal agency for road safety in West Bengal along with other concerned stakeholders[141] decided (2019) that PWD was to prepare a new format for accident recording, and also introduce gantry system[142] of signage on all its Highways and Major roads by September 2020. The gantry signages provide overhead information for easy visibility, regarding directions, distance or multiple destinations before any diversions on the road.

However, the Department was yet to develop a uniform accident recording format. Audit also observed that five of the test-checked divisions[143] has not yet installed any gantry signages on any of its 125 SH and MDR roads. Further, in six divisions[144] gantry signages have been installed only on 20 roads ***{Appendix-35(i)}*** out of 147 SHs and MDRs.

2.12.3.3 Absence of Road signages

During joint physical verification of roads in three test-checked divisions, it was observed in four roads that there was mismatch between the total road signage installed as per record of the divisions and the total signage found during joint physical verification ***(Appendix-36)***. Though 469 signages were stated to have been installed in these four roads only 292 signages could be found during joint physical verification. Further in one of these roads[145], 29 *per cent* (31 out of 107) of the installed signages were in a deteriorated condition.

On this being pointed out, Birbhum Highway Division-II stated (March 2021) that survey would be done to assess the signages and adequate steps would be taken.

The absence of the signages stated to have been installed remained un-noticed as the divisions did not have any system of conducting periodic survey of the road signages required as per IRC guidelines[146] to identify and reinstall the missing signages. No directives in this regard has also been issued by the Department for periodic checking of the installed signages. Even periodic maintenance of the installed signages were not being carried out.

In case of Birbhum, PW Division and Highway Division-I, the Department stated that signages were stolen which was reinstalled in case of Birbhum PW Division. However, no records in this regard was produced to Audit.

2.12.4 Absence of Crash Barriers

As per Government order (2018)[147], metal crash barriers were to be constructed or installed in all approaches of bridges, Railway over bridges, flyovers, at high embankments and sharp curves where vision is obstructed.

[141] *PWD, NHAI, WBTIDC, WB Police, Kolkata Police, Health and Family Welfare Department, Urban development municipal affair department.*

[142] *Overhead signages.*

[143] *Birbhum-I, Birbhum-II, South 24 Parganas & Burdwan South (Highway Divisions) and Burdwan PW Division.*

[144] *Barasat, Birbhum & Bankura (PW Divisions) and Barasat-I, Bankura & Burdwan North (Highway Divisions).*

[145] *Kotasur-Ramnagar Road of Birbhum Highway Division -I.*

[146] *IRC-67:2012 'Code of practice of road signs': clause 12.3.*

[147] *G.O. No.1M-25/16/237-R/PL dated 15.02.2018 issued by the Public Works Department, Govt. of West Bengal.*

Scrutiny revealed that four test-checked divisions[148] had partially installed crash barriers in vulnerable stretches of roads under its jurisdiction. Moreover, physical verification of five bridges and culverts ***(Appendix-37)*** in three of these divisions also confirmed that crash barriers had not been installed in several vulnerable stretches.

The Department stated (February 2022), in case of Burdwan South Highway Division, that crash barriers have been installed (no records in support of installation was produced to Audit). However, the fact remains that the other three divisions were yet to install the crash barriers.

2.12.5 Road Safety Audit

As per IRC guidelines[149], the application of safety principles in the improvement and maintenance of the roads as a means of accident prevention can be established through Road Safety Audit. The audit should ideally be taken up by the Department before commencement of road works. The purpose of road safety audit is to ensure that the road user would be exposed to minimal risks of accident on both new and existing roads.

2.12.5.1 Slow Pace of Road Safety Audit of PWD Roads

As per the RSAP, PWD was to conduct Road Safety Audit of all roads under its jurisdiction in a phased manner which was to start within three to six months from the enactment of the RSAP (2015).

However, till date (January 2021) the Department had conducted Road Safety Audit of just five State Highways[150] against a total of 1,864 number of roads under its jurisdiction. Audit observed that in the test-checked divisions, the Department had appointed six Supervisory Consultants (SCs) to supervise 19 works ***(Appendix-38)*** in 11 divisions. Though the SCs were to conduct Road Safety Audit of all the 466 roads under the jurisdiction of these divisions, it was observed that the same was not done till December 2020.

2.12.5.2 DPR not subjected to Road Safety Audit prior to sanction

As per the directive of the Department (March 2017), all Road Projects with estimated cost of more than ₹ 10 crore was to be subjected to Road Safety Audit by a Road Safety Auditor under the supervision of the road safety cell of the Department, prior to according Administrative and Financial approval of the project. However, in 16 of the test-checked divisions, it was seen that 32 works valuing ₹10 crore or more had been executed without conducting Road Safety Audit. It was also stated by the Road Safety Cell of the Department that no such exercise was carried out. No information in this regard was provided by WBHDCL and the remaining three divisions[151].

2.12.5.3 Partial Implementation of recommendation of Road Safety Audit

The Department appointed (2018-19) IIT Kharagpur (IIT-K) to conduct Road Safety Audit of five State Highways[152] (SH) under the jurisdiction

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[148] *Alipurduar, Cooch Behar & Barasat (PW Divisions) and Burdwan South Highway Division.*

[149] *IRC-SP-88:2019 "Manual on Road Safety Audit", clause 1.2.*

[150] *SH-1, 2, 5, 6 and 11.*

[151] *Bishnupur, Barrackpore (PW Divisions) and Diamond Harbour Highway Division*

[152] *SH-1, SH-2, SH-5, SH-6 & SH-11.*

of eight[153] test-checked divisions. In the Audit Report for SH-2 and SH-6 submitted to the Department in 2019, IIT –K had highlighted absence of road markings and signages, wrong signages, improper and inadequate traffic calming measures at the approaches of the minor roads, unsafe precautions at curves, restricted right-of-way such as encroachment and dumping of materials, built-up market areas, untreated intersections & restricted sight distance, poor pavement condition, damaged shoulder, roadside hazards, unsafe space for pedestrians *etc*. IIT-K had also observed that buses were stopping at non-designated locations on the roads. Many bus-stops were also located at the nearside of the intersections. Further, many bus-stops were built on traffic islands of intersections, which were obstructing the line of sight and making it unsafe for vehicles and pedestrians. In most of the cases, the Auditors had recommended that the bus stops be shifted to the far-side of the intersections.

However, out of the eight divisions, two divisions[154] were yet to implement the recommendations (March 2021) and one Division[155] has partially implemented some[156] of the recommendations (January 2021). Information was not provided in respect of the remaining five divisions[157].

The Department stated (February 2022) that estimates have been prepared for implementing the recommendations. However, the fact remains that even after two years, the recommendations are yet to be implemented.

2.12.5.4 Physical verification of Road Safety measures

IIT-K had used various parameters as mentioned in *paragraph 2.12.5.3* to provide recommendations to improve the road safety of the five audited SHs. Audit conducted joint physical verification of 42 roads under the jurisdiction of 14 test-checked divisions on the basis of parameters used by IIT-K and observed the following:

a. In 11 roads ***{Appendix-35(ii)}***, no hazard marking was done on tree trunks/ pedestal poles/culvert walls within one metre of the road shoulders, posing road safety hazard to traffic.

b. In six roads ***{Appendix-35(iii)}***, advertisement boards were allowed to be installed on the roadside hindering the visibility of the road users. Further, road safety was compromised due to erection of advertisement poles on the shoulder of the roads without permission from the divisions.

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[153] *Bankura, Burdwan North, Burdwan South, Birbhum-II, Barasat-I (Highway Divisions) and Bishnupur, Barrackpore & Birbhum (PW Divisions).*

[154] *Burdwan North and Birbhum -II (Highway Divisions).*

[155] *Bankura Highway Division.*

[156] *Road Marking, Signage, Improvement of Shoulder at few stretches, dismantling of bus stop, channelization of island at junction.*

[157] *Birbhum, Barrackpore & Bishnupur (PW Divisions) and Barasat & Burdwan South (Highway Divisions).*

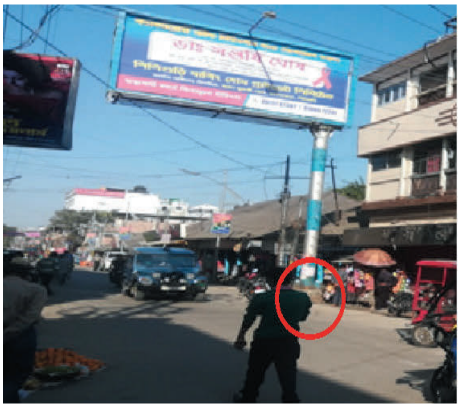


Fig.2.14: Overhanging hoarding installed blocking shoulder and footpath area at 0.500 km chainage of B.S. Road under Cooch Behar PW Division (01.01.2021)

Fig.2.15: Overhead hoarding installed blocking shoulder and footpath area at junction of Suniti Road and Keshob Road under Cooch Behar PW Division (01.01.2021)

c. Pavement markings, including central and edge markings, were inadequate in a major part in respect of 15 roads ***{Appendix-35(iv)}***. Zebra crossing for the pedestrians were also found to be lacking at numerous intersections and market/congested areas.

d. Retro Reflective Road Studs (Cats eye), used to identify the edge of the roads at night, was found to be missing in numerous stretches of six roads ***{Appendix-35(v)}***. Even road studs present were covered with dirt, serving no purpose.

e. As per the records of West Bengal Police Department, out of 10,042 road traffic accidents recorded in 2018, 988 or 9.8 *per cent* took place on curved stretches resulting in 554 fatalities or 10.23 *per cent* of all fatalities. Audit noticed that in 11 of the test-checked roads ***{Appendix-35(vi)}***, road safety measures like traffic calming measures, crash barriers and proper signage such as those prohibiting overtaking, speed limit and chevron marking[158] were not implemented at the curves of the roads.

   Thus, in the absence of effective and adequate road safety measures at the curves of the roads, the risk of accidents and fatalities continued to persist.

f. The encroachment of Right of Way (ROW) of roads causes constriction or narrowing of the ROW. Thus, pedestrians are forced to use the main carriageway increasing the probability of accidents and fatality. It was also pointed out by SCCRS (December 2019) that pedestrians accounted for almost 46 *per cent* of the fatalities in West Bengal. It directed the State to focus on policy intervention for pedestrians and make pedestrian pathways encroachment free and build pedestrian pathways, wherever needed.

   However, it was observed that 199 roads out of 740 roads under the jurisdiction of 15[159] of the test-checked divisions had been encroached at several stretches.

[158] *Chevron marking on road have white diagonal stripes which are used to separate traffic lanes or to protect traffic turning right.*

[159] *Cooch Behar, Bankura, Burdwan North, Burdwan South, Birbhum-I, Birbhum-II & South 24 Parganas, Barasat-I (Highway Divisions) and Alipurduar, Cooch Behar, Bankura, Burdwan, Birbhum, Barasat & South 24 Parganas (PW Divisions).*

In reply, three divisions[160] stated that removal of encroachment was being done only when widening and strengthening projects are undertaken. One Division[161] stated that steps would be initiated, eight divisions stated that such encroachment were social issues over which they did not have any control and three divisions[162] did not furnish any replies.

Joint physical verification was conducted by Audit in 19 roads ***{Appendix-35(vii)}*** pertaining to eight divisions to check the severity of encroachment. It was noticed that there were encroachments in the form of construction of shops, local settlements, and temporary stalls of vendors near the carriageway and pedestrian footpaths.

Audit observed that a footpath constructed at a cost of ₹ 1.76 crore on Bankura Durgapur Road (Machantala) by Bankura PW Division, was fully occupied by encroachers.

	
Fig.2.16: Encroachment of shoulder of Cross road by shops near Radhamadhav Mandir and Kaljani Housing complex under Alipurduar PW Division (20.12.2020)	**Fig.2.17: Encroachment of Footpath from Machantala to Lalbazar Traffic More of Bankura Durgapur Road under Bankura PW Division (19.01.2021)**

g. Road side obstructions: In order to assess extent of blocking of carriageway by dumping of construction materials and other objects by the locals, joint physical verification of 19 roads ***{Appendix-35(viii)}*** pertaining to seven divisions were conducted by Audit. The verification revealed that materials like construction materials, garbage, wooden logs, *etc*., were seen dumped on the flanks and shoulder of the roads in all the 19 roads.

[160] *Cooch Behar, Bankura and Burdwan North (Highway Divisions).*

[161] *Birbhum Highway Division -II.*

[162] *Birbhum Highway-I, Barasat Highway and South 24 Parganas Highway divisions.*

	
Fig.2.18: Garbage dumped at roadside at Shantinagar, raised pedestrian walkway, parallel road under Alipurduar PW Division (20.12.2020)	**Fig.2.19: Road almost blocked by dumping of construction material at 1.5 km-2.5 km of Seorakuri-Kulkuri Road under Birbhum PW Division (08.03.2021)**

Thus, it can be seen from the above that though the aims and targets of the State road safety policy were adequate to bring about a perceptible change in safety of the road users, the implementation of the policy is still very poor. The State Road Safety Policy (2016) aimed to reduce accidents and fatalities by 20 *per cent* in four years (2020). Though road accidents in the State slightly decreased from 13,208 in 2015 to 10,158 in 2019, fatality rate increased from 47 *per cent* to 54 *per cent* during the corresponding period.

2.13 Conclusions

The Department did not have any long-term or short-term plans and were functioning without undertaking any structured exercise for priority-based selection and execution of works. Road works were being taken up on the basis of proposals sent by the divisions, which were themselves not based on any plans. As a result, upgradation/improvement of several roads were found to have been overlooked for prolonged periods of time. The Department/divisions also did not obtain feedback from the concerned district administration before taking up road works. Further, no assessment of the intended and accrued benefits was being done by the Department to assess the benefits achieved.

Audit found that there were major lapses in designing the roads resulting in excess/avoidable expenditure. The relevant IRC codes for designing the pavements were either wrongly applied or were neglected. Necessary preliminary investigations were also not conducted properly before designing the pavement. In contract management, it was found that various terms and conditions of contracts were overlooked or wrongly applied leading to loss of Government money.

Quality control checks of materials used in works before commencement and during execution of works were not conducted as per norms. Almost 35 *per cent* of the prescribed tests of materials were not done before execution of work and 53 *per cent* were not done during execution of the works. Besides, there are no regional laboratories and adequate number of divisional laboratories to assist the engineers in the quality control process.

Monitoring and supervision of the works were also not being carried out. Various monitoring tools like daily diaries, site order books, method statements *etc.,* were not maintained. Moreover, there were deficiencies in supervision of execution of works by departmental officials. The Department failed to put in place an effective mechanism for submission of challans by the contractors for purchase of bitumen and to check their authenticity.

The Department did not have any policy on traffic mobility. Consequently, vehicular traffic was operating far below the design speed of the roads due to issues like congestion, encroachments, variable width along the same road, narrow and weak bridges *etc*.

Implementation of the road safety action plan was carried out only partially. As a result, various measures that were suggested to be implemented for ensuring road safety, such as installation of gantry signages and crash barriers, uniform recording of accident database, developing a handbook for "Road Safety Design Guidelines" for use in urban and rural roads were not carried out. Identification of black spots and measures to rectify them was being carried out in an ad hoc manner. Besides, the Department conducted the road safety audit of only five State Highways since 2015 against 1,864 roads under its jurisdiction. Further, the recommendations in the Road Safety Audit Report submitted by IIT-K in 2019 has not been implemented till date.

2.14 Recommendations

The following recommendations are proposed for consideration of the Department:

- ***The Department should frame a Perspective Plan for development of the road network through a process of consultation with the various stakeholders including the District Administration, Transport Department etc., to cater to the demands of the road users.***
- ***The Department may build a comprehensive database of all roads in the State and conduct periodic traffic surveys to assess the road development requirements.***
- ***The Department should ensure that all relevant codes, guidelines in design and construction of roads are followed. Justification for any deviation from extant norms and guidelines should be recorded and due approval from the competent authority should be ensured.***
- ***The Government may investigate the matter of production of fictitious challans for purchase of bitumen and ensure accountability of the officials involved.***
- ***The Department should initiate steps to conduct periodical training for staff and officers to keep them up-to-date with the latest techniques and best practices.***
- ***Department should conduct road safety audit of at least all SHs and important MDRs.***

Chapter III

Performance Audit on Augmentation of Transmission Capacity in West Bengal

CHAPTER-III

Performance Audit relating to Power Sector Enterprises

West Bengal State Electricity Transmission Company Limited

3 Performance Audit on Augmentation of Transmission Capacity in West Bengal

3.1 Introduction

Power sector is an important sector for the economy of West Bengal. An extensive network has been developed over the years for transmission and distribution of the electricity generated or purchased, to the consumers across the State. Although West Bengal is a power surplus State, the availability of electricity is not uniform in all areas. Therefore, augmentation of transmission capacity and the efficient utilisation of transmission lines and sub-stations in line with consumer demand remains a critical aspect in power development. Electrical energy transmission is the bulk movement of electrical energy from a generating station to a substation located close to the beneficiary/ consumers. The interconnected lines which facilitate this movement constitute a transmission network.

The Electricity Act 2003 (Act) was a major development in the power sector. As provided under the Act, the Government of India (GoI) formulated (February 2005) the National Electricity Policy (NEPo) in consultation with Central Electricity Authority (CEA) and State Governments. NEPo, *inter alia*, stated that to develop a robust and integrated power system for the country, adequate and timely investment as well as efficient and coordinated action to plan and execute projects in the transmission system is required. The Act also requires Regulatory Commissions to provide for non-discriminatory open access[163] in transmission, thereby promoting competition in power sale across the country. Accordingly, open access was introduced in West Bengal from June 2005.

While Power Grid Corporation of India Limited (PGCIL) was, notified (December 1998/ November 2003) as the Central Transmission Utility (CTU) to undertake transmission of electricity through inter-State transmission system; the State Transmission Utility is to undertake transmission of electricity through intra-State transmission system.

3.2 Organisational Structure

The Government of West Bengal unbundled (April 2007) the erstwhile West Bengal State Electricity Board (WBSEB) into West Bengal State Electricity Transmission Company Limited (WBSETCL) and West Bengal State Electricity Distribution Company Limited (WBSEDCL), both incorporated in February 2007. The transmission and load despatch activities of WBSEB were transferred to WBSETCL, a Government company wholly owned by Department of Power, GoWB. Consequently, WBSETCL as the designated State Transmission Utility

[163] *Use of transmission line or associated facilities with such line by any licensee or consumer or a person engaged in generation, in accordance with regulations specified by the appropriate Commission.*

(STU) is a deemed transmission licensee, and is responsible for transmitting electricity from generating sources to load centres through a transmission network operating at 400 KV, 220 KV, 132 KV and 66 KV, depending on the distance over which the power is to be transmitted and quantum involved. Besides, WBSETCL is also responsible for the State Load Despatch Centre (SLDC), till a separate company is set-up for load management activities. WBSEDCL on the other hand is responsible for distribution of power at 33 KV, 11 KV and below.

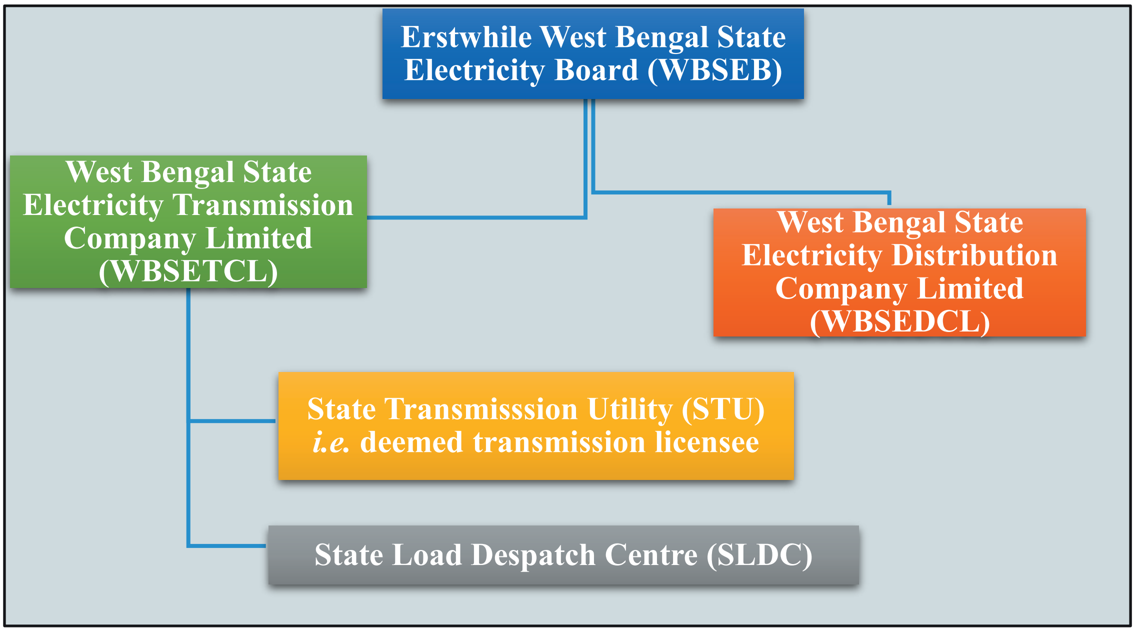
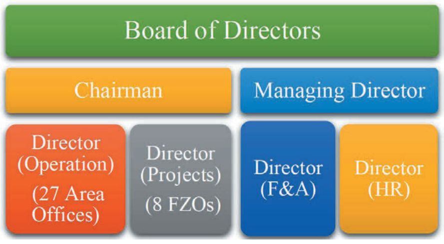


Fig. 3.1: Profile of West Bengal State Electricity Transmission Company Limited

	Responsible for coordinating, managing and servicing of the State Grid Code
	Ensures development of an efficient, coordinated and economical system of Intra-State Transmission lines for smooth flow of electricity from a generating station to the load centre.
	Discharges functions of planning and co-ordination relating to State Transmission System (STS) with due correlation with Central Transmission Utility (CTU), State Government, Entities, Eastern Regional Power Committee (ERPC), Central Electricity Authority (CEA), and any other person notified by the State Government.
	Responsible for providing non-discriminatory open access to its transmission system subject to availability of adequate transmission facility for use by any licensee or generating station or any Open Access Customer on payment of necessary transmission charges, other charges, fees and surcharges as provided in different Regulations specified by the Commission.

Fig. 3.2: Role of WBSETCL as STU

WBSETCL's management is vested in a Board of Directors (BoD) headed by a Chairman. As of March 2021, the BoD consisted of ten members, including five full time directors, three independent directors and two Government-nominee directors, all appointed by GoWB. The Managing Director (MD) is the Chief Executive and is assisted by Director (Finance & Accounts), Director (Human Resources), Director (Operations) in charge of operation and maintenance of sub-stations, equipment and lines and Director (Projects) looking after construction/ expansion/ augmentation of sub-stations and transmission lines. WBSETCL functions through eight Field Zonal Offices[164] under the Director (Projects) and 27 Area Offices[165] under the Director (Operations).



3.3 Transmission Voltages

Electrical energy flows through the interconnecting lines in a transmission network at different voltages. The transformers in the substations may convert voltages from low to high (step-up transformers) or high to low (step-down transformers). Transmission lines are any lines with voltage exceeding 33,000 volts or 33 KV. Before entering the transmission system, electricity produced at the generating station is "stepped up," to minimise losses arising from resistance to flow of electrical energy in these lines.

In India, generation voltage is generally 11 KV but electricity is transmitted at extra high voltages (EHV) ranging from 66 KV to 800 KV. EHV is used in transmission systems because at higher voltages, there is less resistance in the lines and so less energy is wasted. Transmission lines with voltages of 500 KV and above are solely set-up in the Central Sector, mainly, by PGCIL for inter-state connections throughout India. WBSETCL, being a deemed transmission licensee, operates the intra-state transmission system in West Bengal at voltages ranging from 66 KV to 400 KV.

A diagrammatic representation of the transmission system is detailed in **Figure 3.3**:

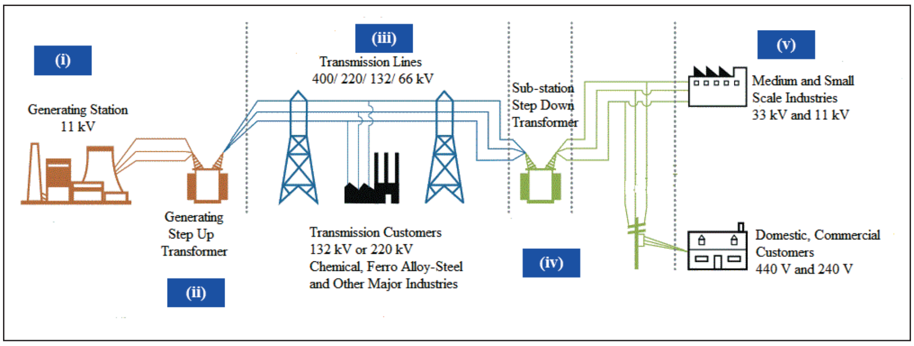


Fig. 3.3: Simplified diagrammatic representation of transmission system

[164] *Berhampur, Chinsurah, Durgapur, Kharagpur, Kolkata, Krishnanagar, Siliguri & Malda (8).*

[165] *Alipurduar, Arambag, Bankura, Barasat, Behala, Berhampore, Birbhum, Burdwan, Chandannagar, Durgapur, Gokarna, Haldia, Howrah, Jalpaiguri, Jeerat, Kasba, Kharagpur, Kharagpur 400, Krishnanagar, Malda, Midnapur, New Chanditala 400, Purulia, Raiganj, Salt Lake, Siliguri and Tamluk (27).*

i) Electrical power is generated in the generating station at 11KV.

ii) This generated power is fed to the generating step up transformer to suitably increase voltage level to EHV[166] level, *i.e.* up to 66/ 132/ 220/ 400 KV. This EHV level is maintained to transmit the energy over to a long distance to a substation. It is called primary transmission of power.

iii) Energy-intensive consumers may draw energy in bulk at 132 KV or 220 KV (and step-down energy to their requirements).

iv) At the end point of primary transmission of power, the step down transformers, in the substation, reduce voltage level to 132 KV (EHV). Secondary transmission of power starts from this substation. Power transformer at the end of the secondary transmission, steps down voltage from 132 KV level to 33 KV (HV) or 11 KV (HV) as required.

v) Thereafter, primary distribution of power to different distribution stations occurs for stepping down voltage level from 11 KV/ 33 KV to 440 V(L&MV) or 220 V (L&MV) (Line Voltage) for consumers.

3.4 Audit objectives

Audit objectives of the Performance Audit on "Augmentation of transmission capacity in West Bengal" by West Bengal State Electricity Transmission Company Limited (WBSETCL) for the period from 2016-17 to 2020-21, were to assess whether WBSETCL had–

- Chalked out plans for transmission capacity addition/ system improvement in line with proposed increase in generation capacities, estimated/ actual growth in demand for electricity, and requirements of the National Electricity Plan 2015 and Electric Power Surveys conducted by the Central Electricity Authority;
- Executed and monitored transmission projects economically, efficiently and effectively and put in proper internal controls for project management; and
- Controlled and operated the transmission system efficiently to ensure stability and reliability in the grid and achieved anticipated outcomes.

3.5 Scope and Methodology of audit

The performance audit covering the period from 2016-17 to 2020-21 was conducted from December 2020 to March 2021. Audit examination involved scrutiny of records of different wings at the Head Office *viz.* Central Planning Department, Procurement Department, Project Department and Finance Department of WBSETCL. Audit selected 35 out of 183 projects executed[167] by WBSETCL, through stratified random sampling, based on the letter of award (LoA) values of the projects.

Audit methodology involved scrutiny of records maintained at the Head Office of WBSETCL, Field Zonal Offices and Area Offices. Before commencement

[166] *Voltages of 66 KV and above are referred to Extra High Voltage (EHV), 33 KV and 11 KV are High Voltage (HV) while 440 V and 220 V constitute Low and Medium Voltage (L&MV).*

[167] *Executed between 2015-16 and 2019-20 and including 36 ongoing projects as of April 2015. The 183 projects included construction, upgradation, expansion and augmentation of transmission lines and sub-stations.*

of audit, an Entry Conference was held with the Additional Chief Secretary, Government of West Bengal, Department of Power on 24 November 2020 to communicate the audit objectives, scope/ methodology of audit and audit criteria. The audit findings were discussed at an Exit Conference held on 01 June 2022 with the Government and the Management and their responses have been suitably incorporated in this Report.

3.6 Audit Criteria

The audit criteria to be adopted for assessing the achievement of audit objectives were -

- Electricity Act 2003, NEPo 2005, Regulations/ orders of Central Electricity Regulatory Commission (CERC)/ WBERC, Grid Code and guidelines of the Central Electricity Authority (CEA).
- National Electricity Plan 2015 and Electric Power Surveys of CEA, Perspective (Five Year Rolling) Plans/ Corporate Plans (Annual) of WBSETCL as well as Annual Administrative Calendars of the Department of Power, GoWB.
- Scheme guidelines and directions from GoI, GoWB.
- Administrative/ Technical sanctions of projects, Detailed Project Reports, Notices Inviting Tenders, Letters of Awards, standard/ general terms and conditions of contracts, Central Vigilance Commission Guidelines, *etc*.

3.7 Performance criteria and summarised working results of WBSETCL

Some performance criteria of WBSETCL *vis-a-vis* standards/ norms along with summarised working results for the five years from 2016-17 to 2020-21 are given below at **Tables 3.1, 3.2** and **3.3**.

Audit had observed (April 2022) that unutilised capacity in the transmission network ranged from 14.79 *per cent* to 32.55 *per cent*. However, in their reply and at the Exit Conference, the Government stated (June 2022) that considering an average power factor of 0.95 and calculating network capacity in terms of energy (MU/ MWH) for installed capacity at 132 KV (considering that all power is transmitted at some time at this voltage) was neither justified nor correct. They added that transformation capacity of a new substation, or augmentation of transformation capacity in an existing sub-station for a particular was planned/ determined in terms of power in MVA and not in terms of MWH/ MU. Moreover, transformers can be loaded to 110 per cent of their capacity. Accordingly, the capacity utilisation was reworked by Audit, as follows -

Table 3.1 : Capacity utilisation of transmission network

	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
		Electricity transmitted annually (in MW)				
1)	System capacity at start of year (*Refer Note*)	21,811.85	23,589.20	26,392.50	28,730.00	30,214.10
2)	Actual Peak demand (in MW)	8,327.00	8,454.00	8,811.00	9,077.00	8,799.00

	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
3)	Percentage of network utilisation {(2)/(1)}	38.18	35.84	33.38	31.59	29.12
4)	Percentage of network underutilised {100- (3)}	61.82	64.16	66.12	68.41	70.88

(Source : Information furnished by SLDC)

Notes : 1) Method for calculation of network capacity in MW, is transformer capacity (in MVA) at the beginning of each year multiplied by minimum power factor of 0.85 - WBERC's (State Electricity Grid Code) Regulations 2007, No. 3.5.3.

As seen from the Table, between 2017-18 to 2020-21, the network utilisation showed a declining trend that was mainly due to WBSETCL planning a higher capacity than required as discussed at **Paragraph 3.8.1**. As a result, unutilised capacity ranged from 61.82 *per cent* to 70.88 *per cent*. This indicated excess transformer capacity[168] of 15,864 Mega Volt Amperes (MVA)[169] from April 2016 to March 2021, created at a cost[170] of ₹ 517.17 crore.

The Government also stated (June 2022) that transmission system planning considered maximum/ peak load projected/ incident on the network under normal as well as N-1 contingency conditions without any interruption/ overloading. Therefore, the planned/installed capacity of the transformers always remains higher than the average or minimum load projected/ incident on the system at that particular voltage level.

The fact, however, remained that capacity utilisation was low. Moreover, in this connection, the Forum of Regulators observed[171] (April 2021) although there was huge investment in transmission, utilisation of the assets had not been commensurate with investment. Further, while responding to issues on preventive maintenance (**Paragraph 3.11.2**), the Government stated (June 2022) that WBSETCL network had ample redundancy, with adequate flexibility to avail shutdowns. Besides, the Government had not furnished the revised reply as agreed in the Exit Conference.

Table 3.2: Summarised working results of WBSETCL

	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
		Summarised working results (₹ in crore)				
1)	Revenue from operations	1,258.92	1,298.54	1,353.05	1,408.17	1,828.98
2)	Other Income	36.62	50.91	72.96	64.75	56.95
3)	***Total Income (1 +2)***	***1,295.54***	***1,349.45***	***1,426.01***	***1,472.95***	***1,885.93***
4)	Employee benefit expenses	235.62	239.83	213.78	284.28	326.98
5)	Other expenses	153.70	183.17	164.34	158.20	189.39

[168] *Calculated at 61.82 per cent of 25,661 MVA, being aggregate transformer capacity at the beginning of 2016-17.*

[169] *The capacity of a power transformer is expressed in megavolt amperes.*

[170] *Based on average purchase order cost of transformers at all voltage ratios from January 2016 to October 2020 at ₹ 3.26 lakh per MVA.*

[171] *Paragraph 3.2.1 of report of the Forum of Regulators on "Analysis of Factors impacting Retail Tariff and measures to address them".*

	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
6)	Depreciation	195.78	213.11	260.59	286.91	302.52
7)	Finance costs	238.57	245.11	271.71	275.36	297.13
8)	***Total expenses (4+5+6+7)***	***823.67***	***881.22***	***910.42***	***1,004.75***	***1,116.02***
9)	Profit before tax (3-8)	471.87	468.23	515.59	468.17	769.91
10)	Income Tax	100.71	100.49	110.88	81.80	134.52
11)	**Profit after tax (9-10)**	**371.16**	**367.74**	**404.71**	**386.37**	**635.39**
12)	Other Comprehensive Income	59.59	70.38	43.59	-26.04	26.45
13)	***Total Comprehensive Income for the year (11+12)***	***430.75***	***438.12***	***448.30***	***360.33***	***661.84***

(Source : Compiled from Audited Annual Financial Statements)

It was seen that depreciation costs of WBSETCL increased in 2018-19, due to taking over of transmission assets of The Durgapur Projects Limited from January 2019. In addition, employee benefit costs rose in 2017-18 and 2019-20 due to enhancement of annual increments, rising costs of terminal benefits, implementation of revision of pay and allowances in 2020, *etc*.

The actual unit cost transmission of WBSETCL in comparison with the tariff for the five years from 2016-17 to 2020-21 is given below:

Table 3.3: Unit cost of transmission

	Particulars	2016-17	2017-18	2018-19	2019-20	2020-21
		Transmission cost per unit (in paisa)				
1)	As per tariff orders	17.18	15.71	15.91	17.67	17.79
2)	Actual cost as per accounts (Sr. 8 of Table 3.2/ Sr. 3 of Table 3.1)	17.87	17.78	18.58	21.73	24.51
3)	Difference between tariff orders and actual (1-2)	0.69	2.07	2.67	4.06	6.72

(Source: Information furnished by SLDC, Annual financial statements, tariff orders)

The transmission cost per unit showed an increasing trend during 2016-21, which was attributable to excess capacity in the system **(Table 3.1)** leading to higher per unit capital cost and increase in depreciation and employee benefit costs **(Table 3.2)** *etc*. The under-utilisation of transmission capacities and increase in transmission costs were also emphasised (April 2021) by the Forum of Regulators. This resulted in higher cost of transmission being passed on to consumers.

Audit Findings

Audit findings of this Performance Audit have been broadly classified under planning, execution and operations and monitoring as discussed in the succeeding paragraphs:

3.8 Planning

GoWB had implemented (2014-19) an electrification drive under '*Sabar Ghare Alo*' to provide one crore new electric connections in rural areas of 11 backward districts. GoWB also launched (September 2014) '*Sech Bandhu*' to segregate electric feeders for agricultural purposes and provide for electrification of pump sets. Further, GoI and GoWB jointly initiated (August 2016) "Power for All" (PFA) Project, which aimed to make available 24x7 Power to all electricity consumers and provide electricity access to all unconnected households in the State by 2019. Accordingly, the power transmission network needs to be planned and upgraded to meet the enhanced infrastructure requirements of providing power across the State.

WBSETCL is required to plan and co-ordinate for the State Transmission System (STS) with PGCIL, State Government, agencies like generating and distribution companies, Eastern Regional Power Committee (ERPC), Central Electricity Authority (CEA), *etc.* It is the responsibility of WBSETCL to prepare plans for capacity addition/ system improvement in the transmission system (sub-stations and lines) to match with proposed increase in generation capacities, growth in demand for electricity, requirements of the National Electricity Plan 2015 and Power for All (PFA) Roadmap. Five year rolling plans[172] are formulated in conformity with the guidelines specified in Indian Electricity Grid Code (IEGC), West Bengal Electricity Grid Code (WBEGC) after assessment of district-wise demand for electricity and the existing transmission capacity.

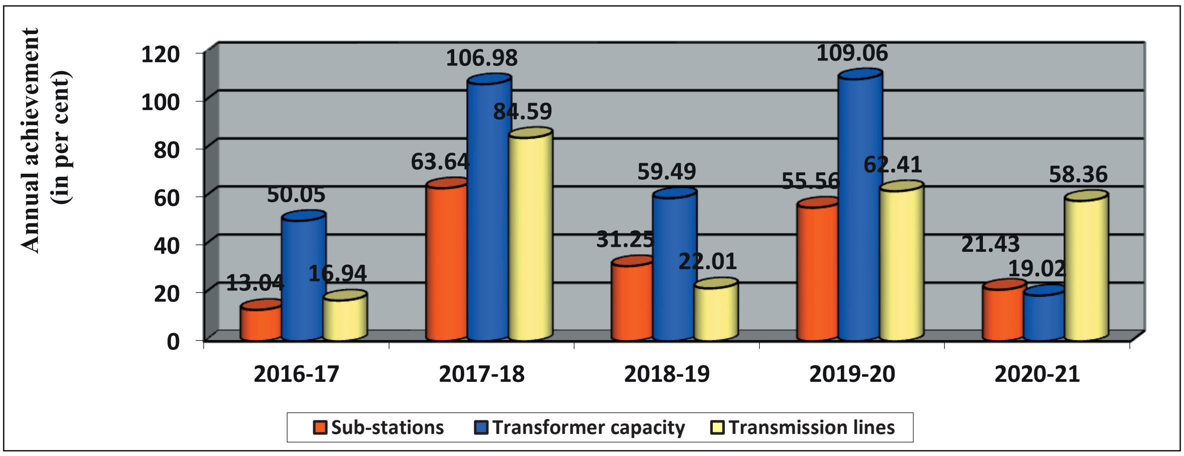
3.8.1 Planning *vis-à-vis* achievement of WBSETCL

a) Audit observed that during 2016-21, against targets for construction/ upgradation of 73 sub-stations, WBSETCL constructed only 26 sub-stations (35.62 *per cent*). In the same period, against targets of additional transformer capacity of 14,411 mega volt amperes (MVA) and additional 7,419 circuit kilometres (CKM) of transmission lines, actual achievements were 9,474 MVA (65.74 *per cent*) and 2,960 CKM (39.90 *per cent*), respectively.

The details of annual targets for sub-stations, transformer capacity and transmission lines planned for 2016-21 *vis-à-vis* achievements are detailed in ***Appendix- 39***.

Chart 3.1 below shows the percentage of annual achievements *vis-à-vis* additions planned for sub-stations (SS), transformers and transmission lines by WBSETCL for the period 2016-21.

Chart 3.1 : Annual achievements of sub-stations, transformers and transmission lines to planned annual additions



172 *Rolling Plan 2014-15 to 2018-19 and 2019-20 to 2023-24.*

It would be seen from the Chart that the transformer capacity added in 2017-18 and 2019-20 exceeded the planned additions, since the capacity augmented in 2017-18 and 2019-20 was not included in the additions planned. The annual capacity planned for addition was not achieved during the period from 2016-17 to 2020-21 for either sub-stations, transformer capacity or transmission lines. Due to delays in completion of projects, WBSETCL faced constraints in meeting the demand of WBSEDCL in a few areas as mentioned in the Report of the Task Force constituted in November 2020 by WBERC to review the position of the State transmission system.

b) Under WBERC's State Electricity Grid Code Regulations 2007, WBSETCL is required to provide load forecast along with demand growth trend of different districts and municipal corporations of West Bengal on their website. WBSETCL has also stated (May 2021) that they had chalked out plans for increasing capacity, depending largely on actual need, future requirement and feedback from drawing entities.

However, Audit observed that –

i. WBSETCL had not disclosed the requisite information regarding load forecast and demand growth trend on their website.

ii. WBSETCL had discussed the rolling plan 2014-15 to 2018-19 with WBSEDCL in October 2013. Thereafter, WBSETCL neither held consultations nor obtained feedback on load forecasts from WBSEDCL. Consequently, during 2016-17 to 2020-21, WBSETCL had employed load forecasts which varied from (–) 15.42 *per cent* to (+) 15.97 *per cent vis-a-vis* load forecasts prepared by WBSEDCL.

These indicated shortcomings in WBSETCL's basis of planning that was fairly responsible for decline in overall capacity utilisation of the transmission system.

c) Audit noticed that 27 projects[173] proposed (August 2016) to be taken up under PFA Roadmap for completion before 31 March 2021, were either not included in WBSETCL's rolling plans (16 projects), deferred beyond 2020-21 (10 projects) or dropped (one). Moreover, four projects scheduled for completion after 2020-21 were not included in rolling plans. The reasons for not taking up these projects or deferring them were not communicated to Audit.

The Government stated (June 2022) that planned capacity in the transmission network including transformers needed to meet a single contingency or 'N-1' condition involving the outage of one circuit of a line, one transformer at a sub-station *etc*. Consequently, the aggregate capacity of transformers required at a particular voltage ratio should fulfil N-I contingency conditions without interruptions/ overloading. Due to non-construction of sub-stations proposed under PFA Roadmap, as of March 2021, some existing 132/33 KV sub-stations were overloaded beyond 'N-1' conditions. Some instances are as follows :

i. Under PFA, a new 220/132/33 KV sub-station (SS) was planned for construction at Burdwan in 2019-20. The proposed SS was to share the load of five adjacent 132/33 KV SSs at Katwa, Mankar, Mahachanda, Raina and Indus. WBSETCL, however, did not incorporate this SS in their

[173] *Eleven new sub-stations/ upgradation of existing sub-stations and 16 transmission lines.*

rolling or annual plans. Instead, WBSETCL awarded (May 2017) work for construction of a new lower capacity 132/33 KV Gas Insulated Sub-station (GIS) at Burdwan, for completion by November 2018. Construction was ongoing till March 2021. As a result, between December 2018 and March 2021, maximum load at four of the five SSs, whose load was to be shared, ranged from 74.41 to 97.93 *per cent*, that resulted in their connected load being in excess of 'N-1' condition as given in the **Table 3.4** below:

Table 3.4: Details of loads at five sub-stations

Sl. No.	Name of SS	Installed capacity (in MVA)	Configuration (Nos. and capacity in MVA)	'N-1' capacity (in MVA)	Maximum utilisation (in MVA)	Percentage
(1)	(2)	(3)	(4)	(5)	(6)	(7)=(6)/(4)
1.	Katwa	150	Three of 50 MVA	100	111.62	74.41
2.	Mankar	94.5	Three of 31.5 MVA	63	81.39	86.13
3.	Mahachanda	131.5	Two of 50 MVA and one of 31.5 MVA	100	115.02	87.47
4.	Raina	150	Three of 50 MVA	100	146.89	97.93
5.	Indus	100	Two of 50 MVA	50	86.81	86.81

ii. Under PFA, a new 132/33 KV SS was proposed at Shyamnagar, for completion by 2019-20, to partly take-over existing load of Laxmikantapur SS. As the proposed SS was not taken up as of March 2021, during 2020-21, the existing three 132/33 KV transformers of 50 MVA capacity each, aggregating to 150 MVA at Laxmikantapur were being loaded up to 84.36 *per cent* (126.55 MVA) of capacity, against maximum recommended of 100 MVA to fulfil 'N-1' condition.

Thus, though overall capacity in the transmission system exceeded requirement, specific SS were found to be congested as geographical distribution of the additional capacity created was not according to load demand. Therefore, planning for distribution of new capacity was not optimised and the transmission system was not uniformly robust.

The Government/ Management stated (June 2022) that several factors and uncertainties directly or indirectly affect objectives of the plans and impose challenges to achieve their targets. Moreover, implementation of open access in Power transmission, liberalisation of generation sector and creation of open market for electricity has brought their own uncertainties. Hence, to the extent possible, adequate flexibility is considered in the plans to meet such uncertainties. Consequently, possibility of stranded assets[174] or congestion could not be ruled out entirely. It also stated that the reasons for delay in execution of the project were not entirely under the control of WBSETCL and could not be attributed to the basis of planning.

The reply needs to be viewed in light of the fact that under WBERC's (State Electricity Grid Code) Regulations 2007, WBSETCL was required to take into account power to be wheeled in long-term open access for the purpose of overall planning. Further, congestion arose as WBSETCL had not optimally distributed

[174] *Transmission assets having realisable value below their cost or book value, as anticipated benefits.*

additional capacity across geographical locations. Moreover, there were delays in execution of projects which are discussed in **Paragraph 3.10.1**.

3.8.2 Inability to assess required transformer capacity led to delay in procurement of transformers

WBSETCL's procurement policy calls for equipment, materials and services to be made available in the right quantity, at the right time and at the right place. Therefore, the Procurement Department must ensure that the supply schedule, as agreed with the contractors/ suppliers, is strictly adhered to. Further, BPITS (Best Practice in Transmission System) Report, MOP, GOI, provides (January 2002) that a transmission system be divided in packages for procurement, based on cost, availability of materials, completion schedule, *etc*. Sub-stations may be packaged for turnkey execution except transformers/reactors that may be procured separately and erected by turnkey contractor under supervision of the manufacturer, with due consideration that the design philosophy is maintained. The turnkey concept of sub-station execution merely ensures single point responsibility for procurement, co-ordination and project management.

WBSETCL planned (August 2013) a 400/220/132 KV sub-station (SS) at New Chanditala to meet the requirements of Howrah, Rishra and Domjur 220/132 KV SS, with aggregate load of 875 MVA. Accordingly, WBSETCL floated (August 2013) tender and issued (February 2014) Letter of Award (LOA) on M/S Siemens Ltd for supply and erection of New Chanditala SS along with associated works on turnkey basis (excluding supply of power transformers (PTs) to be supplied by WBSETCL). Thereafter, WBSETCL issued (January 2015) purchase order on M/S Alstom T&D India Ltd for supply of two 315 MVA PTs at New Chanditala SS. Each PT had basic price of ₹ 15.04 crore (₹ 7.52 crore each ex-works price), subject to price variations as on delivery dates. As per delivery schedule, WBSETCL was to supply both transformers to M/S Siemens Ltd by July 2015.

Subsequently, WBSETCL's Board Committee for Contracts, Purchases and Procurement decided (February 2016) to procure a third 315 MVA PTs for New Chanditala sub-station. This was as per load flow study (January 2016), in which, New Chanditala SS would cater to load of 880 MVA at Rishra, Domjur and Foundry Park Sub-Stations and only two 315 MVA PTs aggregating to 630 MVA capacity would not be sufficient to meet the demand. Moreover, outage of either PT would lead to severe power shortage. Hence, WBSETCL issued (November 2016) order on M/S TBEA Energy (India) Pvt. Ltd. for procurement of third PT, at ₹ 7.71 crore (ex-works price), subject to price variation on delivery. Against scheduled completion in June 2017, the project was completed in April 2018.

Audit observed that the original load was assessed at 875 MVA in August 2013 and re-assessed in January 2016 at 880 MVA *i.e.* an increase of five MVA only. The initial transformer capacity of 630 MVA would not have met the original or the revised demand. However, due to incorrect assessment of capacity, the project was delayed on account of waiting for delivery of third PT.

The delay in the project was almost two years *i.e.* actual completion was in April 2018 against scheduled completion in June 2016. Besides, WBSETCL also incurred additional expenditure of ₹ 0.56 crore for procurement of third

PT at a higher rate after almost two years. Further, it was also noticed during 2016-17 to 2020-21 that at the 400 KV level, an existing 400 KV SS at Arambag was loaded[175] beyond permissible limit in four out of five years. Consequently, fault occurred (July 2020) at Arambag SS leading to load loss of 61 MW. Thus, the transmission network had not achieved stability even after New Chanditala SS was completed.

The Government/ Management stated (June 2022) that load flow study showed that New Chanditala sub-station was to be connected with three sub-stations at Domjur, Foundry Park and Rishra to cater to load of 880 MVA. Although two 315 MVA Inter connecting Transformers (ICTs) were planned initially; depending upon the changed/ emerging scenario at a later stage, installation of the third 315 MVA ICT was fully justified from technical point of view, even through its cost was a bit additional.

The reply is, however, not tenable as New Chanditala SS was planned to meet load of 875 MVA, which increased by only five MVA, to 880 MVA, during execution. Consequently, incorrect estimate at the planning stage led to alterations in project components during execution, which led to higher expenditure on the third PT and delayed the overall completion of the project, leading to overloading of an existing 400 KV SS (Arambag) beyond permissible limits.

3.8.3 Creation of sub-station (SS) capacities in excess of permissible limits

According to WBERC (State Electricity Grid Code) Regulations 2007, the capacity of all the transformers in a single sub-station shall normally not exceed 1,000 MVA for 400 KV and 500 MVA for 220 KV level. Audit noticed that as of March 2021, WBSETCL had 37 sub-stations of 400 KV and 220 KV capacities, of which six sub-stations (16.22 *per cent*) had capacities exceeding permissible limits, as follows:

Table 3.5: Sub-stations with installed capacities exceeding State Electricity Grid Code limits

Sl. No.	Sub-station voltage (in KV)	Permissible capacity (in MVA)	Total SS (Nos.)	Non-compliant SS (Nos.)	Non-compliant sub-stations	
					Names	Actual capacity (in MVA)
1)	400	1,000	08 *(Note 1)*	02 (25 *per cent*)	Arambag	1,260
					Jeerat	1,260
2)	220	500	29	04 (13.8 *per cent*)	Gokarna	640
					Howrah	630
					Kasba	620
					Durgapur	600

(1) Including Sagardighi Sub-Station of West Bengal Power Development Corporation Limited, managed by WBSETCL.

[175] *2016-17 : 87.21 per cent, 2017-18 : 74.07 per cent, 2018-19 : 84.03 per cent, 2019-20 : 76.88 per cent and 2020-21 : 59.89 per cent.*

The reasons for creating capacities in excess of permissible limits in these six SSs was not intimated, though called for in audit. Any disruption in these sub-stations, therefore, increased the risk of disturbances in the grid.

Further, analysis of monthly maximum capacity utilisation at these sub-stations from April 2016 to March 2021 (58 months as no readings were available for March and April 2020), showed that three SS had exceeded permissible loading for 'N-1' condition in 11 to 35 months as follows:

Table 3.6: Details of overloading of three Sub-Stations

Sl. No	Particulars	Jeerat 400/220/132 KV	Gokarna 220/132 KV	Durgapur 220/132 KV
1)	Maximum capacity utilisation in 2020-21 (in *per cent*)	73.32	82.71	75.55
2)	Permissible Limit of Transformer capacity (MVA)	1,000	500	500
3)	Installed capacity (in MVA)	1,260	640	600
4)	Nos. of transformers and capacity	Four transformers of 315 MVA each	Four transformers of 160 MVA each	Three transformers of 200 MVA each
	Installed capacity for fulfilling 'N-1' condition (in MVA)	945	480	420
5)	Load observed in excess of 'N-1' condition in 2016-21			
	(i) Maximum (in MVA) (Percentage / Month of occurrence)	1,128.64 (89.57 *per cent*/ July 2016)	692.75 (108.24 *per cent*/ January 2016)	453.32 (75.55 *per cent*/ March 2021)
	(ii) Minimum (in MVA) (Percentage / Month of occurrence)	953.64 (75.69 *per cent*/ May 2018)	490.15 (76.59 *per cent*/ May 2018)	401.75 (66.96 *per cent*/ June 2016)
	(iii) No. of months	23	35	11

This showed lack of planning for capacity utilisation across sub-stations, thereby making the grid susceptible to disruptions.

The Government/ Management in its reply (June 2022) stated that as per para 15.4 of Manual on Transmission Planning Criteria published by CEA sub-stations transformer capacity for 400 KV sub-station shall not normally exceed 2,000 MVA and for 220 KV sub-station capacity shall not exceed 500 MVA and as per the Manual cited above, transformer capacity at Gokarna, Howrah, Kasba and Durgapur was within limit. Further, WBSETCL always explored the possibility of planning a new sub-station instead of adding additional capacity but due to non-availability of suitable land for sub-stations and corridors for transmission lines, capacity augmentation were required on emergency basis to meet load growth.

The Government further stated that loading of transformers at Jeerat and Durgapur have not exceeded its permissible limit. Maximum load of 220/132 KV transformers at Gorkarna was found to be 520 MVA in January 2016 (instead of 692.75 MVA) that was within the permissible limit.

The reply of the Government/ Management was not tenable, since both WBEGC 2007 and Indian Electricity Grid Code 2010 restrict the transformer capacity of 400 KV sub-station to 1,000 MVA only and both Grid Codes are issued by the respective Regulatory Commissions. Further, the load data of sub-stations was taken from data maintained by WBSETCL; discrepancies in the data, needed reconciliation by WBSETCL.

3.9 Tendering for award of projects – Operating procedures thereof

The Report of Task Force on Transmission Projects (August 2005) envisages implementation of transmission projects within an average time frame of 24 months. Accordingly, WBSETCL stated (June 2021) that they adhered to the following steps for implementation of projects -

a. Based on the load centre, suitable sub-station land is finalised either on land available within existing 33 KV sub-station of West Bengal State Electricity Distribution Company Limited (WBSEDCL), vested land or acquired land.

b. After finalisation of sub-station land, Technical and Administrative approval for route survey of associated transmission lines is issued.

c. On completion of route survey, estimates for both sub-station and transmission lines are prepared and placed before competent authority for Technical and Administrative approval.

d. Tender documents are prepared and sent to Procurement Wing for being put to tender after issue of Technical and Administrative approval.

e. Concurrently, investment approval is taken from WBERC and thereafter LoAs are placed on the successful lowest (L1) bidder.

Audit selected 35 projects with aggregate awarded amount of ₹ 2,048.28 crore (46 *per cent*) of aggregate award value, out of 183 transmission projects having total awarded amount of ₹ 4,465.01 crore; through stratified random sampling for detailed examination.

3.9.1 Delays in tendering

The recommended time from technical/administrative approval of a project to issue of notice inviting tender (NIT) is 300 days. Further, according to WBSETCL's Procurement Policy (August 2009), bids should be opened within 45 days from NIT, bid evaluation completed within 45 days of bid opening and order for execution of work placed within 30 days of completion of bid evaluation. In eight projects there were delays of two to 176 days in tendering (from technical approval to award of work). The details of delays in tendering process of selected projects is given in the **Table 3.7** below:

Table 3.7: Details of timelines taken by WBSETCL from technical/ administrative approval to award of work

Sl. No.	Particulars	Permissible days	Actual range for 35 projects	Nos. of projects beyond norms	Days in excess
1)	From technical/ administrative approval to NIT	300	5 – 490	6 (17 *per cent*)	4-190
2)	From NIT to bid opening	45	23 – 127	29 (83 *per cent*)	3-82
3)	Bid opening to evaluation	45	16-377	19 (54 *per cent*)	3-332

Sl. No.	Particulars	Permissible days	Actual range for 35 projects	Nos. of projects beyond norms	Days in excess
4)	Bid evaluation to award of work	30	Same day- 63	6 (17 *per cent*)	3-33
5)	From technical/ administrative approval to award of work	420	125 - 729	9 (26 *per cent*)	2-309

(Source: Compiled from data provided by WBSETCL)

Note: Overall delays from technical/ administrative approval to award of work at Sl.No.5 is not total of Sl.No. 1 to 4.

It may be observed from the **Table 3.7** that delays from approval to issue of NIT occurred in 17 *per cent* of projects, from issue of NIT to opening of bids in 83 *per cent*, completion of bid evaluation in 54 *per cent* and from bid evaluation to placement of order in 17 *per cent* of projects. These delays were attributable, among other reasons, to -

- Intending bidders seeking extension of time by 11 to 55 days to submit bids in eight out of 35 projects (22.86 *per cent*). Further, in three of the eight projects, these bidders had either not submitted bids or had submitted bids and failed to qualify on techno-commercial grounds. One of the reasons for bidders seeking additional time was to visit the site and evaluate the site requirements before submission of tenders.
- Deviations of the offers quoted from tender specifications in 6 out of 35 projects (17.14 *per cent*) leading to delays of 39 to 87 days in evaluation and finalisation of bids. This showed that the tender specifications failed to foresee these possibilities even during the pre-bid meetings with potential bidders.

Thus, pre-bid discussions with potential bidders may require to be more rigorous and structured and WBSETCL needs to review timelines and processes for submission of bids.

The Government/ Management in its reply (June 2022) stated that there were specific formats where the bidders were required to declare that they strictly followed the tender terms, schedule of works, bid documents *etc*, but it was often found that bidders had failed to submit such declarations. The bidders also indicated deviations from the bidding terms. The bidders were asked to withdraw such deviations and this whole process was time consuming. It was further stated that proposals at the prebid discussions were assessed and discussed by WBSETCL for achieving good quality of work.

The reply of the Government/ Management while highlighting the problem was generic in nature. Moreover, the reply was also silent about reasons for not adhering to recommendations of the Task Force.

3.9.2 Award of works to financially unsound contractors

WBSETCL's standard tender documents for each project/ package have the same three financial criteria for eligible bidders, all based on value of the tender (NIT). These criteria are -

i. average annual turnover[176] only from business activities over the past three years of each bidder is to be one and a half times of NIT value, spread over the scheduled time for execution,

ii. net worth to be 25 *per cent* of NIT value, and

iii. bid security at 2.5 *per cent* of NIT value. However, these criteria did not consider the existing order book position of the bidders or even the numbers of projects of WBSETCL under execution by the bidders.

Audit noticed that in respect of eight projects having aggregate value of ₹ 594.85 crore, WBSETCL had selected two financially unsound bidders *i.e.* M/S Jyoti Structurals Limited (JSL)[177] and M/S EMC Limited (EMC)[178] leading to cancellation of contracts due to poor progress of work as follows-

A. National Electricity Policy, 2005 requires that while planning new generation capacities, requirement of associated transmission capacity would need to be worked out simultaneously in order to avoid mismatch between generation capacity and transmission facilities. Moreover, WBERC (Terms and conditions of Tariff) Regulations 2011 requires that a generating station declare commissioning of a new unit within 90 days of synchronisation with the grid.

New generating capacities *viz.* Units III and IV (500 MW each) of Sagardighi Thermal Power Generating Station (SgTPS) were scheduled for commissioning in February and May 2015, respectively. The generation of these two units was proposed to be evacuated by WBSETCL through a new transmission line, namely, Sagardighi TPS –Gokarna 400 KV D/C transmission line. Since, scheduled commissioning was in February 2015, the transmission lines were required to be ready by November 2014. However, WBSETCL had scheduled completion of this line only in 2015-16. This indicates that WBSETCL had not planned for construction of the transmission line sufficiently in advance of scheduled commissioning.

It was noticed that WBSETCL had awarded (July 2013) work for construction of line to M/S Jyoti Structures Limited (JSL) with scheduled completion by July 2015.Similarly, WBSETCL awarded (September 2014) work for construction of New Chanditala -Gokarna 400 KV D/C line on JSL, with scheduled completion by January 2017.However, JSL failed to complete the projects within schedule and WBSETCL granted seven successive time extensions for both projects. Finally, in July 2017, JSL entered insolvency proceedings, initiated by State Bank of India. Meanwhile, Units 3 and 4 of SgTPS were commissioned in July 2016 and December 2016 against schedule of February and May 2015, respectively. WBSETCL cancelled the contracts with JSL only in January 2019 and November 2018, after the lapse of 43 months and 23 months, respectively, from scheduled date of completion.

WBSETCL awarded (July 2019) balance works for both lines to M/S Larsen and Toubro Limited (L&T), at an additional expenditure of ₹ 98.83 crore above

[176] *If NIT value is ₹ 150 crore and completion time is 24 months, then minimum annual turnover of bidder should be ₹ 112.50 crore.*

[177] *Two packages for one line each in July 2013 and September 2014 having aggregate LOA value of ₹ 438.12 crore.*

[178] *Two packages for five lines and one sub-station in August 2015 and May 2018 having aggregate LOA value of ₹ 156.73 crore.*

the original cost (₹438.12 crore). L&T completed Sagadighi-Gokarna line in October 2020, while New Chanditala- Gokarna line is still under construction (February 2022). Consequently, WBSETCL had to delay commissioning of the matching transmission line from Sagardighi to Gokarna required for both units by around four years. As a result, from July/ December 2016 to October 2020, existing transmission lines were overloaded, thereby affecting stability of intra-state transmission system. Only after commissioning of Sagardighi-Gokarna 400 KV Double Circuit Line, had the intra-state transmission system become stable in all respects.

Audit observed from the minutes of the tender committee that prior to awarding the projects, WBSETCL was aware (May 2013) that JSL had failed to satisfactorily execute projects awarded to them by WBSEDCL by March 2012 and their performances were shockingly unsatisfactory in all activities; WBSEDCL was also considering taking penal action against JSL on their failure in performing contracts. Yet, WBSETCL awarded both projects to JSL.

WBSETCL encashed (December 2018/ February 2019) six bank guarantees from JSL aggregating to ₹ 63.90 crore for non-performance of contracts. In addition, it withheld ₹ 37.56 crore against retention money (₹ 32.47 crore) and outstanding running bills of JSL (₹ 5.09 crore). However, WBSETCL could not adjust mobilisation advances of ₹ 18.44 crore.

WBSETCL replied (June 2021) that LOA's for both lines were awarded to JSL, but JSL could not complete the projects and balance works were awarded to L&T. Moreover, contract termination was delayed as limited vendors were available to execute 400 KV Quad-Moose type of line. Further, WBSECTCL anticipated that JSL would complete left over work earlier than time required to terminate the contract, identify alternative suitable vendor to complete balance work, place order on new vendor and also time required by the new vendor to complete balance work. In addition, resolving right of way (RoW) disputes would be a problem as requisite documents regarding RoW payment would not be available to a new vendor.

The reply is not acceptable since WBSETCL was aware of JSL's poor record in execution of projects, even before awarding the work to them. Moreover, JSL entered insolvency proceedings in July 2017 and cancelling contracts in January 2019 and November 2018 after delays of 18 months and 16 months, respectively, was not justified.

B. WBSETCL awarded (August 2015/ May 2018) construction of five[179] transmission lines and 132/33 KV GIS at Ramnagar on M/S EMC Limited (EMC). While the lines were scheduled to be completed between February 2016 and February 2017, the GIS was to be completed by November 2019. The aggregate LOA value of these six projects was ₹ 156.73 crore. In respect of GIS, WBSETCL issued (December 2018) 'notice of default' on EMC due to its poor performance and terminated the contract (January 2019).

[179] *Subhasgram-Sonakhali 132 KV D/C line, Kharagpur – Burdwan 132 KV D/C line as well as Ukhra-SonpurBazari 132 KV D/C line by February 2017, Kharagpur – Kshiary 132 KV D/C line by August 2016 and Domjur – Uluberia 132 KV D/C line by February 2016.*

Audit noticed that –

i. An operational creditor[180] registered insolvency proceedings against EMC before National Company Law Tribunal (NCLT) in January 2018. Moreover, despite apprehensions (March 2018) about financial capability of EMC, WBSETCL placed LoA for GIS on EMC. Subsequently, NCLT declared EMC insolvent in November 2018 *i.e.* within six months of LoA in May 2018. Eventually, due to lack of performance on the part of the contractor, the contract was terminated.

ii. WBSETCL issued (July 2019) fresh LOA on M/S GET&D India Ltd. for construction of GIS at a cost of ₹ 29.63 crore, *i.e*., ₹ 4.51 crore above value of LOA awarded to EMC.

iii. Of the five lines scheduled to have been completed by February 2017, TOC was pending in respect of two, while work on the remaining lines was still in progress (February 2022).

WBSETCL should not have awarded construction of SS in May 2018, when insolvency proceedings were initiated against EMC in January 2018. Moreover, WBSETCL had not included in evaluation criteria, parameters such as (a) value of ongoing works awarded by WBSETCL to a bidder and previous performance of the bidder, and (b) cash generated from operations by the bidder to assess the continued financial health of the entity. Therefore, financial criteria prescribed by WBSETCL were not adequate to safeguard their financial interest.

As a result, eight projects awarded to JSL and EMC were delayed by periods ranging from 23 to 63 months. Further, in respect of three of these eight projects, WBSETCL incurred additional expenditure of ₹ 103.34 crore for completion of the works.

The Government/ Management in its reply (June 2022), stated that in case of both EMC and Jyoti, all tendering procedures and evaluation procedures were carried out as per Procurement Policy and adhering to Tender norms.

The reply is not tenable, as WBSETCL was aware of the poor performance of JSL on projects awarded by WBSEDCL and should have not considered them for a major project. Moreover, it should have monitored the financial health of EMC, an existing contractor, that was under liquidation proceedings, information for which was available in the public domain. Moreover, unsatisfactory performance of EMC with respect of LoA for five lines issued in August 2015 had not been considered when awarding the subsequent works of GIS. Due to their financial weakness, the bidders failed to complete works, resulting in time and cost overrun, and lack of stability in the intra-state transmission system. Thus, the financial criteria prescribed in the SBD proved inadequate to evaluate the financial strength of bidders.

3.10 Project execution

WBSETCL schedules construction/ augmentation of sub-stations/ transmission lines based on the rolling and annual plans drawn and approved by the BoD. WBSETCL executed 183 projects between 2015-16 and 2019-20, including 36 ongoing projects as of April 2015, of which 118 projects (64 *per cent*) were

[180] *According to Section 5(20) of the Insolvency and Bankruptcy Code 2016, an operational creditor is "any person to whom an operational debt is owed and includes any person to whom such debt has been legally assigned or transferred".*

completed and taken over within March 2021. Of the remaining projects, five projects were yet to be taken over, another five were closed/ terminated, while rest were ongoing as of 31 March 2021, with the earliest having been taken up in May 2013. Audit selected 35 projects with aggregate awarded amount of ₹ 2,048.28 crore (46 *per cent*) of aggregate award value, out of 183 transmission projects having total awarded amount of ₹ 4,465.01 crore; through stratified random sampling for detailed examination. The observations are as detailed under.

3.10.1 Delays in Execution

Out of 35 selected projects, one project was completed within schedule, while four were either closed or terminated. In respect of 33 (including two re-awarded works) out of 35 projects, delays were broadly due to one or more of the following reasons as mentioned in the **Table 3.8** below:

Table 3.8:Reasons for delays in execution of projects by WBSETCL

	Reasons	No. of projects	Range of delays (Days)	Examples of delays
1)	Belated supply of equipment	4	42- 684	Delays in supply of transformers, accessories and oil filtration of transformers.
2)	Changes in civil work	2	138-520	Check survey by contractor held up due to change of scope and additional works.
3)	Changes in drawings and design	8	59-280	Delays in providing input design for transformers, determining numbers of towers to be installed and ruling (design) span.
4)	Land issues and site clearance	6	51-270	Belated handing over of site, shifting existing line and demolition of building.
5)	Right of Way[181] (ROW)	15	10-617	Hindrance in foundation and erection of tower and belated approvals for railway/ road crossings of lines/ cables.
6)	Modification in scope of work	4	84-328	Section of transmission corridor re-surveyed and modified, revision in route due to site conditions.
7)	Others	11	30-601	Underground section of line not taken as overhead section was not completed, work held up due to rains/ flooding, judicial order for status quo on construction.

The aggregate delay in respect of these projects was 20,901 days, of which 4,866 days (23.28 *per cent*) were attributable solely to WBSETCL. Till March 2021, these delays led to cost overrun of ₹ 62.31 crore in 12 projects ***(Appendix 40)***.

Some of the reasons for delay as noticed in audit could have been obviated as under -

a) The Task Force on Transmission Projects recommended (August 2005) standardising designs of tower fabrication and uploading the drawings on to website to save time of 6 to 12 months or more in project execution.

[181] *Right of Way (RoW) is the strip of land immediately below and adjacent to a transmission line, whose width is determined according to safety considerations.*

WBSETCL stated (May 2021) that they uploaded some standard drawings and specifications in their website.

It was seen from WBSETCL's website that they had shared drawings for structures/ equipment support structures, but had not standardised designs of tower fabrication. Consequently, there were delays in finalising of design and drawings in 8 out of 22 line projects, *i.e.*, 36.36 *per cent*.

b) The Task Force on Transmission Projects recommended (August 2005) undertaking preparatory activities like surveys in advance/ parallel to project appraisal and approval to proceed with construction on receipt of approval. In respect of 12 out of 22 transmission lines, due to time lag of 256 to 1,442 days between technical approval for surveys and issue of LoA for actual project execution, new and additional structures came across their proposed route length. This resulted in higher resistance in obtaining RoW and necessitated working out route realignments.

The Government/ Management in their reply stated (June 2022) that WBSETCL possessed ready bank of drawings and design and uploaded general abstract drawings in tender document; working agencies also promptly submit these drawings and get approval. However, design and drawing of foundation tower and/or sub-station structure varies as it depends on soil condition and working areas, it is done based on availability of report of soil of each project. During execution period, check survey realignment of route at some stretches and adoption of different or special types of tower beyond original scope of work was normally required due to ROW issues.

The Government/ Management added that transmission line projects require approval of different authorities concerned for right of way and all these approvals require time which greatly contribute to delay in completion of lines. Delays in supply of transformers by manufacturers/ suppliers due to various reasons despite timely order and planning contributes in overall delay in project completion. The Management further assured that continuous efforts and actions are underway to arrest, avoid and minimise the delay.

Reply of the Government/ Management was not tenable as there were many factors intrinsic to WBSETCL's functioning which led to delays, such as delays in approval of design/ drawings, changes in scope of civil works, belated handing over of sites to contractors, *etc*. Moreover, in the Exit Conference, the Government added that operationalising the ROW being proposed would significantly reduce project delays.

Due to delays in completion of projects, WBSETCL faced constraints in meeting the demand for electricity of WBSEDCL in a few areas. These were expected to be mitigated only after commissioning of ongoing transmission systems.

3.10.2 Impact of premature closure of contract

WBSETCL decided (February/ July 2015) to construct 220/132 KV sub-station (SS) at New Town AA II C along with hybrid[182] 220 KV D/C line from Power Grid Corporation of India Limited (PGCIL) at Rajarhat to New Town AA II C SS at an aggregate estimated cost of ₹ 192.60 crore. The total length

[182] *Combination of overhead and underground transmission lines.*

of transmission line was about 15.8 Km comprising of 14 Km overhead line and 1.8 Km underground line. WBSETCL split the work into three components viz. overhead line, underground line and sub-station. The components were put to tender between August 2015 to March 2016; with works awarded to three[183] different contractors from February to September 2016.

WBSETCL issued (February 2016) letter of award (LoA) on M/S KEC International Limited (KIL) for construction of overhead transmission line (14 km) to be completed by August 2017 at a price of ₹ 23.71 crore. Similarly, WBSETCL placed (August 2016) order on M/S KEI Industries Limited for underground transmission line (1.8 Km), at a cost of ₹ 20.09 crore with completion by April 2017.

It was noticed that in respect of contracts for both components –

a) There was limited progress on both components of work till March 2017, with only 0.7 Km of overhead line completed (₹ 4.29 crore). However, WBSETCL had, enhanced (March 2017) LoA value on M/S KEC to ₹ 24.94 crore due to additional items of works like supply of two additional superstructures, rise in cost of check survey and final peg marking, design/ construction of wet-type/ fully submerged type tower foundations, *etc*.

b) Due to 'Right of Way' (RoW) problems in Bhangar area, further overhead line was not drawn till November 2018. Therefore, WBSETCL decided (December 2018) to partly substitute overhead transmission conductor[184] with underground cable of 2.6 Km, from Rajarhat 400 KV SS to composite tower at PGCIL end. Accordingly, through mutual discussion, WBSETCL amended (December 2018) the LoA on M/S KEC and enhanced LoA value to ₹ 53.82 crore. This increase was mainly due to supply of 16 km length underground conductor.[185] But, while determining the enhanced LoA value, WBSETCL had not deducted value of overhead line (₹ 4.40 crore approximately for 2.6 Km) substituted by underground line.

c) Till October 2019, overall financial progress was 72.86 *per cent* against supply and 21.14 *per cent* for erection. The significant mismatch between supply and erection means that WBSETCL had not ensured that M/S KEC maintained parity between supply and actual utilisation. In view of poor progress of work 27 months beyond scheduled completion due to right of way issues, WBSETCL and M/S KEC agreed (September 2019) to close this contract on 'as is where is basis' under the terms of contract, without any financial implication on either side.

d) Till October 2019, WBSETCL incurred aggregate expenditure of ₹ 32.51 crore on overhead line (₹ 7.69 crore for 0.7 Km) and underground line (₹ 24.82 crore for 2.60 Km). However, WBSETCL intimated (January 2020) to WBERC that they had incurred expenditure of ₹ 4.29 crore on 0.7 km of overhead line*i.e.* expenditure of ₹ 3.40 crore was not identifiable.

183 *Overhead line : M/S KEC International Limited (August 2015/ February 2016), underground line : M/S KEI Industries Limited (February 2016/ August 2016), sub-station : M/S SPML Infra Limited (March 2016/ September 2016).*

184 *Cable made of Aluminum conductor Steel reinforced.*

185 *Cable made of copper-core cross linked polyethelene.*

Ultimately, WBSETCL decided (November 2019) to complete remaining length (around 8.9 Km) of underground line and issued NIT in July 2020. WBSETCL awarded (January 2021) balance work at ₹ 115.20 crore to M/S KEC, with scheduled completion by January 2022. The work is still ongoing (February 2022).

The Government/ Management in its reply (June 2022) stated M/s KEC was allotted the job at the rate quoted by M/s KEI. Although M/s KEC was initially unwilling to execute the work at such old rate, they agreed as a good gesture. Afterwards, entire balance work having route length of nine km was decided to be executed through underground cable line only. Tender was invited in July 2020 and the cost increased compared to originally planned overhead line which was awarded in February 2016.

The reply was however, was silent on the issue of non-achievement of anticipated benefits of the SS and line within time as pointed out in audit. Consequently, the transmission system remained incomplete till March 2021 even after expenditure of ₹ 79.24 crore and the anticipated benefits from the projects had not materialised. Moreover, the cost of transmission line (both UG and Overhead components) rose from ₹ 43.80 crore to ₹ 147.71 crore.

3.10.3 Time lags between commissioning of sub-stations and associated lines

The main aim in constructing a new sub-station is to ensure quality and reliability of power supplied and improve voltage profile in the command area concerned. Further, associated transmission lines from and to the SS are required, thereby constituting transmission system for the command area. Hence, SSs and associated lines are dependent on each other and cannot function in isolation. As per DPRs, WBSETCL proposed construction of new sub-stations and associated lines to make the transmission system effective.

WBSETCL issued (August 2015) LoA on Larsen and Toubro Limited (L&T) for construction of 132 KV line[186] from Gokarna 220 KV SS to proposed Bhadrapur 132 KV GIS with scheduled completion in August 2016. Subsequently, WBSETCL awarded (August 2016) LoA for construction of 132 KV GIS at Bhadrapur to M/S Sterling & Wilson Limited, with scheduled completion in February 2018. It was seen that the line was completed in September 2017, *i.e.*, 12 months beyond scheduled completion of September 2016, at a cost of ₹ 13.34 crore and charged in March 2018. But, GIS was completed (August 2018) at a cost of ₹ 21.69 crore, after delay of six months.

Since WBSETCL had not synchronised construction of GIS and line, line was belatedly put to use only from August 2018. This led to blocking of ₹ 13.34 crore for 11 months and forgoing of anticipated financial benefit of ₹ 1.44 crore to WBSETCL from this line.

WBSETCL stated (June 2021) that tenders for lines were being invited first and after observing progress of lines, tenders for SSs were being invited, as instances had been observed where SSs could not be charged after completion for want of associated transmission lines.

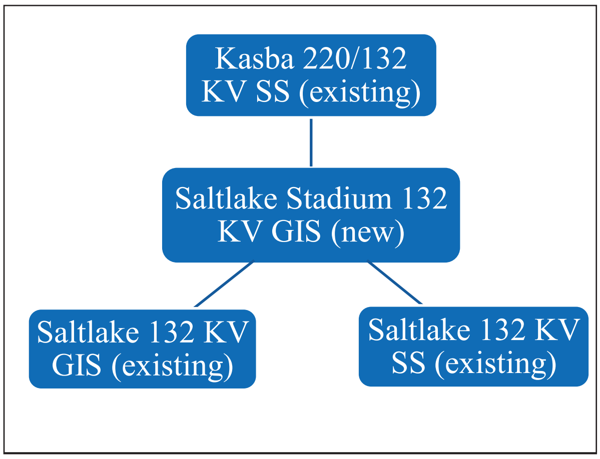
[186] *Using existing 132 KV D/C Gokarna – Raghunathganj line.*

WBSETCL was, however, silent about reasons for delays in completion of sub-stations. The transmission system could not be put to use due to delays and non-synchronisation of the components of the transmission system.

Moreover, similar mismatch in commissioning of SS and associated lines were observed in another three instances, as a result of which anticipated improvements in the transmission systems had not materialised. These instances are mentioned in brief below:

a) Minakhan 132/33 KV GIS in North 24 Parganas was completed at a cost of ₹ 20.88 crore in May 2021 against scheduled completion in August 2019. But, GIS could not be put to use due to non-completion of associated 132 KV D/C line from Subhasgram SS till February 2022, against scheduled completion in April 2020. As a result, for a period of nine months from June 2021 to February 2022, WBSETCL had forgone total anticipated benefit of ₹ 1.74 crore[187] from Minakhan GIS.

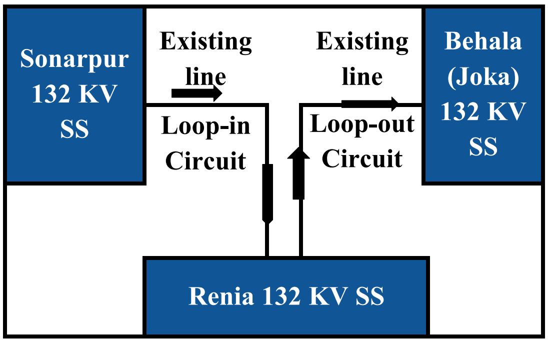
b) In the Salt Lake area, there were two substations, namely, Salt Lake 132 KV GIS and Salt Lake 132 KV SS. With view to split their load and enhance reliability of power at Salt Lake, WBSETCL decided (July 2017) to construct Salt Lake Stadium 132 KV GIS (SLSGIS) with power sourced from 220/132 KV Kasba SS through 132 KVD/C UG line. Further, two 132 KV S/C UG lines to transmit power from SLSGIS to Salt Lake 132 KV GIS and SLSGIS to Salt Lake 132 KV SS, were also planned. The SLSGIS was completed in September 2020 (scheduled completion – May 2018). While 132 KV UG line from Salt Lake 132 KV SS was belatedly completed in February 2020 (scheduled completion- March 2019), the remaining two lines from Kasba SS to SLS-GIS and SLS-GIS to Salt Lake GIS were either not commissioned or still under construction[188] (February 2022). Consequently, SLSGIS had to be commissioned by drawing power from Salt Lake 132 KV SS through 132 KV S/C UG, instead of Kasba 220/ 132 KV SS, thereby failing to enhance reliability of power at both Salt Lake 132 KV GIS and Salt Lake 132 KV SS. Besides, 132 KV S/C line from SLSGIS to Salt Lake 132 KV GIS, completed at a cost of ₹ 13.99 crore, was not commissioned as the required line bay at Salt Lake 132 KV GIS was not completed (February 2022). The reasons for delays were not on record, since the projects are not yet closed. Hence, WBSETCL had to forgo anticipated benefit of 132 KV UG line from Salt Lake SS to SLSGIS (cost : ₹ 13.99 crore) for 24 months from March 2020 to February 2022, which is calculated at ₹ 3.45 crore.



[187] *Based on the financial internal rate of return (FIRR) of 11.14 percent projected in DPR.*

[188] *Scheduled completion was March and June 2019.*

c) WBSETCL proposed (July 2017) construction of 132 KV GIS at Reniaand associated Double-circuit Loop-in Loop-out[189] of existing 132 KV Kasba-Sonarpur - Behala line to improve voltage profile by 5.47 to 11.15 *per cent* at Renia and its command area of Tollygunj, Garia, Sonarpur and Behala/ Joka. Neither the Sub Station nor the transmission line were completed within the time schedule of November and August 2019, respectively. WBSETCL attributed (June 2021) non-completion of Sub Station and the transmission line to poor performance of the vendor and ROW problems, respectively.



The Government/ Management in its reply (June 2022) stated that Bhadrapur 132 KV GUS was delayed due to delay in supply of 50 MVA transformers. Minakhan 132 KV substation, could not be charged at rated voltage due to non-completion of incoming transmission line of which two tower foundations were held up due to court cases and efforts were undergoing to resolve the court cases and complete the line at the earliest. As of May 2022, UG cable line from Salt Lake Stadium 132 KV GIS substation to Salt Lake 132 KV GIS could not be commissioned due to non-readiness of GIS bay. Construction of D/C LILO of existing 132 KV Kasba-Sonarpur-Behala transmission line at proposed Renia 132 KV GIS has been completed. However, it will be charged while commissioning of Renia 132 KV GIS.

The Government/ Management, in its reply, stated the present status of the projects. However, it did not address the reasons for mismatch in scheduling construction of substations and associated lines. Hence, the possibility of constraints in supply of reliable power in the command areas, due to non-commissioning of these projects, cannot be ruled out.

Thus, mismatch in completion of SS and associated lines in three transmission systems[190] had led to blocking of expenditure of ₹ 48.21 crore.[191] Based on the financial internal rate of return (FIRR) projected in DPRs, WBSETCL had forgone aggregate anticipated benefits of ₹ 5.19 crore on the completed one SS and two transmission lines.[192]

3.10.4 Line bays'specifications at Sagardighi SS incompatible with transmission lines

In **Paragraph 3.9.2,** it was observed that WBSETCL decided to construct 400 KV SS at Gokarna along with 400 KV Double Circuit (D/C) transmission line from Sagardighi SS to Gokarna to evacuate power from the new Units (Nos. III and IV) of Sagardighi TPS of West Bengal Power Development Corporation Limited (WBPDCL). Accordingly, WBSETCL obtained investment

[189] *Two circuits are drawn to feed a substation by tapping into an existing transmission line with the circuits doubling back and to connectwith the existing line.*

[190] *Bhadarpur, Minakhan, Salt Lake.*

[191] *(₹ 13.34 crore+₹ 20.88 crore+₹ 13.99 crore).*

[192] *Minakhan GIS, 132 KV line from Gokarna to Bhadrapur and 132 KV line from Salt Lake SS to SLSGIS.*

approval from WBERC in February 2009 and awarded three[193] LoAs for the work between July 2013 and July 2019.

The new units of WBPDCL, including two 400 KV bays, were constructed by their vendor (M/S Bharat Heavy Electricals Limited - BHEL). These bays are interconnection points between SS and lines. Hence, specifications of equipment installed in bays are required to be compatible with transmission line specifications. It was noticed that -

- Whereas WBPDCL had placed LoA for two generating units including two line bays on M/S BHEL in February 2011; WBSETCL had finalised specifications of Sagardighi-Gokarna 400 KV D/C line in September 2012 and issued NIT in January 2013. But, WBSETCL had belatedly shared specifications with WBPDCL in September 2014, *i.e.*, 21 months after NIT and more than three from LoA on M/S BHEL. As a result, on completion of both bays, WBSETCL observed (April 2015) that the bay specifications were incompatible with the line specifications. The incompatibility in specifications of lines and bays required replacement of equipment in the line bays by WBPDCL at cost of ₹ 48.77 lakh, which was avoidable.

The Government/ Management in their reply stated (June 2022) that the mismatch of conductor and equipment of the two bays happened at WBPDCL's end and the same was not dependent upon WBSETCL. However, the lower rated Jack Bus conductor and lower rated equipment were replaced by WBPDCL at their cost, without any cost implication to WBSETCL. It further replied that the additional expenditure was very small compared to project cost and the lower rated conductor and the equipment must have been utilised by WBPDCL in their other jobs, which have resulted in savings of cost and that being accounted, the additional assessed cost of ₹ 48.77 lakh will effectively be reduced.

The reply of Management, however, did not address the aspect of lack of co-ordination between two PSUs (*viz.* WBPDCL and WBSETCL) under the same administrative Department of the Government (*i.e.* Department of Power, GoWB).

3.10.5 Post-dated issue of Taking over Certificate (TOC)

General Conditions of Contract (GCC) 29 and 29.3 on "Taking Over" of projects, *inter alia*, provides that WBSETCL shall take over works after completion, either in full or in part, upon successful erection, testing and commissioning of works at site by contractor as per contractual terms. Further, WBSETCL will issue ToC (Taking over certificate) to the contractor mentioning the dates on which the works or any part thereof were complete and ready for taking over, after ascertaining that -

- Works have been satisfactorily completed by the contractor as per contractual provisions.
- Required numbers of approved as-built drawings (hard copies & soft copy in CDs) were submitted *etc*. These drawings are required to be in a format from which additional copies can be subsequently reproduced.

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[193] *M/S Alstom (T&D) India Limited for Gokarna 400 KV SS (November 2013), M/S Jyoti Structures Limited for 400 KV D/C line with 'Quad Moose' conductor (July 2013) and M/S Larsen and Toubro Limited for unexecuted length of line (July 2019).*

- Work site is cleared of all surplus materials, scaffolding, shuttering materials, labour huts/ sheds, buildings cleaned of dirt/ debris, sanitary arrangements *etc.* except those required for carrying out rectification works.
- All the defects have been rectified to the complete satisfaction of the Project Manager.

Audit observed that in respect of eight (40 *per cent*) out of twenty completed projects (Transmission Lines: 13, Sub-Stations: 7) examined in audit –

- ToCs were issued (September 2016 to December 2020) to contractors even before completion of entire work under contracts. WBSETCL stated (June 2021) that ToCs were issued when negligible amount of work was left.
- In all eight projects, WBSETCL issued ToC, although ancillary works such as dismantling of towers, stringing of conductors, commissioning of optical ground wire/ outgoing feeders, submission of 'as built' drawings/documents in requisite numbers of copies, final joint checking of lines, *etc* were not completed which were in violation of GCC. The dates when works, pending during ToC, were finally completed was not on record.
- These ToCs were issued on a subsequent date but made effective retrospectively by 12 to 409 days prior to their issue, as detailed in ***Appendix 41***. Since dates of completion of projects were reckoned retrospectively, LD was also determined from those notional completion dates. Hence, contractors were not penalised for delays in completion of projects beyond their notional completion dates. This has led to short/ non-imposition of LD of ₹ 19.14 crore on these projects. There was, however, no provision in the GCC for WBSETCL to issue ToC from a notional completion date with retrospective effect, thereby allowing undue favour to contractors.

The Government/ Management in their reply (June 2022) stated that issue of TOC on the actual date of energisation, in such conditions of delay in completion of pending jobs of minor nature without effecting the desired performance of the charged elements, have been done as per stipulation of GCC clause no. 30.5 and obviously not to allow undue favour to the contractors. Further, it replied that the charged installations put into operation on the date of commissioning, never gets affected for these pending jobs and continues to operate and perform in the desired manner. Moreover, TOCs have been issued as per provision of contractual stipulation.

The reply was not tenable, as the ToC was issued with retrospective effect, although ancillary work, like dismantling of towers, stringing of conductors, commissioning of optical ground wire/ outgoing feeders *etc*., was pending. This was contrary to the general conditions of contract.

3.11 Operations and monitoring

Performance of an STU depends on efficient maintenance of its transmission systems for supply of quality power with minimum interruptions. In the course of operation of SS and lines, the supply-demand profile within the constituent sub-systems is identified and interventions[194] such as, undertaken to reduce line losses and ensure reliability of power by improving voltage profile. Operational Performance of WBSETCL with regard to operations and maintenance of the system is discussed in the succeeding paragraphs.

3.11.1 Deviations from prescribed voltage criteria

Voltage stability is important for power quality, equipment safety and grid stability. According to WBERC's Grid Code 2007, voltages to be maintained for 400 KV, 220 KV, 132 KV and 66 KV transmission systems are to be restricted to 380-420 KV, 209-231 KV, 119-145 KV and 59-73 KV, respectively. The Code also requires providing special attention to planning of volt-ampere reactive (VAR) energy compensation in the network so that voltage instability does not occur and lines can transfer designed power within designed operating voltage range. Also, voltages at the same location vary with the time/ day/week/ month/year and indicate reactive power balance locally. During 2016-17 to 2020-21, deviations from the norms occurred on 1,755 instances as given in the **Table 3.9** below:

Table 3.9 : Number of instances of transmission voltage deviating from WBERC norms

Voltage Class	400 KV		220 KV		132 KV		66 KV		Total
Permissible range	380 to 420 KV		209 to 231 KV		119 to 145 KV		59 to 73 KV		
Years	Below permissible range	Beyond permissible range	Below permissible range	Beyond permissible range	Below permissible range	Beyond permissible range	Below permissible range	Beyond permissible range	
2016-17	Nil	181	Nil	10	1	56	Nil	98	346
2017-18	Nil	291	5	2	Nil	21	Nil	51	370
2018-19	Nil	243	12	1	3	15	Nil	26	300
2019-20	Nil	219	14	Nil	Nil	8	Nil	14	255
2020-21	Nil	244	23	26	30	141	Nil	20	484
Total	**Nil**	**1,178**	**54**	**39**	**34**	**241**	**Nil**	**209**	**1,755**

(Source: Records of WBSETCL)

It would be seen from the table that between 2016-17 and 2020-21, the numbers of instances of voltage deviations ranged from a minimum of 255 (2019-20) to maximum of 484 (2020-21), without any discernable trend. Further, in 1,667 instances, voltages were beyond permissible range. Analysis of these voltage fluctuations over the five years according to their months of incidence showed that 18.36 *per cent* occurred in May. In addition, 29.15 *per cent* of the instances of voltage fluctuations occurred during the three months from November to January. In this connection, Audit noticed that-

a) According to Power System Operation Corporation Limited (PoSOCo) (March 2021/ June 2021), reliable operation of electricity grid requires proper voltage control measures and management of reactive power

[194] *Complete network metering, installing reactive power support like static shunt compensation and dynamic reactive power compensators such as capacitor banks, fixed shunt devices, switched shunt devices, static synchronous compensators, static Volt Ampere Reactive compensators, etc.*

flows therein. Management of reactive power is challenging given the seasonal variations in demand. Consequently, load factor[195] is an important consideration in the selection of type of transmission capacities for the system. Further, for minimising of operational risks, system operators need to refer to historical trends of load factor. In West Bengal, lowest load factor was observed in November and December.

b) During April 2016 to March 2021, the aggregate annual outages in WBSETCL's system worked out to 5,302. It was seen that there was positive correlation of 27.51 *per cent*[196] between month-wise counts of outages and incidence of overloading of lines.

These indicated that voltage fluctuations were tied to seasonality in load factor and increase in instances of excessive loading of lines led to additional outages in the system. Consequently, capacity of WBSETCL's system to maintain prescribed voltage was not aligned to deal with seasonality in load factor by installing reactive power support as required under the Grid Code.

The Government / Management in their reply (June 2022) stated that voltage regulation for 400 KV, 220 KV and 132 KV systems were being monitored and controlled from SLDC and Operations and Maintenance (O&M) Wing. SS follows SLDC's instruction and change bus voltage in 400 KV, 220 KV and 132 KV systems, as directed by SLDC.

Voltage in 66 KV and below are being controlled from EHT Sub-station, by transformer Tap Changing Operation and so the voltage is never below permissible range for 66KV and 33KV system, but generally kept above the permissible range for low voltage problem at remote SS of DCL.

However, WBSETCL is going to install five 125 MVAR Bus Reactors in five 400KV sub-stations viz. Kharagpur 400 KV, Durgapur 400 KV, New Chanditala 400 KV, Gorkarna 400 KV and New PPSP 400 KV Sub Station for reactive power compensation, as well as voltage management. Also, WBSETCL is going to install 33 KV, 670 MVAR, Capacitor Bank in 39 numbers 132 KV SS, for reactive power compensation, as well as voltage management.

The above reply, however, does not address the steps taken for reactive power compensation for 220 KV substation. Moreover, PoSOCo observed (March 2021) that reactive power support by grid operators, *viz.* WBSETCL, is important for voltage stability, efficiency of transmission network, power quality, equipment safety and above all, the grid stability and continuity of power. Consequently, static reactive power sources like bus reactors, line reactors, capacitor banks *etc*. were required to have been installed by WBSETCL for reactive power management. In addition, generating stations have dynamic reactive power sources like synchronous condenser to control reactive power. Thus, WBSETCL cannot abdicate responsibility for deviation from voltage norms.

Hence, maintaining voltages within permissible limits and avoiding frequent outages/opening of lines under over-voltages requires planning and installing

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[195] *Ratio of average load to peak load in a given time period.*

[196] *Determined for the five years from 2016-21, by calculating relationship between monthly percentage of instances of outages compared to corresponding percentage for overloading of lines in EXCEL.*

reactive power support like static shunt compensation and dynamic reactive power compensators such as fixed shunt devices, switched shunt devices, static synchronous compensators, static VAR compensators, battery energy storage systems *etc.* locally.

3.11.2 Inadequate Maintenance

Live-line working or hotline maintenance involves maintenance, repair or replacement activity carried out on a live and operational line or switchyard apparatus using approved techniques and equipment. To obviate necessity to shut down electrical systems for maintenance services, it is mandatory to develop safe and practical techniques that would allow continuous electrical power supply, thereby reducing the risks and minimising the costs for the transmission and distribution companies.

The Government of India, Ministry of Power, constituted (November 2001) a Committee for updating best practices in Transmission System in the country. The Committee observed (January 2002) that Power Grid Corporation of India Limited (PGCIL) employed live line testing and maintenance techniques for transmission lines and sub-stations to avoid system outage. In addition to scheduled patrolling of lines, the Committee prescribed the following techniques for maintenance of lines -

- Hot line maintenance
- Hot line washing
- Hot line puncture detection of insulators.
- Preventive maintenance by using portable earthing hot line tools.
- Vibration measurement of the line.
- Thermo-scanning.
- Pollution measurement of the equipment.

Accordingly, the Committee recommended utilising the training facilities at Hot Line Training Centre of CEA at Bangalore. WBSETCL, however, did not utilise the facilities to update and equip itself with hot line monitoring and maintenance. As a result, WBSETCL did not have any hot line division, sub-division or manpower trained in hot line maintenance till March 2021. Consequently, WBSETCL had to resort to shut down for maintenance. Adoption of shutdown maintenance increases chances of breakdown and leads to sub-optimal use of manpower and resources.

WBSETCL confirmed (March 2021) they had no hot line maintenance, but did not mention any reasons for not adopting hot line maintenance.

The Government/ Management in its reply (June 2022) stated that WBSETCL system had a vast network of EHT transmission lines and grid substations with adequate flexibility and ample redundancy. WBSETCL had flexibility to avail shutdown for preventive maintenance of lines & SSs.

However, some hot link maintenance like hot line Puncture Detection of Insulators (PID), Partial Discharge test and Thermo vision scanning is being done in live lines as per requirement, to pinpoint the probable fault locations for their rectification. In addition, thermo vision scanning, partial discharge tests *etc*., regularly carried out for Switchyard equipment and Third Harmonic Measurements of Lighting Arrestors, were also done periodically.

Moreover, under the present scenario, WBSETCL has no requirement for further infrastructure for hot line maintenance, as it was not cost-effective for the system, having adequate flexibility to avail shutdowns.

The reply of the Government/ Management was, however, not supported by an appropriate cost benefit analysis. Further, the reply was silent on the reasons for non-adherence to the recommendations of the Committee for updating best practices in the Transmission System in the country.

3.11.3 Metering, accounting and auditing of energy

In West Bengal, effective from April 2008, WBERC's (Balancing and Settlement Code) Regulations 2008 regulates intra-state availability-based tariff (ABT) energy accounting and deviation settlement mechanism of all electricity agencies. Subsequently, the National Grid became operational from December 2013, with regional and state power systems working as a single synchronous system. Financial settlement of all energy transactions requires a comprehensive and fail-safe energy accounting and settlement system.

When WBSETCL transmits energy from generating stations/ inter-state boundary points to WBSEDCL, the distribution company, some energy is lost in transmission. Transmission loss is the difference between energy received from generating stations/ grid and energy transferred to WBSEDCL. Energy accounting and deviation settlement is based on metering data from grid boundary points. It was seen that 100 *per cent* metering was not achieved at boundary points. Between April 2017 and March 2021, there were 2,486 to 2,561 boundary points of which 382 (15.37 *per cent*) to 552 (21.55 *per cent*), respectively, were not metered. Consequently, neither total energy drawn by WBSEDCL could be measured nor total transmission loss in WBSETCL system determined. WBSETCL stated (December 2020/ February 2022) that in 2016-17, annual transmission loss was 3.45 *per cent* and thereafter from 2017-18 to 2020-21, annual loss was 3.40 *per cent* (normative value). However, on compiling WBSETCL's month-wise data on energy input/ output, overall loss and technical loss from April 2016 to March 2021, it was seen that actual annual losses, determined by aggregating the monthly data for each year, were lower. These losses ranged from minimum of 2.29 *per cent* (2020-21) to maximum of 2.76 *per cent* (2017-18). Hence, WBSETCL's annual transmission losses were overstated. WBSETCL's reasons for variations were awaited (February 2022).

Meanwhile, to remedy incomplete metering and energy accounting, WBSETCL's BoD proposed (November 2017) to take up a project under SAMAST[197] for 100 *per cent* metering, data acquisition and accounting. WBSETCL applied (December 2017) to take up the project under Power Sector Development Fund (PSDF) scheme of the Ministry of Power, Government of India (MoP GoI). The project was scheduled to be commissioned within December 2018. MoP GoI

[197] *The Forum of Regulators (FoR) through its Technical Committee had formulated (July 2016) the principles for implementation of SAMAST (Scheduling, Accounting, Metering and Settlement of Transactions in Electricity) at the State Level.*

approved (March 2020) the project at a cost of ₹ 11.20 crore. Thereafter, MoP GoI sanctioned (March 2021) ₹ 1.01 crore.[198]

The Government/ Management in their reply (June 2022) stated that, according to the concept of Boundary Metering, meter readings were taken at all incoming and outgoing transmission lines from 132 KV to 400 KV and 33 KV output of Transformers. Hence, the loss calculation includes loss at all 400 KV, 220 KV and 132 KV Buses and at all 400/220, 220/132, 132/66, 132/33 and 66/33 Transformers. Meters were installed at all the above referred boundary points and readings taken regularly for Energy Auditing.

Moreover, the Letter of Award for implementation of SAMAST has already been placed in December 2021, after which real time data will be available for more accurate calculation of transmission loss. The work of implementation of SAMAST project is in progress. At present procurement and supply of different materials is under progress.

The reply of the Government/ Management was not acceptable, as transmission loss was calculated on normative basis, although meter was installed at boundary points and readings being taken regularly. Further, the work of implementation of SAMAST needed to be expedited, as the inordinate delay of more than three years was leading to improper calculation of transmission loss. The calculation of transmission loss on normative basis leads to projection of higher energy requirements for distribution, which passes on to the consumers through tariff.

3.11.4 Monitoring and supervision of projects by WBSETCL – *Non-compliance of Safety Manual*

Clauses- 28 and 60 of Transmission Safety Manual (September 2009) of WBSETCL, require ensuring use of personal protective equipment and deployment of a safety coordinator by the contractor to ensure the implementation of safety requirements of the contract. Scrutiny of records revealed that during of construction (LoA issued in February 2013) of Mathabhanga GIS 132 KV and two 132 KV SS at Coochbehar and Moinaguri, the contractor failed to comply with the aforesaid clauses. Consequently, on two occasions in May and June 2013, accidental deaths of two workers occurred at GIS. However, WBSETCL took no penal action nor issued warning to the contractor for non-compliance on either occasion.

Government/ Management in reply (June 2022) stated that, after occurrence of these incidents, an enquiry committee was formed by WBSETCL and in its report, M/s EMC Ltd. was found responsible for both the incidents. Necessary compensation in this regard was paid by M/s EMC Ltd. for these casualties. M/s EMC Ltd. was instructed to follow safety rules strictly. Thereafter, WBSETCL continued to monitor the compliance of safety protocol followed by the agency and also the overall issue. Presently, all the executing agencies are following the safety measures with use of safety PPEs.

The reply of Government/ Management needs to be seen in light of the fact that the contractor violated the safety measures specified in the Safety Manual of WBSETCL, which resulted in accidental death of two individuals. This also

[198] *First instalment of 10 per cent of sanctioned amount of ₹ 10.08 crore.*

indicated lacunae in monitoring of the project execution by the contractor and the management.

3.12 Conclusions and Recommendations

3.12.1 Conclusions

Transmission system in the power sector is the critical component that provides the conduit between power generation and the distribution of power till the last mile, *i.e.*, the consumer. A coordinated and robust transmission infrastructure is therefore essential to ensure that power generated is evacuated and distributed efficiently and safely, with minimum disruptions. It follows that the transmission utility must necessarily closely coordinate with the power generating and the power distribution utilities to be effective.

WBSETCL had planned for higher capacity than required leading to declining trend in overall network utilisation between 2017-18 and 2020-21. The unutilised capacity ranged from 14.79 *per cent* to 32.55 *per cent;* excess transformer capacity of 1,595 MVA in the five years was created at a cost of ₹ 67.79 crore. In the same period, transmission cost per unit rose from 17.87 paisa to 24.51 paisa. Assets utilisation was not commensurate with investment and consumers paid a higher per unit cost for transmission.

During 2016-21, WBSETCL's aggregate achievements for construction/ upgradation of sub-stations, additions to transformer capacity and transmission lines were 35.62 *per cent*, 65.74 *per cent* and 39.90 *per cent*, respectively. In this regard, Audit observed that WBSETCL prepared plans based on electricity demand forecasts that varied from WBSEDCL's demand forecasts by (-) 15.42 *per cent* to (+) 15.97 *per cent*. Moreover, while overall capacity in the transmission system exceeded requirement; specific sub-stations were found to be congested as geographical distribution of the additional capacity created was not according to load demand. Thus, planning for creation of new capacity and ensuring its precise distribution in accordance with demand was not optimised and the transmission system was not uniformly robust. This also indicates a lack of coordination between WBSETCL and the generating company, WBPDCL and the distribution company, WBSEDCL in planning for transmission infrastructure.

Out of 35 selected projects, WBSETCL had either closed or terminated four projects and only one was completed within schedule. Eight projects were delayed by two to 176 days from technical approval to award of work. These delays were attributable to extension of time for submission of bids and deviations of offers quoted from tender specifications. Other delays seen during execution were changes in drawings and design/ civil works, issues of land/site clearance/ Right of Way (ROW) and belated supply of equipment, *etc*. In consequence, WBSETCL incurred cost overrun of ₹ 62.31 crore.

In eight of the selected projects, WBSETCL had, in violation of General Conditions of Contract, also issued 'Taking-Over' Certificate prior to completion of important works such as dismantling of towers, submission of 'As built' drawings/ documents in requisite numbers of copies, final joint checking of lines, *etc*.This always creates a risk for the owner.

WBSETCL was found to have awarded contracts to a bidder, while being aware that the said vendor had an unsatisfactory track record with WBSEDCL. Similarly, they awarded contracts to a vendor who was already under insolvency proceedings. In case of both vendors the contracts had to be ultimately terminated and work re-awarded at higher cost. The projects were also substantially delayed as a result. This indicated constraints in the WBSETCL's procedure for assessing financial stability of their vendors before awarding contracts. In eight projects, WBSETCL, in violation of General Conditions of Contract, issued Taking Over Certificates, although ancillary works such as dismantling of towers, stringing of conductors, submission of 'as built' drawings/ documents *etc* were not completed. Since dates of completion of projects were reckoned retrospectively, LD of ₹ 19.14 crore not imposed on contractors of these projects.

WBSETCL deviated from the Grid Code voltage criteria due to failure to install requisite reactive power and consider impact of seasonality in demand. These were necessary to ensure power quality, equipment safety and grid stability. In addition, WBSETCL did not have a hotline maintenance division, leading to total dependence on shutdown maintenance, with attendant risks of breakdown and ineffective utilisation of resources. Furthermore, WBSETCL had not achieved 100 *per cent* energy metering at boundary points. The shortfall ranged from 15.37 *per cent* to 21.55 *per cent* of boundary points. Consequently, transmission losses were overstated due to determining loss based on norms (3.40 *per cent*) and not actuals (2.29 *per cent* to 2.76 *per cent*).

3.12.2 Recommendations

Based on our audit, the following recommendations are proposed for consideration of the Government and WBSETCL -

- ***Reinforce a system of coordination with WBPDCL and WBSEDCL for review of Annual and Rolling Plans to ensure that plans and projects can be executed and where necessary modified in line with actual demand of energy, especially at the last mile level.***
- ***Review the timelines for tenders and award of work and ensure their compliance as far as practicable.***
- ***Modify parameters for selection of bidders to consider their performance against existing orders of WBSETCL and cash generated from operations by the bidders in the past three years to assess their continued financial health.***
- ***Maintain capacity of sub-stations within permissible limits under WBERC (State Electricity Grid Code) Regulations 2007.***
- ***Complete 100 per cent boundary metering at the earliest to determine actual transmission loss.***
- ***Consider to adopt technology such as installation of reactive power sources and hotline maintenance for better grid stability.***

Chapter IV

Compliance Audit on post Amphan Relief and Restoration works

Chapter IV

Compliance Audit

Disaster Management and Civil Defence Department

4 Compliance Audit on post Amphan relief and restoration works

4.1 Introduction

The Super Cyclonic Storm[199] (SuCS) "AMPHAN" made landfall on 20 May 2020 near Sagar Island along the West Bengal-Bangladesh coast. After making landfall the SuCS moved towards Bangladesh. Heavy rainfall was experienced over coastal Odisha and Gangetic West Bengal on 20 and 21 May 2020. Wind-speeds of maximum 133 kmph were reported on 20 May 2020, which led to widespread damage.

The super cyclone affected 16 out of the 23 districts[200]of the State of West Bengal, of which North and South 24 Parganas were severely affected. Nearly 60 *per cent* of the State population was affected and 99 human lives lost, apart from destruction of dwelling houses, agriculture, horticulture, fisheries, animal resources, forest, power, irrigation canals, health infrastructure and industrial sectors.

Government of West Bengal (GoWB) in their Memorandum of June 2020 reported that Amphan affected 25,245 villages under 2,554 Gram Panchayats, 99 Municipal Corporations/ Municipalities spread over 280 blocks of 16 districts of the State, they reported damage to the extent of ₹ 1,02,442 crore and sought for central assistance of ₹ 35,018 crore from National Disaster Response Fund (NDRF) as per the NDRF norms.

The Inter-Ministerial Central Team (IMCT) in its report (September 2020) recommended central assistance of ₹ 2,500.29 crore, which was further discussed (October 2020) by the Sub-Committee of the National Executive Committee (SC-NEC)[201] and a central assistance of ₹ 2,707.77 crore recommended from NDRF, subject to adjustment of 50 *per cent* of balance available in the State Disaster Response Fund (SDRF) account as on 31 March of the preceding financial year.

The Ministry of Home Affairs (MHA), Government of India (GoI) released ₹ 2,250.28 crore (₹ 1,000 crore in May 2020 and ₹ 1,250.28 crore in November 2020) from NDRF account to the SDRF account, after adjusting 50 *per cent* of balance (₹ 457.49 crore) available in SDRF as on 31 March 2020.

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[199] *As per Standard Operating Procedure of the India Meteorological Department Super Cyclonic Storm is a storm with maximum sustained wind speed of 120 Knots and above (≥222 kmph).*

[200] *Bankura, Birbhum, Hooghly, Howrah, Jhargram, Kolkata, Malda, Murshidabad, Nadia, North 24 Parganas, Paschim Medinipur, PaschimBurdwan, PurbaBurdwan, Purba Medinipur, Purulia and South 24 Parganas.*

[201] *The sub-committee is headed by the Home Secretary and is comprised of the Secretary (Border Management) of the Ministry of Home Affairs, and the Secretaries of the departments of Agriculture and Cooperation, Animal Husbandry, Dairying and Fisheries, Drinking Water Supply, Ministry of Finance, Food and Public Distribution, Health, Ministry of Housing and Urban Poverty Alleviation, Ministry of Petroleum and Natural Gas, Ministry of Power, Ministry of Road Transport and Highways, Rural Development, Ministry of Water Resources and the Joint Secretary (DM) of the Ministry of Home Affairs, as the Member Secretary.*

House Building (HB) grant constituted the highest quantum and proportion of expenditure, followed by assistance given to agriculture, horticulture, fisheries and animal resources. The Disaster Management and Civil Defence (DMCD) Department provided HB grant for damage of houses, while the assistances for damage to crops, fisheries, animals, horticulture were provided by the concerned line departments. Sector-wise resources allocated by GoWB for providing assistance is summarised in ***Appendix-42.***

4.2 Background for Audit

Several PILs were filed in the Calcutta High Court alleging irregularities and corruption in distribution of relief and diversion of funds meant for Amphan relief. These PILs culminated in a judgement on 01 December 2020 by a division bench of the Court, which requested the C&AG to "*conduct such enquiry as is necessary to ensure that there is financial audit and performance audit of the utilisation of the Amphan relief and ensure that there is an appropriate audit report of the performance as well as accounts*". The High Court provided a timeline of "*within an outer limit of three months from the date of receipt of a copy of the order*".

Subsequently, the State filed a recall petition asking for revision of the HC order of 01 December 2020 on the grounds that the audit was premature since the financial year was not yet over and Utilisation Certificates (UCs) for funds received for Amphan were not due. The Court in its order dated 20 January 2021, disposed of the recall petition filed by the GoWB without modifying its earlier order for an audit by the C&AG except to clarify that "*the time limit fixed in the order is only to be treated as a directory guideline for the C&AG and not otherwise*". The Court further stated that the C&AG "*will do the needful to complete the audit as directed, within a reasonable time*". The audit was, accordingly, conducted and the findings of audit were forwarded to the DMCD, GoWB and Ministry of Home Affairs, GoI, in February 2022. The replies received, after issuance of the findings (February 2022), have also been incorporated in this Report.

4.3 Audit Objectives

The objectives of the Audit were to check whether:

- The sanction and utilisation of fund towards relief was done following extant provisions and orders.
- The assessment of losses from Amphan was realistic and based on norms.
- The process for selection of beneficiaries was transparent and as per norms prescribed in this regard and relief delivery mechanism and restoration works were effective.
- There was adequate internal control and monitoring mechanism for the relief and restoration work.

4.4 Audit Criteria

Criteria for evaluation have been selected from:

- Disaster Management Act, 2005;

- National Policy on Disaster Management, 2009;
- District Disaster Management Plans;
- West Bengal Disaster Management Manual;
- Norms of National Disaster Response Fund (NDRF);
- Memorandum on Super Cyclone Amphan (June, 2020);
- Guidelines and other instructions issued by Government of India (GoI) and GoWB;
- Report of the Inter-Ministerial Central Team;
- West Bengal Treasury Rules, 2005;
- IMCT Report.

4.5 Scope, Methodology and Sample Selection

Audit was conducted in two phases (February to March 2021 and July to mid-September 2021) covering activities for the period from May 2020 to March 2021 through test-check of records of DMCD Department along with four major departments[202] involved in management of relief work.

Based on the largest number of beneficiaries, six districts[203] were selected which covered 90.45 *per cent* of the total Amphan affected beneficiaries *i.e.* 42,42,498 beneficiaries out of 46,90,218 total beneficiaries.

GoWB provided assistance both in kind as well as money credited directly to the bank accounts of the identified persons. Assistance in kind was mainly in the form of tarpaulin, clothes, food materials and miscellaneous items like Disaster Management Kit[204], special grain, children's garments *etc*. Stock registers across the districts were examined for the purpose of identifying the inflow of relief materials and distribution of the same.

The following kinds of assistances were provided in the form of cash through direct benefit transfer into the bank accounts of the beneficiary households affected by Amphan:

a) House Building (HB) grant for fully damaged and partly damaged houses;

b) Assistance to farmers, including those engaged in horticulture (for crop damage);

c) Assistance to fishermen for damage to nets, boats, hundis[205] *etc*. ;

d) Assistance to families for loss of livestock.

Audit examined records of the State and district level offices of Disaster Management and other line Departments (Agriculture, Food Processing Industries and Horticulture, Animal Resources Development and Fisheries). Beneficiary data received from DMCD Department, Agriculture, Horticulture,

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[202] *Agriculture, Animal Resource Development, Fisheries and Food Processing Industries & Horticulture.*

[203] *Hooghly, Nadia, North and South 24-Parganas, Purba and Paschim Medinipur.*

[204] *Disaster Management Kit consists of one plastic bucket, plastic mug, plastic jug, Steel plate, steel glass, kerosene stove, utensils etc.*

[205] *Aluminium container used for storage of fish or fingerlings.*

Fisheries and Animal Resources Departments and different districts, blocks and municipalities were analysed using Interactive Data Extraction and Analysis (IDEA) tool.

For the purpose of selection of blocks from the selected districts, blocks were arranged in descending order of the total number of beneficiaries. Blocks were stratified in three strata and thereafter random sampling adopted for selection of one block from each of the three strata; one Urban Local Body (ULB) each was also selected based on random sampling. A total of 18 blocks and 6 ULBs were selected for Audit. Forty households (beneficiaries under different kinds of assistance) were selected randomly from each of the selected blocks for beneficiary survey and information collected through a standardized questionnaire jointly with the district authorities. These households were selected based on their names appearing either in the accepted beneficiaries or rejected beneficiaries list, and who had applied for relief and assistance.

The audit objectives, criteria, scope and methodology of the audit were discussed with the heads of the DMCD Department and Land & Land Reforms and Refugee Relief and Rehabilitation Department in an Entry Conference held on 09 February 2021. Exit Conference was held on 12th April 2022 to discuss the audit observations and recommendations.

4.5.1 Limitations and Constraints faced in Audit

In the initial phase of audit, during the month of December 2020 and January 2021, when the sampling of districts was done, information on district-wise list of beneficiaries of different kinds of grants were not made available by GoWB and therefore information on different kinds of beneficiaries, as available in the website (http://amphan.semtwb.in/) was used for sampling of districts. Documents, records and data relating to assistance were subsequently made available to Audit between February and September 2021.

Though the audit teams were deputed in the DMCD Department/ Directorate and in the district offices from January 2021, the teams faced constraints to perform audit work due to initial delay in providing records by the District and Departmental authorities on grounds of recall petition filed by GoWB. Further, with the announcement of the West Bengal Assembly Elections in March 2021, the district authorities became engaged with the election process, which had also hampered the smooth conduct of audit work. Though the second phase of audit was planned after completion of the election process, the same could not be taken up due to imposition of restrictions on all outdoor activities including movement of people and vehicle in the State from May 2021 almost until mid-July 2021 due to the surge in Covid-19 cases. Therefore, audit was finally carried out in the following two distinct phases; the First Phase being conducted between February and March 2021 and Second Phase being conducted between mid-July and mid-September 2021.

4.5.1.1 Non-production of records relating to damage assessment of ₹ 1.02 lakh crore

As per Memorandum, GoWB made assessment of damage to the extent of ₹ 1.02 lakh crore on account of Super Cyclone Amphan. Though the DMCD Department stated that assessment of damage was on the basis of report of the concerned district authorities, no such reports was made available to audit. The norms applied to arrive at the colossal figure of ₹ 1.02 lakh crore was also not shared by the department. Due to absence of district-wise damage assessment reports and norms adopted for calculation of the damage assessment figure, the correctness of assessment could not be evaluated in audit.

4.6 Relief Assistance

The following kinds of assistance were provided in the form of cash through direct benefit transfer into the bank accounts of the beneficiary households affected by Amphan:

a) House Building (HB) grant for fully damaged and partly damaged houses;

b) Assistance to farmers, including those engaged in horticulture (for crop damage);

c) Assistance to fishermen for damage to nets, boats, hundis[206] *etc*.

d) Assistance to families for loss of livestock.

The break-up of the assistance paid (category-wise) to districts is shown in **Table 4.1**:

Table 4.1: Sector wise assistance disbursed

(₹ in crore)

Name of the district	House Building	Agriculture Assistance	Horticulture Assistance	Fisheries	ARD	Total
Hooghly	59.58	32.79	0.17	0.41	0.29	93.24
Nadia	35.60	37.66	0.61	0.22	0.05	74.14
North 24 Parganas	579.26	44.17	0.16	1.05	8.63	633.27
Paschim Medinipur	55.36	70.60	4.66	0.14	0.01	130.77
Purba Medinipur	300.03	58.15	19.69	0.66	0.90	379.43
South 24 Parganas	787.94	55.59	35.67	13.60	4.28	897.08
Total (A)	**1,817.17**	**298.96**	**60.96**	**16.08**	**14.16**	**2,207.93**
Bankura	3.78	0.00	0.49	0.00	0.00	4.27
Birbhum	2.63	0.00	0.00	0.00	0.00	2.63
Howrah	60.08	12.59	4.24	0.92	0.31	78.14
Jhargram	1.00	12.13	0.00	0.00	0.00	13.13
Kolkata	7.84	0.00	0.00	0.00	0.00	7.84
Malda	0.60	0.00	0.45	0.00	0.00	1.05
Murshidabad	3.59	0.00	0.00	0.21	0.00	3.80
Paschim Burdwan	0.95	0.00	0.00	0.00	0.00	0.95
Purba Burdwan	6.93	28.91	0.00	0.01	0.10	35.95
Purulia	0.90	0.00	0.00	0.00	0.00	0.90
Total (B)	**88.30**	**53.63**	**5.18**	**1.14**	**0.41**	**148.66**
Grand Total (A+B)	**1,906.07**	**352.59**	**66.14**	**17.22**	**14.57**	**2,356.59**

(Source: Information furnished by the DMCD Department)

[206] *Aluminium container used for storage of fish or fingerlings.*

House building comprised the single largest category of assistance, bulk of which (93.69 *per cent*) was provided to the districts of South and North 24 Parganas, Purba and Paschim Medinipur, Nadia and Hooghly, which were selected for detailed audit.

Audit Findings

The audit findings are discussed in the following paragraphs:

4.7 Unrealistic and exaggerated assessment of damages

The Director General of Audit (Home Education and Skill Development), New Delhi, having audit purview of the Disaster Management Division, Ministry of Home Affairs, GoI and the National Disaster Management Authority, was requested to review the Memorandum submitted by the State Government for seeking Central Assistance and the Report of the Inter-Ministerial Central Team (IMCT) on the basis of which funds were released from NDRF. From the review it was seen that GoWB assessed damage of ₹ 1,02,442 crore, and sought central assistance of ₹ 35,018 crore as per the NDRF norms in their Memorandum under different sectors such as ex-gratia payment of deceased persons, dwelling houses, agriculture, horticulture, fishery, power *etc*.

The IMCT visited the State between 4 and 6 June 2020 to conduct on-the-spot assessment of the damages caused by the super cyclonic storm Amphan. During the visit, the team had undertaken field inspection of several villages and embankments, interacted with the officers of the GoWB, district administration, Gram Panchayats, local population and delegates of various political parties. The IMCT after their visit submitted (September 2020) its report to the MHA, GoI.

From the IMCT Report (12 September 2020), it was seen that the assessment of damages done by GoWB for claiming central assistance of ₹ 35,018 crore was exaggerated and unrealistically high and it was not supported by proper evidence of damage. As a result, the physical damage was moderated by IMCT to a large extent in all the sectors and the amount of central assistance was reduced accordingly which are detailed below:

- **Housing Sector**: GoWB claimed assistance of ₹ 18,188.86 crore under the housing sector against 24,29,136 housing units[207] damaged due to Amphan. However, IMCT did not observe losses to any pucca houses; nor noticed fully, severely damaged kutcha houses to the scale, as assessed by GoWB. Damages estimated for 1,13,974 fully/severely damaged pucca houses[208] were not at all considered by IMCT. Based on their field inspection, IMCT restricted the total number of fully damaged kutcha houses (five *per cent*); severely damaged kutcha houses (15 *per cent*) and partly damaged pucca/kutcha houses (90 *per cent*). Subsequently, the HLC approved (November 2020) ₹ 1,210.55 crore[209] against 5,52,889 damaged houses.

[207] *18,92,946 fully/severely damaged houses, 4,99,558 partly damaged houses and 36,632 damaged huts.*

[208] *7,688 fully damaged and 1,06,286 severely damaged pucca houses.*

[209] *₹ 1,064.33 crore for fully/severely damaged kutcha houses, ₹ 4.71 crore for partially damaged pucca houses, ₹ 126.49 crore for partially damaged kutcha houses and ₹ 15.02 crore for damaged huts.*

- **Agriculture/horticulture Sector**: Assistance of ₹ 2,431.20 crore[210] was sought for agriculture sector. Further, assistance of ₹ 273.76 crore was sought for horticulture sector. Assistance of ₹ 5.30 crore sought for agricultural marketing infrastructure, not covered under the NDRF norms, was not considered by IMCT. Claim for de-silting of 87,141 hectares of agricultural land could not be substantiated by the GoWB to IMCT. Affected area worked out by IMCT was 71,177 hectares (taking 81.68 *per cent* of the estimated affected area of 87,141 hectares held by Small and Marginal Farmers) and recommended assistance of ₹86.84 crore. Further, IMCT did not accept damage of severe magnitude to cropped areas as recommended by the GoWB. Based on field visits, aerial view of the fields, Crop Harvesting Status Report of the Directorate of Jute Development (DJD)[211], post Amphan field visit reports of officers of the DJD in affected districts, comparison of crop cutting results of previous seasons and discussions with the farmers, IMCT ascertained that 60 *per cent* of crops including summer paddy, vegetables and fruits *etc*. would have been harvested before 19 May 2020 (day before super cyclone). Thus, only 30 *per cent* of the total assessed area was considered and input subsidy of ₹ 579.10 crore was recommended by IMCT which was also approved by the HLC.
- **Fisheries Sector:** Out of the total assistance of ₹ 1,550.76 crore sought under fisheries sector, claim of assistance for loss of household goods of fishermen and de-siltation of flooded area to the extent of ₹ 109.46 crore (₹ 29.50 crore for loss of household goods plus ₹ 70.96 crore for de-siltation) was not covered under NDRF norms. The Fisheries Department also claimed ₹ 1,402.81 crore for 1,47,509 damaged huts at the rate of ₹ 95,100.00 which was not considered by IMCT since damage of huts was already covered under housing sector.
- **Animal Husbandry Sector:** The State sought assistance of ₹ 245.09 crore for Animal Husbandry sector which included ₹ 221.69 crore for damage to cattle sheds attached to houses (₹ 73.34 crore) and cost of other cattle and poultry shed damaged including farms under West Bengal Poultry Federation (₹ 148.35 crore). However, no damage to any cattle shed was shown to IMCT during their visits. Assistance on account of damage to cattle sheds, feed and fodder was not recommended by IMCT since the details about loss of fodder and distribution of feed and fodder could not be confirmed by the local authorities. Finally, IMCT recommended for ₹ 23.24 crore under this sector which was also approved by HLC.
- **Drinking Water:** GoWB claimed ₹ 369.38 crore[212] for 1,119 piped water supply schemes and 14,309 tube wells in 12 districts at rates higher than prescribed norms of NDRF. Detailed break-up of damaged infrastructure including bifurcation of the damaged items and budget provision/resources under the regular budget in the matter as sought by IMCT was not provided

[210] *₹ 2,319.59 crore for crop damage/agriculture input subsidy, ₹ 106.31 crore for de-silting of agricultural land and ₹ 5.30 crore for agricultural marketing infrastructure damage.*

[211] *Nodal office of Ministry of Agriculture & FW, GoI for monitoring of overall agriculture situation in West Bengal.*

[212] *₹ 502.42 crore less (₹ 82.60 crore for emergency water supply add ₹ 50.44 crore for providing water pouches/bottles).*

by GoWB. Therefore, only 50 *per cent* of the piped water supply schemes was considered by IMCT and assistance of ₹ 8.39 crore at ₹ 1.50 lakh per unit for 559 piped water supply was recommended for repair works. GoWB sought assistance of ₹ 133.04 crore[213] for providing drinking water supply in rural and urban areas without any details or proof; number of days water pouches was supplied *etc*. and was found to be "*unrealistic*" by IMCT. Similarly, the cost of providing water tankers was also found to be on the higher side. Therefore, only ₹ 26.61 crore of the reported cost of relief was considered by IMCT.

- **Roads and Bridges:** GoWB claimed ₹ 418.07 crore[214] for roads sector at higher rate than prescribed in NDRF norms. No substantial damages to road/bridges/culverts under KMC area was found by IMCT during their visit and thus claim of ₹ 190.00 crore sought by GoWB was found not to be reasonable and therefore no assistance was considered. For PWD roads/ bridges also substantial damages was not noticed by IMCT. Further, the length of 475 km of assessed road damage of ₹ 60.55 crore under P&RD was found to be on higher side and accordingly only 50 *per cent* of such assessed road length was considered by IMCT which recommended only ₹ 30.27 crore against ₹ 60.55 crore. Finally, IMCT recommended ₹ 54.08 crore for the entire Road and Bridges sector.
- **Irrigation & Waterways Sector:** GoWB claimed ₹ 22.37 crore for 1,491 irrigation schemes. During field visit IMCT observed that the assessment was on the higher side and restricted it to 50 *per cent* of the assessed number of projects. The IMCT recommended ₹ 11.18 crore for repairing of Minor Irrigation infrastructure under this sector and the same was also released as assistance.
- **Power Sector**: GoWB sought assistance of ₹ 1,345.25 crore[215]. Based on field visit and interaction with the officials and local people at districts, IMCT restricted the claim of physical quantities to 50 *per cent* of the assessed quantities and HT poles were not considered as it was outside the purview of NDRF norms. Re-usable quantities were also taken into account and ₹ 214.17 crore was recommended.
- **Forest Sector:** GoWB's claim for assistance of ₹ 1,033.15 crore was not considered at all as it was outside the NDRF norms.
- **Education Infrastructure:** GoWB sought assistance of ₹ 219.60 crore for reported damages of 11,291 primary and 3,349 secondary schools. However, substantial damages to school infrastructure was not observed by IMCT and the claim was restricted to ₹87.84 crore.
- **Health Infrastructure:** GoWB's claim for assistance of ₹ 119.03 crore for health sector included infrastructure other than Primary Health Centers (PHC) buildings which were not permissible as per NDRF norms. Therefore, only PHCs were considered by IMCT and recommended ₹ 8.45 crore.

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[213] *₹ 50.44 crore for water pouches plus ₹ 82.60 crore for water tankers.*

[214] *₹ 167.52 crore under Public Works Department (PWD); ₹ 190 crore under Kolkata Municipal Corporation (KMC) and ₹ 60.54 crore under Panchayat and Rural Development Department (P&RD).*

[215] *₹ 1,235.25 crore for damages to HT Poles, LT Poles, distribution transformers and conductors and ₹ 110 crore for restoration of electric poles.*

- **Anganwadi Centers:** GoWB's claim of ₹ 253.56 crore for 12,678 centres under this sector was restricted to ₹ 25.34 crore *i.e*. 10 *per cent* of assessed damage, as no such damage was observed by IMCT.
- **Assistance for urban facilities restoration, damage caused to industries and MSME sector and repair restoration of transport, fire, emergency infrastructure *etc*.:** GoWB's claim of ₹ 7,887.18 crore for this sector was not at all considered by IMCT as the same was not covered under the NDRF norms.

Based on its report, IMCT recommended (September 2020) Central Assistance of ₹ 2,500.29 crore, which was further discussed (October 2020) by the SubCommittee of the National Executive Committee (SC-NEC). Finally, Central Assistance of ₹ 2,707.77 crore was recommended from NDRF, subject to adjustment of 50 *per cent* of balance available in the SDRF account as on 31 March of the preceding financial year.

From the IMCT Report, audit observed that the assessment of damages done by GoWB for claiming central assistance of ₹ 35,018.00 crore was exaggerated and unrealistically high and it was not supported by proper evidence of damage. As a result, the physical damage was moderated by IMCT to a large extent in all the sectors and the amount of central assistance was reduced accordingly. Sector wise assistance sought by GoWB *vis-a-vis* recommended by IMCT and SE-NEC is given in **Table 4.2:**

Table 4.2: Kinds and Quantum of Assistances projected by the State, recommended by IMCT and approved by SC-NEC

(₹ in crore)

Sl No	Items/Sector	Assistance projected by State Govt.	Assistance recommended by IMCT	Assistance approved by SC-NEC
1	2	3	4	5
1(i)	Ex-gratia payment to families of deceased person	3.96	3.96	3.96
(ii)	Grievously injured persons	0.28	-	0.28
2.	Clothing and utensils	29.50	-	29.50
3.	Search and rescue operations	82.65	12.80	23.54
4.	Cost of relief articles - distribution of DM Kit	210.77	0.00	109.00
5.	Expenditure incurred to combat cyclonic storm - hiring boats, clearance of debris and water, disposal of dead bodies/ carcasses	123.48	25.43	25.43
6.	Relief measures - temporary accommodation, food in relief camps *etc*.	106.98	106.98	106.98
7.	Provision of emergency water supply	133.04	26.61	26.61
8.	Agriculture Sector			
(i)	De-silting of agriculture land	2,431.20	86.84	86.84
(ii)	Agricultural - input subsidy		504.91	504.91
(iii)	Horticulture - input subsidy	273.75	74.19	74.19

Sl No	Items/Sector	Assistance projected by State Govt.	Assistance recommended by IMCT	Assistance approved by SC-NEC
1	2	3	4	5
9.	Animal Husbandry and Poultry	245.09	23.24	23.24
10.	Fishery - de-silting/repair of fish farms/fish seed farms	1,521.26	15.33	73.29
11.	Housing	18,188.86	1,210.55	1,210.55
12.	Repair/restoration of damaged infrastructure			
(i)	Roads	418.06	54.08	54.08
(ii)	Drinking water supply	369.38	8.39	8.39
(iii)	Irrigation	22.37	11.18	11.18
(iv)	Power	1,345.25	214.17	214.17
(v)	Primary school	219.60	87.84	87.84
(vi)	Primary health centers	119.03	8.45	8.45
(vii)	Anganwadi centers	253.56	25.34	25.34
(viii)	Industries and MSME sector	3,437.88	0.00	0.00
(ix)	Urban facilities restoration	4,099.96	0.00	0.00
(x)	Forestry and forest installation - roads and land	1,033.15	0.00	0.00
(xi)	Transport, Fire and Emergency Infrastructure, SHG, tree godown etc.	349.33	0.00	0.00
	Total	**35,018.39**	**2,500.29**	**2,707.77**

Therefore, it is evident that damages for all the sectors assessed by GoWB in their Memorandum were found to be unrealistically high and could not be substantiated by available records. Further, the claims were not prepared considering the NDRF norms in many cases and were found to be arbitrary. Damage assessment reports based on which the figure of ₹ 1.02 lakh crore was arrived at, were also not produced to audit though called for. It was stated by the DMCD Department that the Memorandum was prepared on the basis of the reports of the district authorities. As a result, against the GoWB's claim of ₹ 35,018.39 crore as per NDRF norms, IMCT recommended assistance of ₹ 2,500.29 crore and SC-NEC finally recommended central assistance of ₹ 2,707.77 crore from NDRF.

The Department, however, stated (April 2022) that the IMCT report was not shared with the State Government. The reply is not tenable since the Department had not sought clarification on the amount finally released towards Amphan assistance.

4.8 Irregularities in Distribution of House Building grant

As per Para 14.10 of the West Bengal Disaster Management Manual and DMCD Department's order[216], HB grant is paid to indigent families living below poverty line and whose total family income does not exceed ₹ 2,500.00 per month, to rebuild or repair their damaged/ destroyed dwelling houses as a result of natural calamities and accidental fire.

[216] *Memo No. 1129(24)-DMCD-11017(99)/20/2020 dated 24.06.2020.*

As per Para 14.11 of the West Bengal Disaster Management Manual, a joint inspection team consisting of one representative each of the Pradhan of the concerned Gram Panchayat, Sabhapati of the Panchayat Samity and Block Development Officer (BDO) (for rural areas) or from the concerned Municipality/ Urban Area Authority and the Sub-Divisional Officer (SDO), should be formed to enquire into the damages to the houses along with the pecuniary condition of the victims. They would submit draft priority lists for HB grant in "Form-C", to the concerned BDO or the SDO. The BDO or the SDO would prepare and approve the final lists in "Form-B" after disposal of the claims and objections, if any.

Further, submission of photograph of damaged house along with the owner of the house is mandatory for processing the claims for HB grant as per extant norms[217] of DMCD Department. Fund for HB Grant, available from the concerned District Magistrate, were to be distributed on the basis of the approved priority lists. Fresh applications were also invited from beneficiaries who were aggrieved with the earlier decisions on their claims by concerned BDOs/SDOs through special camps. Applications were also received in gram panchayat/ municipality wise drop boxes kept in the offices of BDOs/SDOs during 6-7 August 2020. Special teams were also formed to ensure completion of all field enquiries by 12 August 2020. All applications were to be accepted or rejected based on field enquiry.

House Building (HB) grant was disbursed by GoWB at two rates, ₹ 20,000 for fully damaged houses and ₹ 5,000 for partially damaged houses. Audit conducted test check in six selected districts where HB grant of ₹ 1,853.47 crore (95.12 *per cent*) was released out of total HB grant of ₹ 1,948.51 crore in 16 districts.

4.8.1. Wide variation between the assessed and actual beneficiaries for HB grant

As per Memorandum of Super Cyclone Amphan, GoWB sought central assistance of ₹ 18,188.86 crore for 24,29,136 damaged houses (18,92,946 fully/ severely damaged houses, 4,99,558 partly damaged houses and 36,632 damaged huts) in respect of 16 districts.

Audit obtained district-wise number of beneficiaries assessed against which HB grants were paid for the 16 affected districts from the DMCD Department ***(Appendix-43)***. Analysis of the actual number of beneficiaries receiving the HB grant with that of the damaged houses data as assessed in the Memorandum, the following variations were found:

(i) 5,69,597 households of 16 districts were selected for HB grant for fully damaged houses against the assessed figure of 18,92,946. Thus, the actual number of households were less by 13,23,349 (69.91 *per cent*) than the assessed figure.

(ii) 15,33,787 beneficiaries of 16 districts were actually paid HB grant for partly damaged houses against the assessed figure of 4,99,558 beneficiaries. Thus, actual number of beneficiaries was more than the assessed figure by 10,34,229 (207.03 *per cent*). As evident from above, many households whose houses were fully damaged were deprived of the benefits of full

[217] *Order No. 885(18)-FR/6F-8/12 dated 07 May 2012.*

HB grant. On the other hand, the number of households provided with partial HB grant was three times the assessed number indicating that the assessment of damage was not properly conducted.

Therefore, it is evident that either many 'partially damaged houses' were included in the category of 'fully damaged houses' during the phase of assessment or these households were included at a later stage for reasons not on record.

In Purulia district, which is the westernmost district of the State, all the affected houses were assessed to be fully damaged. Purulia being an outlier district, was not severely affected by super cyclonic disaster. Even in the more affected western districts like Purba Medinipur and Paschim Medinipur, assessment included partially and fully damaged houses. Assessment and disbursement of 100 *per cent* fully damaged houses without a single partially damaged house throughout the said district seemed to be unrealistic.

The DMCD Department forwarded the reply of the South 24-Parganas district which stated (January 2022) that soon after Cyclone Amphan, a preliminary assessment was made to submit requirement of fund to the DMCD Department to provide immediate relief to affected people. However, at the time of disbursement through field enquiry actual beneficiaries were categorised into fully and partly damaged houses and HB grant also given accordingly.

The reply is not tenable since the assessment report prepared by the DMCD contained wide variations in regard to the assessed figure, *vis-a-vis* the actual assistance rendered. In case of South 24 Parganas, the variation for fully damaged houses was as high as 77.21 *per cent*, which indicates that the assessment may have been exaggerated.

4.8.2 House Building grant not provided at uniform rates in two different phases of distribution

The DMCD Department allotted (between 28 May and 29 December 2020) ₹ 1,948.51 crore as HB grant to 21,03,384 beneficiaries in 16 districts affected due to Amphan.

On scrutiny of the allotment orders, it was found by audit that DMCD Department initially (between 28 May and 30 May 2020) allotted ₹ 1,000 crore (51.32 *per cent* of total allotment of ₹ 1,948.51 crore) against four allotment orders in which HB grant was sanctioned at ₹ 20,000 to 5,00,000 beneficiaries for each damaged house.

Subsequently, the DMCD Department in their order[218] (June 2020) revised the rate of HB grant to ₹ 20,000 for fully damaged houses and ₹ 5,000 for partly damaged houses and ₹ 906.07 crore was disbursed over 16 lakh people. Therefore, while only five lakh households were given the benefit of ₹ 1,000 crore, over 16 lakh people (21,03,384 *minus* 5,00,000 = 16,03,384) were given grant of ₹ 906.07 crore; *i.e.*, while around 25 *per cent* affected people received over 50 *per cent* of the grant benefits, the balance amount was distributed among 75 *per cent* of the affected people.

[218] *Order No. 1141-DMCD-11011/1/2020-DM SEC-Dept. of DMCD dated 25 June 2020.*

Thus, there was no uniformity in the rates of HB grant in two different phases of distribution of HB grant. The disparity of rates reflected the indecisiveness of GoWB for releasing assistance to the beneficiaries of HB grant. This is indicative of the fact that dual standards were adopted by the DMCD Department in distribution of HB grant, which was not only discriminatory in nature but also in contravention to the principles of equity.

During beneficiary survey in three selected blocks[219] of Paschim Medinipur and South 24 Parganas, it was found that in eight cases, beneficiaries with partially damaged houses were found to have been given HB grant at the rate of ₹ 20,000 in the first phase, since the DMCD Department had not fixed any rate for partly damaged houses. The details of these cases are given in the **Table 4.3**:

Table 4.3: Details of households who had received HB grant at higher rate despite having houses partly damaged

Sl No	Name of District	Beneficiary Name	Block, GP, Village	Damage as per Form-B/ Beneficiary Survey	Amount Paid (in ₹)	IFMS Bill No
1	Paschim Medinipur	Ram Hansda	Debra, Debra-II, Chakkumar	Partly	20,000	14/RL
2		Santu Bhowmik	Debra, Debra-II, Alishagarh	Partly	20,000	32/RL
3		Kabita Sing	Debra, Duan-II, Hamirpur	Partly	20,000	14/RL
4		Sefali Pramanik	Debra, Debra-II, Alishagarh	Partly	20,000	14/RL
5		Rabi Kisku	Debra, Debra-II, Chakkumar	Partly	20,000	14/RL
6	South 24 Parganas	Archana Pramanik	Namkhana, Buddhakhali	Partly	20,000	Not paid through IFMS
7		Sundari Pramanik	Mograhat-I, Sherpur, Sherpur	Partly	20,000	
8		Ashima Das	Mograhat-I, Sherpur, Sherpur	Partly	20,000	
				Total	**1,60,000**	

(Source: Beneficiary survey and Form-B of respective blocks)

The above cases are only illustrative in nature found in three blocks of two districts during beneficiary survey or scrutiny of "Form-B" in the six selected districts. Possibility of occurrence of similar cases in other blocks and districts cannot be ruled out in audit.

The Department forwarded the reply of District Magistrate, South 24 Parganas only which stated (January 2022) that out of three cases, recovery has been made from one beneficiary and in case of remaining two beneficiaries, recommendation was for payment of fully damaged houses and accordingly they were paid ₹ 20,000 each. The reply is not tenable as during joint beneficiary survey conducted by audit team along with the departmental staff, the said two beneficiaries admitted that their houses were only partially damaged due to Amphan.

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[219] *Debra block of Paschim Medinipur, Mograhat-I and Namkhana blocks of South 24 Parganas.*

4.8.3 HB Grant of ₹ 251.38 crore paid to ineligible beneficiaries not belonging to indigent category

Audit scrutinised the list of 8,58,296 beneficiaries contained in "Form-B" of 95 blocks and 52 ULBs in the six selected districts.

Audit observed that 3,12,088 beneficiaries (36.36 *per cent*) who did not belong to indigent category in 95 blocks and 52 ULBs in the six selected districts had received assistance of ₹ 251.38 crore. Thus, inclusion of beneficiaries having monthly income of more than ₹2,500 in "Form-B" was in contravention of the eligibility criteria set by the GoWB. Similar payments to non-indigent persons in other districts cannot be ruled out. Form B for the remaining blocks and ULBs were not produced to audit and therefore it is evident that the overall quantum of assistance paid to non-indigent category could be much higher. Details of non-indigent beneficiaries provided with HB grant are shown in ***Appendix-44***.

On this being pointed out, DMCD Department forwarded various orders relating to Amphan and stated (March 2022) that "indigent" word was referred in only one order of July 2020. The Department further stated that the said order was issued for giving stress on physical verification of damaged houses before disbursement of HB grant as indigent families were to be given priority and it did not mean that HB grant was to be restricted only for indigent families. However, reply is not tenable because as per the order (June 2020) of DMCD Department, HB grant was required to be paid to indigent families only.

4.8.4 Irregular parking of fund outside Government Account

All the beneficiary related assistance for Amphan was required to be directly transferred to the bank accounts of the beneficiaries through DBT by the concerned treasuries[220].

During audit of HB grant of six selected districts it was found that four out of the six district authorities made payment of HB grant to the beneficiaries through treasury vouchers generated through Integrated Financial Management System (IFMS). However, the district authorities of North 24 Parganas[221] and South 24 Parganas[222] withdrew (between May 2020 and January 2021) the entire allotted fund of HB grant of ₹ 1,383.23 crore (70.99 *per cent* of the HB grant of ₹ 1,948.51 crore allotted by the State) from the treasury against 12 vouchers and parked the amount in scheduled commercial bank accounts of the district authorities for making DBT from those accounts.

Such withdrawal of fund from treasury and parking it outside the Government Account was highly irregular in the light of the West Bengal Treasury Rules, 2005.

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[220] *Para 4.002 of the West Bengal Treasury Rules, 2005 provides that unless the Government after consultation with the Accountant-General (Accounts & Entitlement), West Bengal, directs otherwise, money may not be withdrawn from Government Account without written permission of concerned Treasury Officer or Pension Disbursement Officer or Pay and Accounts Officers, Kolkata or an officer of the Indian Audit and Accounts Department authorised in this behalf by the Accountant-General (Accounts & Entitlement), West Bengal.*

[221] *₹ 578.23 crore.*

[222] *₹ 805.00 crore.*

In South 24 Parganas district, ₹ 34.68 crore remained unutilised as on 21 January 2022. The district, however, submitted UC for the full amount, excluding ₹ 10 crore which was surrendered. For North 24 Parganas balance lying unutilised, if any, in the bank accounts could not be analysed due to non-receipt of bank statements. However, UC for the entire amount was submitted by North 24-Parganas district.

On this being pointed out, District Magistrate, North 24 Parganas stated (January 2022) that due to paucity of manpower, payment through IFMS could not be followed. District Magistrate, South 24 Parganas stated (January 2022) that payment of HB grant to large number of beneficiaries through treasury system was difficult. Payments were made from the bank account through IT intervention to prevent duplicate payment. The reply is not tenable as the procedure of parking money outside treasury system is against Treasury Rules. Further, the districts regularly make payments of other schemes to beneficiaries through IFMS. The State should consider to have a system of DBT that is linked to the IFMS in all cases for the sake of transparency and proper accounting of Government money.

The above resulted in wrong and incomplete submission of UCs, thereby resulting in improper utilisation of funds and presented an incorrect picture of the assistance rendered.

4.8.5 HB grant of ₹ 18.07 crore involved multiple payments to 9,226 beneficiaries

As per order[223] of the DMCD Department, the list of beneficiaries should contain the name, address, contact number and bank account number with Indian Financial System Code (IFSC). Further, the Principal Secretary of the DMCD Department directed[224] (August 2020) the district authorities to submit a duplication check report to ensure that no cases of HB grant were credited twice to the same household by performing "Compare & Check Exercise" on the digital data.

From IFMS vouchers and bank scrolls, Audit obtained data of 19,38,238 beneficiaries out of 20,13,741 beneficiaries in the six selected districts. The data obtained were analysed through IDEA tool and it was found that in 18,891 cases, HB grant was credited more than once and ranging up to nine times into the bank accounts of 9,226 beneficiaries. This resulted in multiple payment of ₹ 18.07 crore and disbursement of undue financial assistance. Audit also found that no mechanism was exercised by the district authorities to ensure that duplicate payments were not made.

The above phenomenon of multiple payments was seen in all the districts selected for audit and hence possibility of such occurrence in the remaining districts cannot be ruled out. This indicated not only serious deficiencies in the process of selection of beneficiaries but also absence of adequate checks and balances before making DBT to prevent such multiple payments.

On this being pointed out, District Magistrates of five of the six selected districts (except South 24 Parganas) accepted the audit observation and stated (between

[223] *Memo No. 1129(24)-DMCD-11017(99)/20/2020 dt. 24 June2020.*

[224] *Memo No. 299-PSDM & CD/2020 dt. 21 August 2020.*

December 2021 and January 2022) that notices have been issued to all the beneficiaries to refund the excess amount paid and the concerned BDOs/SDOs have been directed to take legal action against the beneficiaries who have not refunded the excess payment. District Magistrate, South 24 Parganas did not furnish any specific reply.

4.8.6 Doubtful transaction of ₹ 4.99 crore

Bank account number identifies the relationship between a customer or an entity and a bank. The structure of account numbers across banks is different. The Department of Pay and Settlement System of Reserve Bank of India (RBI), shared (December 2012) a Report[225] on the Structure of Account Numbers across banks in India. The following observations regarding doubtful transactions were noticed in the Audit:

- **South 24 Parganas:** The bank scroll of 8,62,394 succesful payments of HB grant to beneficiaries was analysed and it was found that the Structure of Account Numbers in respect of 133 (67 fully damaged and 66 partly damaged) beneficiaries mentioned in the bank scroll were found not in consonance (account numbers containing characters/alpha-numeric characters) with the structure prescribed by RBI. As a result, DBT of HB grant to those 133 bank accounts amounting to ₹ 16.70 lakh was doubtful. In reply, the District stated (March 2022) that payment in respect of 129 out of 133 beneficiaries were unsuccessful. However, information on subsequent action taken on such unsuccessful payments was not provided.
- **Paschim Medinipur:** From the analysis of IFMS vouchers Audit observed that payment of HB grant of ₹ 4.82 crore to 7,548 beneficiaries was unsuccessful. The district authorities stated (September 2021) that unsuccessful transactions arose due to incorrect bank details. The cases of failed transactions were communicated to the concerned authorities for rectification of necessary details. After receiving the rectified information, the targeted beneficiaries were stated to be paid without generating separate vouchers. The district authorities could not furnish the trail of subsequent successful payments of ₹ 4.82 crore; instead, correspondence with Blocks/ Subdivisions with details of failed transactions was furnished.

In the light of the above, Audit could not ascertain as to how ₹ 4.99 crore (₹ 0.17 crore *plus* ₹ 4.82 crore) was shown as expenditure towards HB grant. Occurence of similar phenomena in other districts could not be ruled out.

4.8.7 Same photographs of damaged house used against multiple beneficiaries

The DMCD Department made[226] submission of photographs of damaged house along with the owner of the house mandatory for processing of claims for HB grant. The inspection teams were also required to take photographs of the damaged houses.

[225] *Report of the Technical Committee to Examine Uniform Routing Code & Account Number Structure.*

[226] *Order No. 885(18)-FR/6F-8/12 dated 07 May 2012.*

Audit collected photographs of the beneficiaries and/or their damaged houses from the district authorities of the selected districts either in Form-B or in CDs separately. Audit obtained 3,70,491 photographs of damaged houses in respect of 147 blocks/municipalities of five districts, except for South 24 Parganas where no photographs were made available.

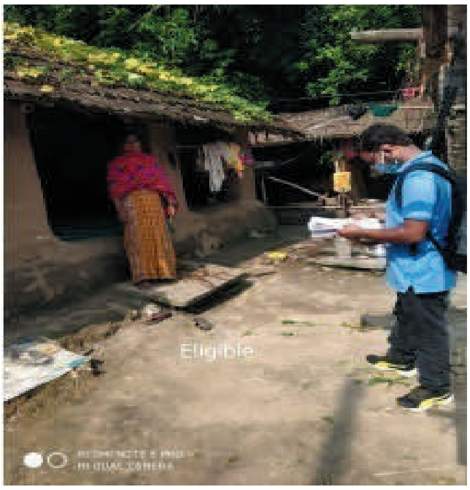
Audit analysed 31,457 photographs and found that in 3,126 cases, same photographs were used against multiple beneficiaries. A few instances of use of same photographs against multiple beneficiaries are shown below:

Moriam Bibi (Form-B Fully, Sl. No. 1469), K. Jalpai, Mahisadal Block, Purba Medinipur

Rejak Dutta (Form-B Fully, Sl. No. 1470), K. Jalpai, Mahisadal Block, Purba Medinipur

Fig. 4.1

Tarafan Bibi Malithya, (Form B Sl. No. 53) Dogachhi Dabtipara, Karimpur-II Block, Nadia



Rangila Bibi Sekh, (Form B Sl. No. 163) Gamakhali, Karimpur-II Block, Nadia

Fig. 4.2

Presence of duplicate photos in 3,126 cases indicates that undue benefit of HB grant might have been extended. However, quantum of such undue benefit could not be ascertained as the photographs were not cross linked with the serial numbers of Form-B. Some instances of such cases are shared in photographs 4.3 to 4.6 below:

	
Badal Bhunia (Tararui GP), Dantan-I Block, Paschim Medinipur	**Dibakar Bera (Dantan II GP), Dantan-I Block, Paschim Medinipur**

Fig. 4.3

	
Tapas Jana (Tararui GP), Dantan-I Block, Paschim Medinipur	**Pratima Bisi (Dantan-I GP), Dantan-I Block, Paschim Medinipur**

Fig. 4.4

	
Kamala Ruhidas, Kakdihi Bazar Village, Shahid Matangini Block, Purba Medinipur	**Pratima Hazra, Andulia Village, Shahid Matangini Block, Paschim Medinipur**

Fig. 4.5

	
Dipes Jana, B M Chak village, Chandipur Block, Purba Medinipur	**Susanta Manna, Narandari Village, Chandipur Block, Purba Medinipur**

Fig. 4.6

The District Magistrates of Nadia, Paschim Medinipur and Purba Medinipur stated (January 2022) that duplication of photographs occurred due to clerical mistakes, which has been rectified subsequently. However, records regarding rectification were not produced to audit.

4.8.8 HB grant paid to beneficiaries despite no damage

DMCD Department through an order[227], directed appropriate number of special teams of officials to be constituted under the direct supervision of senior officers from the district/sub-division. Field enquiry was to be done by the special team and the list of accepted and rejected claims displayed in the block/municipality.

Audit obtained digitised data of 2,21,702 rejected beneficiaries of HB grant of 49 blocks/municipalities[228] of two districts[229] out of six selected districts. However, bank details of only 2,02,128 beneficiaries[230] were available for 39 blocks/municipalities[231]. The claims of these beneficiaries were rejected by the authorities on grounds of no damage. Through IDEA software Audit cross verified the bank details of 2,02,128 beneficiaries with that of IFMS vouchers and found that ₹ 93.95 lakh was paid to 1,576 beneficiaries[232] whose claims were rejected.

[227] *277-PSDM&CD/2020 dated 01 August 2020.*

[228] ***Nadia:17 Blocks** (Chakdah, Hanskhali, Haringhata, Kaliganj, Kalyani, Karimpur-I, KarimpurII, Krishnaganj, Krishnannagar-I, Krishnannagar-II, Nabadwip, Nakashipara, Ranaghat-I, Ranaghat-II, Santipur, Tehatta-I, Tehatta-II) and **Four ULBs**(Gayeshpur, Haringhata, Krishnanagar, Ranaghat) and **Paschim Medinipur: 21 Blocks** (Chandrakona-I, Chandrakona-II, Dantan-I, Dantan-II, Daspur-I, Daspur-II, Debra, Garbeta-I, Garbeta-II, Garbeta-III, Ghatal, Keshiary, Keshpur, Kharagpur-I, Kharagpur-II, MedinipurSadar, Mohanpur, Narayangarh, Pingla, Sabang, Salboni) and **Seven ULBs**(Chandrakona, Ghatal, Kharagpur, Kharar, Khirpai, Medinipur, Ramjibanpur).*

[229] ***Nadia:** 20,892 in 21 Blocks/ULBs and **PaschimMedinipur:** 2,00,810 in 28 Blocks/ULBs.*

[230] ***Nadia:** 3,609 in 11 Blocks/ULBs and **PaschimMedinipur:** 1,98,519 in 28 Blocks/ULBs.*

[231] ***Nadia: Nine Blocks**(Chakdah, Karimpur-I, Krishnaganj, Nabadwip, Nakashipara, Ranaghat-I, Ranaghat-II, Santipur, Tehatta-II) and **Two ULBs**(Krishnanagar, Ranaghat) and **PaschimMedinipur: 21 Blocks** (Chandrakona-I, Chandrakona-II, Dantan-I, Dantan-II, Daspur-I, Daspur-II, Debra, Garbeta-I, Garbeta-II, Garbeta-III, Ghatal, Keshiary, Keshpur, Kharagpur-I, Kharagpur-II, Medinipur Sadar, Mohanpur, Narayangarh, Pingla, Sabang, Salboni) and **Seven ULBs** (Chandrakona, Ghatal, Kharagpur, Kharar, Khirpai, Medinipur, Ramjibanpur).*

[232] *1,440 beneficiaries (₹ 85.35 lakh) of Nadia and 136 beneficiaries (₹ 8.60 lakh) of Paschim Medinipur.*

In North 24 Parganas, payment of ₹ 1.36 crore was made to 682 ineligible beneficiaries for fully damaged houses. The ineligible beneficiaries applied for refund of HB grant since they were not eligible. Consequently, the district authority recovered ₹ 1.25 crore from 626 ineligible beneficiaries. The cheques submitted by the balance 56 ineligible beneficiaries, were either not presented for encashment by the district authorities or the instruments bounced due to dishonour.

This indicates that due diligence was not observed by the districts authorities in beneficiary selection.

The DMCD Department forwarded replies of the District Magistrates of Nadia and Paschim Medinipur in this regard. The DM, Nadia accepted the audit observation and stated (January 2022) that ₹ 8.60 lakh has been recovered from 43 beneficiaries. The DM, Paschim Medinipur stated (January 2022) that on field verification of 24 beneficiaries it was seen that the houses of those beneficiaries were actually damaged due to Amphan and verification of the remaining beneficiaries was in progress. The reply is not tenable as the houses were inspected by four -man committee and their claims for HB grant rejected on the grounds of no damage.

4.8.9 HB grant of ₹ 1.79 crore paid to beneficiaries without any enquiry/application

In North 24 Parganas and South 24 Parganas HB grant for fully/partly damaged houses were recommended to 1,775 beneficiaries by Member of Parliament (MP)/Member of Legislative Assembly (MLA), Member of Zila Parishad (ZP) and Municipal Councillors. No enquiry report from the four-man committee on the extent of house damage in respect of the above 1,775 beneficiaries was found on record. The local authorities made payment of HB grant of ₹ 1.79 crore to the beneficiaries without damage assessment report.

Thus, beneficiaries were selected arbitrarily without following the procedures that resulted in undue payment of ₹ 1.79 crore.

The DMCD Department forwarded the replies of the District Magistrates, North and South 24 Parganas. DM, South 24 Parganas accepted (January 2022) the audit observation. In case of reply of DM, North 24 Parganas, the Chairperson, Board of Administration, Taki Municipality stated (December 2021) that the files containing applications could not be made available to audit as they were misplaced, however, after audit those were searched and found. The reply is not tenable as the Chairperson, during audit (September 2021) replied that payments were made to the affected persons on the recommendations of the councillors without inviting any applications. Further, copies of those misplaced applications were not produced to audit till date (November 2022).

4.8.10 HB grant not paid as per report of Enquiry Committee

Reports of enquiry committees along with other records were test checked in 18 blocks and six municipalities of the six selected districts. In three blocks[233] of North 24 Parganas and South 24 Parganas in respect of 4,548 beneficiaries[234] it was observed that:

[233] *Barrackpore-I block of North 24 Parganas, Kulpi and Magrahat-I blocks of South 24 Parganas.*

[234] *2,541 in Barrackpore-I, 1,333 in Kulpi and 674 in Magrahat-I.*

- HB grant of ₹ 5.90 lakh was paid to 64 beneficiaries (18 fully damaged houses and 46 partly damaged houses) who were not eligible for the grant as per the report of the enquiry committees.
- HB grant of ₹ 1.70 lakh was paid for partly damaged houses to 34 beneficiaries, though they were eligible for grant meant for fully damaged houses resulting in short payment of HB grant of ₹ 5.10 lakh.
- HB grant of ₹ 0.90 lakh was paid to 18 ineligible beneficiaries[235] of Magrahat-I block as per the enquiry committee.
- 678 beneficiaries[236] whose houses were either partly or fully damaged as per the enquiry reports were not paid HB grant of ₹ 39.60 lakh.

Thus, reports of the enquiry committees were not considered in the above cases, which resulted in undue payment amounting to ₹6.80 lakh to ineligible beneficiaries and short/ no payment of ₹ 44.70 lakh to eligible beneficiaries.

The DMCD Department forwarded the replies of District Magistrates of North and South 24 Parganas. DM, South 24 Parganas accepted the audit observation and stated that recoveries are being made. DM, North 24 Parganas stated (January 2022) that field verification was under process and payments would be made shortly to 658 beneficiaries who did not get the grant after such verification.

Release of assistance to ineligible beneficiaries and short payment of assistance to the eligible beneficiaries indicates that basic preliminary checks were not carried out, resulting in non-payment/short payment to eligible beneficiaries and undue financial assistance to ineligible beneficiaries.

4.8.11 Payment of ₹ 22.84 crore made without supporting documents

The West Bengal Disaster Management Manual does not prescribe any application format to be submitted by the affected persons seeking assistance. Neither the DMCD Department nor the district authorities prescribed such format for Amphan. A standardised application format captures uniform beneficiary information across the State. In absence of such a format, multiple formats (both hand-written and typed), single page applications submitted without necessary information or essential documents were observed across the selected districts. Critical information like date, address, contact number, monthly income of the beneficiaries, extent of damage, bank details, photographs of damage *etc.* were not found.

On the basis of single page applications and without essential documents (copy of Aadhaar/EPIC[237]), bank pass book *etc*, payment of ₹ 22.84 crore was made to the beneficiaries without ensuring their identity, extent of house damage and bank details in Magrahat-I block and Maheshtala Municipality under South 24-Parganas district. Neither any inspection report nor photographs of damaged houses was enclosed with the application forms.

On this being pointed out, the concerned BDO admitted the audit observation and stated (October 2021) that due to non-availability of power supply after Amphan, required documents could not be photocopied by the affected persons

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[235] *Government employees:2, Members of the same family: 2, Not traceable: 14.*

[236] *Barrackpore-I Block:666, Kulpi Block:12.*

[237] *Electors Photo Identity Card.*

and therefore no documents were submitted by them. Payment of grant without ensuring documentary evidence was in violation of extant provisions.

The above highlights the lackadaisical attitude of the authorities in releasing payments and the possibility of assistance having been released more than once and/or to the ineligible beneficiaries, cannot be ruled out.

4.8.12 Payment of HB grant irrespective of the quantum of damage

As per Para 14.18 of State Disaster Management Manual (SDMM) eligibility of beneficiaries for HB grant should be determined after taking into account the extent of damage caused to his/her dwelling house and his/her capability to undertake necessary repair work. The grant is payable to indigent persons only. Indigent person means a person who lacks financial resources to rebuild or repair the damaged/destroyed house without financial assistance from Government, provided the affected person has not got sufficient immovable property in the shape of land to provide the security for any assistance in the shape of loan.

Scrutiny of "Form-B" made available to audit by two district authorities[238] revealed that actual assessment of house damages was carried out by 16 blocks[239] and three municipalities[240] only. The remaining 30 blocks and eight municipalities had not assessed the extent of damage of house buildings as per the provisions of SDMM. On further scrutiny of assessment of loss for houses in four blocks[241] and one municipality, it was noticed that the quantum of loss of 998 houses[242] was assessed in the range of ₹1,500 to ₹19,000 but HB grant was paid at a flat rate of ₹ 20,000 per beneficiary, irrespective of the extent of damage assessed.

The above deviation from SDMM indicated erroneous field verification/ preparation of beneficiary list without ascertaining the extent of actual damages. The possibility of disbursement of excess payment of HB grant and extending undue financial assistance to 998 beneficiaries cannot be ruled out.

In reply DM, Purba Medinipur stated (January 2022) that at the initial stage the department had issued guidelines for a quantum of ₹ 20,000 against each damaged houses/huts, irrespective of any quantum of damage. The department had issued another guideline for payment of ₹ 5,000 against partly damaged cases and it was complied accordingly.

The fact, however, remained that the quantum of assistance of HB grant was not as per extent of damage as envisaged in the State Disaster Management Manual.

4.8.13 Mismatch in Bank Accounts as per Beneficiary List and IFMS Vouchers/Bank Scroll

As per procedure prescribed in the State Disaster Management Manual

[238] *Paschim Medinipur and Purba Medinipur.*

[239] **Paschim Medinipur: Blocks (Ten)** - *Chandrakona-II, Dantan-I, Daspur-I, Garbeta-II, Ghatal, Keshiary, Keshpur, Medinipur Sadar, Pingla and Sabang,* **Purba Medinpur: Blocks (Six)**-*Bhagabanpur-II, Egra-II, Khejuri-I, Moyna, Nandakumar and Nandigram-II.*

[240] Haldia, Panshkura and Tamluk Municipality.

[241] **Paschim Medinipur:Blocks (Two)** - *Garbeta-II and Keshpur.* **Purba Medinpur: Blocks (Two)** - *Moyna and Nandakumar.*

[242] **Purba Medinipur:Blocks (Two)**: Nanda Kumar: 135 and Moyna : 5, **ULBs (One)**: Haldia: 127; **Paschim Medinipur: Blocks (Two)**: Garbeta-II – 86 and Keshpur-645.

(SDMM), each case of application for HB grant was required to be inspected by a four-man committee who shall submit inspection report of damaged house in "Form-C". Based on such report, the district/block authorities shall prepare draft priority list of eligible beneficiaries recommended for receiving the grant in "Form-B". Finally, beneficiary list with the bank account details of the intended beneficiaries is prepared from "FormB" for releasing DBT.

Audit scrutinised both beneficiary list and IFMS payment vouchers/Bank Scrolls of HB grant in digitised format in four[243] of the six selected districts. Both the beneficiary list and IFMS payment vouchers contained bank account details of beneficiaries. Further, the bank details available in the IFMS vouchers/Bank Scrolls were cross checked with the bank details mentioned in the beneficiary list through IDEA tools. From the analysis it was seen that there was mismatch between the account numbers mentioned in the beneficiary lists and those found in the IFMS Vouchers/Bank Scrolls of successful transactions. The mismatch was as high as around 16 *per cent* in respect of South 24 Parganas, where mismatch in 1,40,894 cases, involving an amount of ₹ 120.39 crore was found, out of total 8,62,394 beneficiaries (cases of successful transactions)[244]. Similar discrepancy was found in 3,281 cases involving ₹ 4.68 crore in Nadia, Paschim Medinipur and Purba Medinipur districts.

This indicates serious lack of internal controls in the system of preparation of beneficiary lists and DBT payments made on the basis of such lists. Procedure to ensure correctness of account numbers of the beneficiaries could not be ascertained in audit in absence of details of transaction history either on paper or electronically. Lack of adequate validation checks in the process of payment may lead to risk of fraudulent payments.

On this being pointed out, DM South 24 Parganas stated (April 2022) that in many cases transactions were failed due to wrong bank account details of the beneficiaries. The details of those failed transactions were sent to the concerned BDOs/SDOs for rectification; after receipt of the rectified details from BDOs/SDOs, payments were made to the concerned beneficiaries. Details of 2,000 such cases were also submitted to audit. The reply is not tenable since the audit observation was on mismatch of bank accounts in successful transactions with beneficiary list. Further, records relating to the process of rectification of the bank account details by the BDOs/SDOs were not produced to audit; the updated beneficiary list with rectified account details was also not furnished to audit. Therefore, audit could not verify complete trail of rectification of account numbers of beneficiaries.

4.9 Irregularities in distribution of crop assistance

4.9.1 Multiple payments in the same beneficiary accounts

Distribution of assistance for crop damage was made to all the enrolled farmers of Krishak Bandhu Assured Income Scheme (KBAIS) as an additional instalment under the existing scheme in the affected districts. Electoral Photo Identity Card

[243] *Similar operations could not be performed in Hooghly and North 24 Parganas Districts in absence of the complete beneficiary list.*

[244] *Nadia, Paschim Medinipur and Purba Medinipur.*

(EPIC) is mandatory for enrolment of farmers/share croppers in the KBAIS portal. The farmers/share croppers are also required to be in possession of valid documents of ownership of cultivated land to be eligible for enrolment.

Crop assistance of ₹ 352.59 crore was paid to 23.42 lakh beneficiaries in nine districts. Audit obtained data for crop assistance in the six selected districts. Analysis of the data revealed the following:

- Multiple assistance of ₹ 24.33 lakh was paid to 650 beneficiaries in nine districts on 1,311occasions in their registered KBAIS accounts. It was found that 648 beneficiaries received the assistance twice, one beneficiary thrice while the remaining one beneficiary 12 times in their bank accounts.

  The KBAIS portal restricts enrolment of a farmer/share cropper more than once with identical EPIC number. However, Audit observed that 2,697 beneficiaries in five districts had multiple KBAIS enrolments, one with their valid EPIC number and the others with varying EPIC numbers either comprising altered digits, which did not exist on the website of the Election Commission of India (ECI) or a completely different EPIC number. Thus, KBAIS enrolment obtained by the beneficiaries with different EPIC numbers were invalid. Since, the beneficiaries had several KBAIS enrolments, each of these beneficiaries got assistance several times.

- Crop assistance of ₹ 83.25 lakh was paid to 2,697 beneficiaries through 5,406 distinct transactions. During audit scrutiny, the EPIC details of KBAIS enrolments was not found in the ECI website in 3,011 out of 5,406 transactions; the amount of crop assistance involved was ₹ 46.94 lakh. Similar analysis could not be performed for Purba Medinipur due to absence of EPIC numbers of beneficiaries in the data made available to Audit.

  Thus, multiple payments to same beneficiaries and creation of numerous KBAIS account in one name were indicative of serious lapses in the KBAIS portal, which needs to be examined and corrective action taken as huge amount of fund used to be disbursed to beneficiaries through this portal every year under KBAIS.

  On this being pointed out, the Agriculture Department stated (April 2022) that disbursement of assistance was made to all beneficiaries available in the KBAIS data of nine districts in a very short time. As a result, some errors might have occurred due to shortcomings in the newly developed software of the portal. However, steps have been taken for recovery of excess payment. The Department further stated that subsequently, the portal software has been made more robust with introduction of checks at multiple levels.

4.10 Irregularities in distribution of Horticulture assistance

4.10.1 Irregular payment of ₹ 2.82 crore to 5,627 beneficiaries

Department of Food Processing Industries & Horticulture, GoWB decided[245] to provide financial relief to the affected farmers to repair the

[245] *Notification No. I/89457/2020 dated 29 May 2020.*

'*Paan-Boroj*[246]', which were damaged during Amphan. All betel-vine growers with substantially damaged '*Paan-Boroj*' were eligible for assistance. The assistance was limited to ₹ 5,000 per affected farmer for one damaged unit, irrespective of number of '*Paan-Boroj*' of the affected farmer. Beneficiaries would apply to the Assistant Director of Agriculture (ADA) of the concerned block and processing would be done by the ADA. The list of beneficiaries was to be approved by a three-man committee[247]. The Field Consultant (FC) was required to enquire the validity of the received applications and submit recommendations to the block level beneficiary selection committee.

Audit obtained digitised data of beneficiaries of six selected districts where assistance of ₹ 60.96 crore was paid to 1,21,923 betel vine farmers.

From the records of three[248] blocks in Purba Medinipur and South 24 Parganas it was found that 18,359 beneficiaries were provided horticulture assistance. Of these, 5,627 beneficiaries were paid ₹ 2.82 crore without any application and subsequent enquiry. The payments were made based on beneficiary list prepared for cyclone 'Bulbul' that hit West Bengal in November 2019.

Thus, payment of ₹ 2.82 crore to 5,627 beneficiaries on the basis of beneficiary list of previous cyclone and without conducting any enquiry was highly irregular. Moreover, in South 24 Parganas 1,727 beneficiaries from the above again applied and received assistance of ₹ 86.35 lakh for loss due to Amphan.

On this being pointed out, Joint Secretary, Horticulture Department stated (December 2021) that the districts have been directed to submit action taken report in this regard. However, such report is awaited (November 2022).

4.10.2 Multiple assistances to same beneficiary led to excess payment of ₹ 41.25 lakh in four test checked districts

From the analysis of 1,21,252 horticulture beneficiary data of four districts it was found that 797 farmers were given multiple assistance of ₹ 81.10 lakh in the same bank accounts. 770 farmers received the assistance twice, 26 farmers received thrice, while one farmer received assistance four times. The above resulted in excess payment of ₹ 41.25 lakh to 797 farmers.

On this being pointed out, Joint Secretary, Horticulture Department stated (December 2021) that the districts have been directed to submit action taken report in this regard. However, such report is awaited (November 2022).

4.10.3 Horticulture Input Subsidy provided only to betel vine farmers much in excess of assessed damage

As per Memorandum of Super Cyclone Amphan submitted by the GoWB to the IMCT, Horticulture input subsidy to the extent of ₹ 273.76 crore covering area of 1,86,362.87 hectare (damage more than 33 *per cent*) was sought from GoI in respect of five types of crops namely vegetables, betel vine, flowers and fruits (both perennial and non-perennial).

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[246] *Structures of betel vine cultivation.*

[247] *Consisting of BDO, ADA and the nominated representative of District Horticulture officer.*

[248] *PurbaMedinipur: Nandigram –I and Ramnagar-I; South 24 Parganas: Namkhana.*

However, the Agriculture Department, GoWB, allotted ₹ 81.29 crore for horticulture subsidy only to farmers in respect of betel vine covering 8,704.70 hectare. No allotment was provided for other horticultural crops (*i.e*. vegetables, flowers and fruits) covering area of 1,77,658.17 hectare affected due to Super Cyclone Amphan as shown below in **Table 4.4:**

Table 4.4: Horticultural Crop Area Damage Assessed and actual assistance provided by GoWB

Sl No	Name of Districts	Affected area as per Memorandum for which assistance was sought (in ha)	Affected area of betel vine for which assistance was provided (in ha)	Affected area other than beetle vine(in ha)	Percentage of area for which assistance was not provided
1.	Bankura	3,495.00	76.00	3,419.00	97.83
2.	Birbhum	7,300.00	0	7,300.00	100.00
3.	Hooghly	22,692.70	77.70	22,615.00	99.66
4.	Howrah	5,686.00	1,376.00	4,310.00	75.80
5.	Jhargram	1,325.00	0	1,325.00	100.00
6.	Malda	7,175.00	60.00	7,115.00	99.16
7.	Murshidabad	9,442.00	0	9,442.00	100.00
8.	Nadia	18,996.70	430.00	18,566.70	97.74
9.	North 24 Parganas	53,669.00	50.00	53,619.00	99.91
10.	Paschim Medinipur	13,713.00	958.00	12,755.00	93.01
11.	Purba Burdwan	3652.47	0	3,652.47	100.00
12.	Purba Medinipur	9,170.00	3,200.00	5,970.00	65.10
13	South 24 Parganas	30,046.00	2,477.00	27,569.00	91.76
Total		**1,86,362.87**	**8,704.70**	**1,77,658.17**	**95.33**

(Source: Memorandum on Super Cyclone Amphan and allotment orders of horticulture assistance)

Therefore, the affected farmers cultivating crops other than betel vine, which covers 95.33 *per cent* of the total affected area assessed by GoWB in their Memorandum, were not provided horticulture input subsidy.

Further, during the scrutiny of Memorandum it was found by audit that GoWB assessed and claimed horticulture input subsidy in respect of betel vine for ₹ 15.67 crore covering area of 8,704.70 hectares (damage more than 33 *per cent*) in respect of nine districts. However, the Agriculture Department, GoWB, made allotment of ₹ 81.29 crore for horticulture input subsidy to the betel vine farmers. Thus, ₹ 65.62 crore was allotted in excess of the assessed damage.

On this being pointed out, the Joint Secretary, Horticulture Department stated (December 2021) that assistance was provided for "Paan Boroj" structure supporting the growing of betel vine crops. Repairing of "Paan Boroj" structures do not fall under the purview of NDRF/SDRF norms. Further, there was no allotment under NDRF/SDRF in respect of affected farmers of vegetable, flowers and fruits.

The reply is not tenable as the assistance rendered was lopsided in favour of betel vine farmers, receiving an excess allotment of ₹65.62 crore as assistance for damages where the quantum of damage was 4.67 *per cent* only.

Therefore, it can be concluded that, while assessment of damage was done for all horticulture crops, assistance was paid only to betel vine farmers, much in excess of assessed damages while farmers of other horticultural crops were not considered for assistance at all.

4.11 Irregularities in Assistance to Fishermen

To alleviate the damages faced by the fisherman, caused by Amphan, GoWB provided relief in cash for damaged boats, nets and hundis (big pitchers used in fishing). Further, for treatment of each hectare of affected water body, 100 kg of Lime and two kg of Potassium Permanganate were provided in kind. The Fisheries Department disbursed ₹ 17.22 crore as assistance to 96,154 beneficiaries.

4.11.1 Multiple payments to 1,174 beneficiaries

During test check of beneficiaries list of South 24 Parganas, Audit found that 1,174 beneficiaries with identical names and bank account numbers received assistance more than once that resulted in excess payment of ₹ 43.49 lakh in 13 blocks.

Further analysis revealed that the lists were prepared by the Gram Panchayats (GPs) and forwarded to the block offices. Block offices prepared the consolidated lists based on such lists and submitted to the Treasury for payment. Multiple payments indicated that the check and validation system at the block level was inadequate.

On this being pointed out, BDO Namkhana admitted the audit observation and stated (September 2021) that such erroneous payments were made due to distribution of assistance to many beneficiaries within a short time period and limited staff.

4.11.2 Non-utilisation of allotted fund – ₹ 44.78 lakh

In terms of circular[249] issued by MHA, GoI, assistance to fishermen for damage/loss of nets was admissible at ₹ 2,600.

In South 24 Parganas, amount of ₹ 2,600 was released in two[250] installments. At Namkhana block it was noticed that although fund of ₹ 44.78 lakh towards second installment was received by the block but was not disbursed to 2,799 affected fishermen, resulting in lapse of the fund on 31 March 2021. Thus, the beneficiaries were deprived of assistance despite availability of fund.

On this being pointed out in Audit, BDO Namkhana accepted the observation and stated (July 2021) that since the fund was allotted under Old Age Pension Scheme for fishermen instead of Amphan damage, there remained confusion regarding disbursement of the fund to Amphan affected fishermen.

4.11.3 No action against failed transactions resulting in deprival of affected fishermen

From the scrutiny of IFMS portal of three selected block offices[251] in South 24 Parganas, payment of ₹ 11.60 lakh to 573 beneficiaries was unsuccessful due to discrepancy in their bank accounts. The block authorities did not initiate remedial action to obtain the correct bank account details for

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[249] *No. 32-7/2014-NDM-1 dated 08 April 2015 issued by MHA, GoI.*

[250] *First Installment: ₹ 1,000, Second Installment: ₹ 1,600.*

[251] *Kulpi, Magrahat and Namkhana.*

releasing assistance. Financial assistance of ₹ 11.60 lakh remained undisbursed and lapsed in March 2021.

On this being pointed out, the block authorities stated that attempts were made to contact those fishermen and to obtain their correct bank account details through Gram Panchayats. However, details of such communications could not be produced to Audit.

4.12 Doubtful payment for animal resources

In response to the audit requisition relating to providing details of beneficiaries (along-with all available details), the Animal Resources Department had provided a list containing names of the beneficiaries, single word address of the beneficiary, types of loss and amount. Though several duplicate names were found in the list, in absence of unique and important information on bank account numbers, mobile numbers, Photo ID number, the extent of excess payments/duplicate payments, if any, could not be verified. In the absence of bank account numbers, payments made to the beneficiaries through DBT to the bank accounts of selected eligible beneficiaries could not be verified in audit.

However, details of requisite information, like bank account numbers, IFSC code, mobile numbers *etc*., as required for successful DBT, relating to the 2,380 beneficiaries of South 24 Parganas (for second phase of assistance) were provided and following discrepancies were noticed:

a) Out of 2,380 beneficiaries, duplicate mobile numbers were found in 316 cases involving an amount of ₹ 0.17 crore.

b) duplicate bank account numbers were found in respect of 18 out of the 2,380 beneficiaries involving an amount of ₹ 0.02 crore. Further, assuming that these nine beneficiaries are eligible for at least one benefit, an overpayment of ₹ 30,000 would have been made, if the lower of the two benefits are considered as ineligible.

However, the district authorities claimed that applications were processed in two phases and do not constitute double payment as they pertain to different kinds of losses. Given the limited database made available by the Animal Resources Department, reasonable assurance that overpayments have not been made, cannot be given.

Department in its reply (December 2021) stated that concerned district officials have been requested to submit detailed report in this regard.

4.13 Evacuation Measures

After being alerted by IMD on 13 May 2020, about the formation of the cyclonic system, the State Government started close monitoring of the situation. Preparedness measures viz., initial sensitisation, activation of control room, coordination meetings were taken up. The vulnerable population were evacuated and moved to safer places.

Para 6.2 of the West Bengal Disaster Management Manual prescribes mitigation measures to be followed in the areas vulnerable to the cyclone. IMD Early Warning System could track the cyclone system almost a week (13 May 2020) ahead of the landfall of the cyclone, which gave enough room for preparedness in the coastal districts in West Bengal. Widespread awareness campaign was done by the members of the Gram Panchayats, Panchayat Samities and Municipalities. Almost all the households who were surveyed in the six districts conveyed that they were made aware of the incoming cyclone and in many coastal districts, announcements through public announcement systems/mikes were done. The households surveyed had been asked to move to the nearby school/cyclone shelters. However, many of them (62.50 *per cent*) preferred to stay at home. An analysis of the households surveyed, based on their shifting is given below:

Table 4.5: Pre-Cyclone Evacuation of Households

Sl. No.	Name of Districts	Number of people did not shift	Number of people shifted to nearby schools/cyclone shelters	Number of persons shifted to relatives' places/ neighbor's houses	Number of persons did not respond	Total surveyed
1.	Hooghly	143	16	1	0	160
2.	Nadia	146	0	14	0	160
3.	North 24 Parganas	84	22	54	0	160
4.	Paschim Medinipur	108	49	2	1	160
5.	Purba Medinipur	44	40	76	0	160
6.	South 24 Parganas	75	72	13	0	160
Total		**600**	**199**	**160**	**1**	**960**

As can be seen from above, out of 359 persons evacuated 277 persons were from the coastal districts of North 24 Parganas, Purba Medinipur and South 24 Parganas. Thus, higher proportions of households were shifted to safer places, which may have reduced casualties suffered from the wrath of the super cyclone Amphan. During landfall of cyclone, announcements of the disaster and preventive measures, broadcast for medical assistance, deployment of State Disaster Response Force & National Disaster Response Force Teams, Police, Civil Defence, *etc*. were taken up. After receding of the cyclone, relief and restoration measures were also taken up.

4.14 Relief Distribution in Kind

Apart from providing cash assistances to the Amphan affected households, GoWB had also provided relief materials in the form of tarpaulins, clothes, Special GR (Gratuitous Relief) rice, DM Kits and undertook restoration activities in view of damage to the irrigation, power and road infrastructure.

As per the "Memorandum of Super Cyclone Amphan" prepared by the DMCD Department, GoWB, in June 2020, relief materials/articles were allotted to different Amphan affected districts as shown in ***Appendix-45.***

4.14.1 Non-transparent Distribution of Relief Materials

Distribution of relief materials to the last mile could not be verified in audit in many cases because of non-transparent way of maintenance of stock registers and their end-distribution in many districts. While in North 24 Parganas, all the materials which were allotted to the district was seen as sub-allotted. Further, analysis of response from the beneficiary survey gives some pointers to the distribution process, as detailed in **Table 4.6**.

Table 4.6: Distribution of relief material vis-à-vis response of beneficiaries in survey

SI. No. (1)	Name of district (2)	Figures as per State Government					Observations from beneficiary survey				
		No. of Beneficiary HHs of HB grant (3)	Tarpaulins distributed (4)	Average no. of tarpaulins per 100 HH (5)= {(4)/(3)} *100	DM kits Distributed (6)	Average no. of DM Kit per 100 HH (7)= {(6)/(3)} *100	HH provided with HB grant (8)	HH provided with tarpaulins (9)	Average no. of tarpaulins per 100 HH (10)= {(9)/(8)}	HH provided with DM Kit (11)	Avg. No. of DM Kit per 100 HH (12)= {(11)/(8)}
1	Hooghly	66,997	65,000	97	0	0	132	9	7	0	0
2	Nadia	41,644	15,000	36	0	0	139	3	2	0	0
3	North 24 Parganas	5,81,109	3,90,000	67	18,000	3	135	66	49	0	0
4	Paschim Medinipur	79,326	15,000	19	0	0	144	0	0	0	0
5	Purba Medinipur	3,40,174	1,00,000	29	7,000	2	139	92	66	4	3
6	South 24 Parganas	9,04,491	6,60,000	73	37,000	4	139	40	29	9	6
Total		**20,13,741**	**12,45,000**	**62**	**62,000**	**3**	**828**	**210**	**25**	**13**	**2**

It is expected that relief materials like tarpaulin and DM kits would be distributed to the households, whose houses have been damaged and wherewithal for living has been disturbed. It is seen that for every 100 such beneficiary households of HB grant, in the six selected districts, 62 tarpaulins were distributed on an average, whereas amongst the households surveyed in audit, the average was only 25. Beneficiaries in Paschim Medinipur district have responded to have not received any tarpaulin. Similarly, beneficiaries in North 24 Parganas responded that they had not been given any DM kit. Therefore, audit is unable to provide any assurance regarding distribution of relief materials in the aftermath of Amphan.

4.14.2 Loss due to short receipt of Tarpaulin

From the scrutiny of records of Amphan Relief Materials of North 24 Parganas it was found that 1,50,000 tarpaulins were despatched from the central stores at Malda and Siliguri to the district. However, the district authority received only 1,49,554 tarpaulins leaving a short fall of 446 tarpaulins.

This resulted in financial loss of ₹ 3.22 lakh to government exchequer (calculated at the rate of ₹ 722 per tarpaulin).

On this being pointed out District Authority stated (September 2021) that the correct shortfall in tarpaulins would be 381. However, no documentary evidence was provided to audit in support of their reply.

4.14.3 Irregular submission of UCs against relief contingency fund for Amphan

DMCD Department, GoWB sanctioned ₹ 7.75 crore for South 24 Parganas towards relief contingency for Amphan in four different batches. Audit found that Utilisation Certificates (UCs) against the entire sanctioned fund of ₹ 7.75 crore were sent by the district authority to the DMCD Department in different batches. Audit, however, found that, UCs for ₹ 1.04 crore was submitted from one to 161 days before sub-allotment of the fund by the district authority. Details of allotment of relief contingency fund of Amphan and submission of UC were as under **Table 4.7**:

Table 4.7: Sanction Orders vis-à-vis Utilisation Certificate on Relief Contingency

Sl. No.	Sanction Order	Amount (₹ in lakh)	UC No. & date sent by the district	Balance lying un-disbursed as on the date of UC sent (₹ in lakh)
1.	201-DM/FR/DMCD dated: 19-05-2020	60.00	FR-361 dated: 10-06-2020	20.00
2.	227-DM/FR/DMCD dated: 30-05-2020	500.00	FR-602 dated: 26-08-2020	(₹ 12.50 lakh suballotted on 26 August 2020)
3.	259-DM/FR/DMCD dated: 09-06-2020	200.00	FR-688 dated: 25-09-2020	68.50
4.	531-DM/FR/DMCD dated: 22-08-2020	15.00	FR-621 dated: 02-09-2020	15.00
Total		**775.00**		**103.50**

(*Source: Information furnished by DMCD Department and DM, South 24 Parganas)*

Thus, UCs sent in respect of ₹ 1.04 crore of relief contingency fund for Amphan was irregular and not in order. Reply of the district authority is yet to be received (November 2022).

4.15 Restoration Works

As per the report submitted by the State Government the super cyclone Amphan caused huge damages to dwelling houses, agriculture, horticulture, fisheries, animal resources, forest, power, irrigation canals, health infrastructure and industries. Audit mainly concentrated on the infrastructural work done by the Power Department and Irrigation and Waterways Department; the observations in this regard are as follows:

4.15.1 Restoration Works undertaken by Power Sector

GoWB in its Memorandum assessed that 88,357 High Tension (HT) Poles, 3,51,156 Low Tension (LT) Poles, 10,280 Distribution Transformer (DTR) and 1,89,169.08 Km of conductors were damaged due to Amphan. Accordingly, GoWB sought assistance of ₹ 1,345.25 crore *i.e* ₹ 1,235.25 crore for damages to HT poles, LT poles, distribution transformers, conductors, removal of debris and ₹ 110 crore for restoration of electric poles.

West Bengal State Electricity Distribution Company Limited (WBSEDCL) admitted that the assessed damage of ₹ 1,235.25 crore mentioned in the Memorandum was purely on estimation basis, without documented details. After the cyclone was over, a report was taken from all the distribution units on the quantum of actual damage to the existing infrastructure. The actual damage across all distribution units was ₹ 240 crore which was only 19.43 *per cent* of the estimated figure. The aforesaid expenditure was incurred from the fund of WBSEDCL and Detailed Project Report (DPR) containing the detailed expenses was sent (February 2021) by WBSEDCL to the GoWB for sanctioning ₹ 240 crore in their favour.

As per information provided by WBSEDCL, capital expenditure of ₹ 253.06 crore was incurred by 43 divisions while revenue expenditure of ₹ 6.13 crore was incurred by 26 divisions under WBSEDCL on account of repair and restoration work during the financial year ending on 31 March 2021.

4.15.2 Restoration works undertaken by Irrigation & Waterways Department

Around 160 km length of river embankments and sea dykes maintained by the Irrigation & Waterways Department (I&WD) had been damaged due to Amphan at 37 Blocks in the districts of Purba Medinipur, North 24 Parganas and South 24 Parganas. Breaches to embankments of varying length, ranging from 20 m to 2500 m occurred in 92 places, mainly in Patharpratima, Gosaba, Basanti, Kultali, Mathurapur-II and Canning-I Blocks in South 24 Parganas and Hingalganj, Sandeshkhali-I, Sandeshkhali-II, Hasnabad (including Taki Municipal area), Minakhan, Basirhat-I, Basirhat-II and Baduria Blocks in North 24 Parganas. I&WD assessed (May 2020) the restoration cost amounting to ₹ 73.12 crore considering works of palliative nature. This estimate was later revised to ₹ 79.65 crore. DMCD Department however, allotted (July 2020) fund of ₹ 100 crore to I&WD from SDRF to combat the disastrous situation due to Amphan. I&WD in its reply (March 2021) stated that ₹ 79.65 crore from SDRF fund was allocated by the Department (while actual sub-allocation to six Irrigation Divisions executing the work was found to be ₹ 66.93 crore), out of which expenditure of ₹ 64.90 crore was incurred.

4.16 Internal control mechanism

Internal control is an integral component of an organisation's management processes to provide reasonable assurance that the operations are carried out in economic, efficient and effective manner. Deficiencies in the internal control mechanism are discussed in the following sub-paragraphs:

4.16.1 Control deficiencies in the process of management and disbursement of Relief Assistance

During audit of selected blocks and municipalities in the six selected districts, the following deficiencies in internal controls were noticed in respect of the management of disbursement of relief assistance, which are detailed in two parts viz, Administrative Deficiencies and Information Technology or System Control Deficiencies:

4.16.1.1 Administrative Deficiencies

Audit observed following administrative deficiencies:

- The West Bengal Disaster Management Manual does not prescribe any general format in which the applications are required to be submitted by the affected persons for seeking assistance. Neither the DMCD Department nor the district authorities prescribed such format for Amphan. Prescription of application format is required for capturing uniform beneficiary information across all the districts. Due to absence of prescribed format, different formats (both handwritten and typed), including single page applications without any supporting documents, were submitted by the beneficiaries across the selected districts. The applications did not contain vital information like date of application, monthly income of the beneficiaries, nature of damage, bank account details, mobile number, photographs of damaged houses *etc* in a considerable number of the applications test-checked during audit of selected blocks of six districts. Further, results of verification of damaged houses by enquiry committee and acceptance/ rejection of application was not found to be noted on the applications in 301 (30 *per cent*) out of 963 HB grant applications checked in audit for beneficiary survey. In many cases, reports of verification committees were not found on record, though benefits were distributed to the applicants. The details of applications checked are given in ***Appendix-46.***
- It was further found that, there was absence of unified application form for seeking multiple assistances. As a result, an applicant seeking multiple assistances had to submit applications to different wings/departments of the district authority in the difficult situation of the aftermath of a natural disaster.
- Documents required to be submitted along with the applications were also not prescribed. Prescribed documents are required for ensuring correctness of information provided in the application forms by the beneficiaries.

All the relief assistance was provided to the beneficiaries through Direct Benefit Transfer (DBT). Therefore, copy of the bank passbook was required to be obtained by the district authorities to ensure correctness of the account details of the beneficiaries. During audit of the selected blocks in six districts it was found that copy of bank passbook/ bank details of the beneficiaries was not available with the application form in 265 (27.52 *per cent*) out of 963 cases test checked during audit. Further, it was found that there was mismatch in bank account numbers as mentioned in the beneficiary list and the bank scroll/ IFMS vouchers, which was as high as 16 *per cent* in South 24 Parganas district. Thus, mechanism for ensuring correctness of account details of the beneficiaries was found to be deficient.

- It was found that no register was maintained by the blocks/municipalities either manually or digitally for entering all the applications received at their end. The application forms for HB grants were not found to be serially numbered and were also not cross referenced with Form-C and Form B. This deficiency would cause hindrance in identification and taking out a particular application from the heaps of applications in case of scrutiny by higher authorities.
- Cross linkages among applications, Form-C (Inspection Report relating to families affected due to natural calamities proposed to be given HB grant), Form-B (Detailed particulars of families affected by natural calamities proposed to be given HB grant) and digitised beneficiary data was found to be deficient as there was no provision for capturing Application Form Number, unique identity number (Aadhaar Number, PAN number *etc*.) and bank account details of applicants in Form-B and Form-C prescribed in the West Bengal Disaster Management Manual. Capturing of those details in FormB and Form-C would help in ensuring that persons other than those included in the said Forms are not given assistance.
- There was no provision for scrutiny of beneficiary data with that of application forms, Form-C and Form-B by the higher authorities to ensure correctness of beneficiary data before making payments to them. During test check of records of selected blocks/municipalities it was found that no such scrutiny was exercised by the block/district authorities resulting in several cases of multiple payments being made to same beneficiaries. Cases were also found where beneficiaries, though not recommended for payment in Form-B, had been paid HB grant by the block authorities. Further, payments were found to be made to beneficiaries not belonging to indigent category. These cases cropped up due to absence of scrutiny of data by the higher authorities.
- The Special Secretary, DMCD Department nominated[252] (June 2020) three supervising officers and seven nodal officers for supervising the process of selection of beneficiaries and disbursement of HB grant in seven[253] districts. These officers were required to visit the assigned district

[252] *Order No 1103/1(11)-DMCD/O/EOC and 1099-DMCD both dated 17 June 2020.*

[253] *Hooghly, Howrah, Nadia, North 24 Parganas, Paschim Medinipur, Purba Medinipur and South 24 Parganas.*

and carry out random checking of houses for which grant was given. They would also inquire into complaints about HB grant and ensure that it was disbursed in compliance with SDRF norms and orders of GoWB. The supervising/Nodal officers were also directed to submit an inspection/tour report and bring to the notice of the Special Secretary on deviations, if any. Proceedings of the meeting (June 2020) between Special Secretary and Supervising/Nodal Officers on the above subject, revealed that all the officers present in the meeting stated that there was no anomaly observed on their visit regarding amount, process and other modalities of HB grant disbursement. This is indicative of the fact that supervision and oversight activities carried out by the Department were deficient, which failed to fulfill the intended objective of the Department.

The Department stated (April 2022) that the whole relief work of Amphan was conducted during Covid pandemic period wherein there was shortage of manpower due to complete lockdown and later due to rostering of staff.

The reply of the Department should be viewed in light of the fact that natural calamities are a recurrent feature. Therefore, it was incumbent on the Department to have standardised relief application formats and prescribe the standard operating procedures for processing the applications beforehand.

4.16.1.2 Information Technology or System Control Deficiencies

- The DMCD Department did not formulate unique verifiable numbers like Virtual Aadhaar Numbers or Aadhaar Numbers and job cards of beneficiaries issued by NREGA, mandatory for claiming assistance and therefore, such unique number was not available in most of the applications. Consequently, no unique verifiable number was captured in the digitised beneficiary data in the selected districts.
- The district authorities did not exercise due diligence of "Compare and Check exercise" on the digitised beneficiary data prescribed by the DMCD Department before releasing payment, to ensure that multiple data against the same beneficiaries are not included in such data. The above absence resulted in undetected and multiple payments in 18,891 cases involving 9,226 beneficiaries of HB grant.
- In KBAIS, EPIC number of farmers was made mandatory for registration in the portal to uniquely identify a farmer. Duplicate registration in the portal with the same EPIC number was not possible. However, it was noticed that KBAIS portal was not integrated with the portal of Election Commission of India. As such, there was no mechanism to validate EPIC data of farmers registered in the system. The above deficiency resulted in multiple registrations in 3,011 cases involving 2,697 farmers, in the KBAIS portal by providing either manipulated EPIC or EPIC of other persons.

As discussed above, Audit observed several internal control deficiencies in the administrative, operational and monitoring controls in management of relief measures. Internal control arrangements were found to be weak and did not provide complete assurance against irregularities.

4.17 Conclusions

The super cyclone Amphan of May 2020 had hit the coast of West Bengal causing substantial damage.

Several PILs alleging irregularities in relief distribution were filed, which led the Calcutta High Court to direct the C&AG to conduct "financial and performance audit" of such relief. An audit of the relief and restoration work taken up by the State Government was conducted across several departments and selected districts. GoI approved ₹ 2,707.77 crore as central assistance from NDRF and released an amount of ₹ 2,250.28 crore.

Assistance was paid to beneficiaries through DBT for house-building, crop damage including horticulture crops and for fisheries, of which House building comprised the single largest category. Bulk of the assistance (93.69 *per cent*) provided was distributed in the districts of South and North 24 Parganas, Purba and Paschim Medinipur, Nadia and Hooghly, which were selected for detailed audit.

The lack of adequate institutional mechanisms and processes including internal control and monitoring mechanisms necessary to ensure efficient and timely relief and rehabilitation on the occurrence of a disaster were evident in the disaster relief activities. There were deficiencies in damage assessments, and in numerous cases funds were released either to ineligible beneficiaries, or double/ multiple benefits were given to the same households.

Applications for HB grant were to be submitted to Panchayat/BDO/Municipality offices along with supporting documents. Payment of ₹ 22.84 crore was found to have been made without ensuring submission of requisite documentation in South 24 Parganas. In South 24 Parganas and North 24 Parganas there were many cases where HB grant was paid based on recommendations of local leaders and without conducting the mandatory local inspections or the inspection reports of the local enquiry Committees were not considered. Beneficiaries whose claims were rejected by the concerned authorities on ground of no damage received HB grant, which indicated that due diligence was not observed to prevent payments to rejected beneficiaries.

Over 50 *per cent* of total HB allotment was distributed among 25 *per cent* of the total beneficiaries in the first phase, while the balance funds were distributed in the second phase to 75 *per cent* of the beneficiaries. This resulted in iniquitous and unjust distribution of limited resources.

Against the provisions of West Bengal Treasury Rules, 2005, entire allotted fund of HB grant of ₹ 1,383.23 crore, meant for North and South 24 Parganas, were drawn from the treasuries by the district authorities, and parked in bank accounts of the district authorities.

Mechanism to identify beneficiaries claiming multiple assistance for same loss/ damage was found to be deficient, resulting in multiple payments to same beneficiaries in several cases. This phenomenon was observed across all sectors in which assistance was provided through DBT.

In the five test checked districts 2,697 beneficiaries were found to have multiple KBAIS enrolments, resulting in multiple payments.

Assistance for damage to "*Paan Boroj*" was provided to 5,627 beneficiaries on the basis of beneficiaries list prepared for cyclone 'Bulbul' in 2019.

The internal control mechanism of the Government for relief work was found to be deficient. The DMCD Department did not prescribe unified format of application for assistance, which resulted in different formats of applications even for the same assistance, as was most evident in the case of HB grant. No unique identifier (like Aadhaar) was made mandatory to identify beneficiaries seeking assistance. There was no cross verification between applications forms, inspection reports in "Form-C" and recommended beneficiary list in "Form-B". No mechanism to monitor applications received, admitted and rejected were found on record.

There was no audit trail that could trace a specific transaction from the stage of application through its verification, acceptance and successful payment into beneficiary bank account, which is essential to provide assurance of the process of providing relief assistance. A well-designed system, in the form of a software or web application, which does not allow duplicate entries of any of the verifiable unique numbers, like Aadhaar, EPIC, Bank Account No., Mobile No., land details of applicants, could have prevented multiple payments in several cases. A single-window system and comprehensive pre-designed application for claiming different kinds of assistance would have made the process less strenuous for applicants and facilitated ease of monitoring by authorities.

The State Government needs to revisit the system of relief payments at the district levels and below and their effective monitoring by controlling Departments so as to address the control issues observed by audit.

4.18 Recommendations for System Improvement

Government should look at taking urgent steps to ensure that the system of disaster management and disaster relief is fair, robust and transparent and that the prescribed rules and procedures are scrupulously followed so that an assurance can be derived from the system. The suggested actions include:

1. ***Strengthening the mechanism for assessing and reporting of damage due to a disaster from the districts for planning effective mitigation measures.***
2. ***Prescribe a unified comprehensive application format for relief assistance and also the documents to be submitted in support of claims for such assistance; devising a single-window, software or web-interface where the district, block or Panchayat authorities could enter the details provided by applicants and generate a unique application number, which may be tracked by the applicants as well as higher authorities which may be available at the Block/Panchayat Offices and also displayed on the website of the Government for easy reference and retrieval.***
3. ***Ensure that the system of beneficiary selection is streamlined and followed scrupulously to ensure transparency and fairness; unique identifier number like Aadhaar could be used for this purpose to prevent multiple payments and duplication.***
4. ***Ensure that mandatory scrutiny of records by the controlling authorities before making payments are carried out and that there is accountability***

in the process; effective steps may be taken to discourage non-compliance with existing rules and processes.

5. ***Strengthen mechanisms for monitoring stock and distribution of relief materials.***
6. ***In view of the several instances of irregular/doubtful payments, the Department should investigate the process of disbursement of relief in detail and adopt suitable control mechanism and order recovery of relief from ineligible beneficiaries. Necessary enquiry should also be initiated by the Government for fixing responsibility for the irregularities.***

Chapter V

Individual Observations of Compliance Audit

Chapter V

Individual observations of Compliance Audit

Micro, Small & Medium Enterprises and Textiles Department

5.1 Irregularity in procurement of Rotary Sewing Machines

West Bengal Khadi and Village Industries Board under MSME&T Department incurred an irregular expenditure of ₹ 3.45 crore in procurement of 4,254 Rotary Sewing Machines in contravention of mandatory provision of West Bengal Financial Rule at a higher rate.

As per rule 178 of West Bengal Financial Rule, Volume I, "no tender for the execution works of any description should be received unless accompanied by the deposit of cash as earnest money to the extent which has been notified as necessary by the Executive Engineer or other officer".

Audit observed that the Chief Executive Officer (CEO), West Bengal Khadi & Village Industries Board (WBKVIB) invited (31 August 2016) tender for procurement of 1,000 unit Rotary Sewing Machines (non-electrical) suitable for stitching Sal Leaf Plate & Bowl. Out of six, five bidders were qualified for financial bid by the Committee. From the comparative statement of technical bids it was observed that following rates were quoted by the qualified bidders **(Table 5.1)**:

Table 5.1: Rates quoted by qualified bidders

Bidder 1	Bidder 2	Bidder 3	Bidder 4	Bidder 5
₹ 5,230.00 per unit	₹ 7,285.00 per unit	₹ 3,619.00 per unit	₹ 7,290.00 per unit	₹ 7,285.00 per unit
L2		**L1**		

Bids were opened on 05 October 2016 and an agency (Bidder 3) was selected as L1 by a Tender Committee of five members headed by the Chief Executive Officer, WBKVIB. In the comparative statement of technical bid, the Tender Committee observed that only two bidders (L1 and L2) had submitted scanned copy of the Demand Draft for EMD. However, Audit observed that the said bid was cancelled on 17 January 2017 by the CEO on the ground that Earnest Money Deposit (EMD) was not submitted by the L1 & L2 bidders.

After cancellation of the bid, WBKVIB again (January 2017) placed 'Expression of Interest' for supply of same sewing machines on urgent basis. This time the Expression of Interest did not contain any clause regarding submission of EMD by the bidders, which is mandatory as per clause 178 of West Bengal Financial Rules, 2013 to safeguard Government interest. Three bidders quoted the rates including Bidder 1 of the earlier bid who quoted the lowest rate this time[254].

Bidder 1 quoted the rate of the same sewing machine 35 *per cent* higher than the rate quoted by them just five months ago. The WBKVIB issued (December 2016 to November 2019) purchase order on Bidder 1 at a rate of ₹ 7,080.00 per

[254] *Bidder 1 (L1):₹ 7,080 per unit; Bidder 6:₹ 8,600 per unit; Bidder 7: ₹7,940 per unit.*

unit for supply of 4,464 rotary sewing machines (non-electrical) on piece meal basis during 2016-17 to 2019-20. The agency supplied and distributed 4,254 sewing machines upto March 2020 and payment of ₹ 3.45 crore was made to the agency by WBKVIB.

From the above it was evident that the Department had cancelled the tender (August 2017) on technical grounds against the recommendation of Tender Committee and subsequently invited Expression of Interest without incorporating mandatory clause for submission of EMD. Thus, the Department incurred an expenditure of ₹ 3.45 crore on purchase of Sewing Machines in contravention of extant provision of WBFR.

CEO, WBKVIB in its reply (March 2022) stated that there were some erroneous specifications in the tender document and all the bidders were invited for a physical demonstration of machines to be supplied. However, L1 bidder did not participate in the demonstration. The WBKVIB further stated that the bid was not cancelled due to non-submission of EMD, as EMD was required to be submitted after issue of work order. However, the reply is not tenable as in the earlier occasion CEO, WBKVIB specifically stated (January 2022) that the bid was cancelled due to non-submission of EMD. Further, the statement regarding submission of EMD after issue of work order was factually incorrect as EMD was required to be submitted along with the tender document as per extant provision. Moreover, if L1 bidder failed to comply with the specification, L2 bidder should have been awarded the contract.

5.2 Irregular payment of Marketing Incentive

The Department paid ₹ 8.78 crore as Marketing Incentive (MI) under National Handloom Development Programme to 202 ineligible Primary Handloom Weaver' Cooperative Society (PWCS) and additional MI under West Bengal Incentive Scheme (WBIS) 2013 to PWCS in contravention of the Scheme Guidelines.

The Government of India introduced (November 2013) the component 'Marketing Incentive' (MI) under Comprehensive Handlooms Development Scheme (CHDS), which is one of the components of National Handloom Development Programme (NHDP), to the handloom agencies for preparing conditions conducive to marketing of handloom products. The guidelines of the CHDS stipulates that "*MI would largely be an incentive to the price in competitiveness of handloom sector so that while on one hand they are able to marginally reduce the price, on the other hand they invest in infrastructure so as to improve the production and productivity. The assistance towards Marketing Incentives shall be eligible to State handloom corporations, apex co-operative societies, primary handloom weavers' co-operative societies and national level handloom organizations"*.

The Scheme is to be financed by funds from Government of India and State Government on 50:50 sharing basis. Financial assistance would be provided to the extent of 10 *per cent* of the average sales turnover of the last three years to each Handloom Corporation, Apex Co-operative Society, Primary Weavers Co-operative Society (PWCS) and National Level Handloom Organisation.

For the purpose of assistance under the scheme, handloom organisations/ societies should:

i. purchase the yarn from National Handloom Development Corporation (NHDC); for buying yarn from open market, No Objection Certificate (NOC) from NHDC would be needed.

ii. necessarily sell only handloom products using handloom mark.

iii. sale of products to the apex weaver cooperative societies/federations/ corporations'/Government department/agencies and sales made under Barter System would be excluded while computing the annual sales turnover for working out the eligible assistance towards MI.

Audit observed after scrutinising records of 289 PWCSs in eight selected offices of the Development Officer (Handloom), that an amount of ₹ 8.05 crore was disbursed as MI during 2017 to 2020 for the scheme years 2014-15, 2015-16 and 2016-17 to 202 PWCSs selling handloom products without handloom mark or to those who had purchased yarn from open market without obtaining requisite NoC from NHDC in violation of the scheme guidelines. Details of such irregular disbursement of MI are shown in **Table 5.2**:

Table 5.2: Statement showing irregular payment of MI

Office of Development Officer(Handloom)	Nos. of scrutinised PWCS	Nos. of ineligible PWCS	MI disbursed to ineligible PWCS for the scheme year (₹ in lakh)		
			2014-15	2015-16	2016-17
DO(H), Kalna	31	19	140.25	85.28	48.11
DO(H), Tamluk	41	24	7.98	5.03	1.82
DO(H), Howrah	9	7	13.43	6.03	3.15
DO(H), Bankura	15	9	11.31	10.89	4.43
DO(H), Berhampore	59	43	29.40	24.52	12.08
DO(H), Katwa	25	20	71.04	41.04	21.35
DO(H), Nabadwip	72	60	96.42	76.37	37.52
DO(H), Shantipur	37	20	36.13	14.56	7.14
Total	**289**	**202**	**405.96**	**263.72**	**135.60**
				Total	**₹ 805.28 lakh**

Further, as per para 9.1 of Textile Policy 2013-18, Department of Micro, Small and Medium Enterprises & Textiles, Government of West Bengal will provide additional MI of five *per cent* over and above the existing 10 *per cent* MI (contributed equally by Government of India and State Government) to promote marketing of handloom goods, subject to a ceiling of ₹ 5 lakh per year per PWCS. Accordingly, the Department decided to provide five *per cent* additional subsidy under West Bengal Incentive Scheme (WBIS) 2013 for the textile sector.

As per para 7.1 (vii) (f) of WBIS-2013, the PWCS will duly execute an affidavit on non-judicial stamp paper of ₹ 100/- or more duly notarised by Notary Public affirming that the unit has not defaulted in payment of any dues to Government/ financial institutions.

Audit observed that five *per cent* additional MI of ₹ 2.29 crore had been provided during June 2018 to March 2021 to different PWCSs for the scheme years

2013-14, 2014-15 and 2015-16, out of which ₹ 72.93 lakh was granted despite the PWCSs having defaulted on repayment of Government loans. Further, it was observed that the Department allowed such irregular additional MI to 11 such defaulting PWCSs in successive three scheme years (during 2013-16). Details of the inadmissible additional MI paid to PWCSs are shown in the **Table 5.3**:

Table 5.3: Statement showing irregular payment of additional MI

Scheme Year	No. of PWCS	Amount disbursed as addl. MI (₹ in lakh)	Ineligible PWCS	Irregular payment (₹ in lakh)
2013-14	30	95.18	11	22.77
2014-15	31	108.26	15	40.08
2015-16	30	25.32	16	10.08
Total		**228.76**		**72.93**

Thus, due to non-adherence to the provisions of schemes, the Department extended undue benefit of ₹ 8.78[255] crore to ineligible PWCSs.

The Department in reply (May 2022) stated the matter of disbursement of MI and additional MI as pointed out by audit had been scrutinised in details and it was decided that henceforth, the disbursement of MI and additional MI would be done strictly adhering to existing guideline.

Urban Development Department

5.3 Unfruitful expenditure of ₹ 18.78 crore due to non-commissioning of Pineapple Development Centre

Siliguri Jalpaiguri Development Authority went ahead with the construction of Pineapple Development Centre (PDC) without procuring required land for approach road. As a result, newly constructed facility could not be put to use even after eight years from completion, resulting in unfruitful expenditure of ₹ 18.78 crore.

As per West Bengal Public Works Department Code (Rule 258), except in the case of emergent work such as repair of breeches, *etc*., no work should be started on land which has not been duly made over by the responsible civil officers.

The Siliguri Jalpaiguri Development Authority (SJDA)[256] took up (2007) the project of "Pineapple Development Centre with Post Harvest Handling Facility" at Bidhannagar, Siliguri. The total project cost of ₹ 18.78 crore was shared by Agricultural and Processed Food Products Export Development Authority (APEDA) (₹ 4.01 crore), Assistance to States for Infrastructure Development for Exports (ASIDE) (₹ 7.00 crore), both under Ministry of Commerce &Industry, Government of India and SJDA (₹ 7.77 crore).

The purpose of the project was to act as a service centre to promote processing of pineapple, starting from farmyard production to export. The work of construction

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[255] *₹8.05 crore+ ₹ 0.73 crore.*

[256] *SJDA has been established under the West Bengal Town and Country (Planning and Development) Act 1979 and has been entrusted with the responsibility of planning and development of Siliguri-Jalpaiguri areas.*

of Pineapple Development Centre (PDC) started in 2009 and majority of the project work[257] was completed by November 2010 after incurring an expenditure of ₹ 15.95 crore (84 *per cent* of the total project cost). Out of 128 marketing hubs approved for the project, only 96 units were completed, and the remaining 32 units were yet to be completed. SJDA allotted 93 (out of 96) Marketing Hub Units to 68 allottees in 2012-13.

During joint physical inspection (16 March 2021) by Audit along with officers of SJDA, it was observed that none of the allottees had moved to the PDC, and it remained non-functional. The entire infrastructure remained idle and the administrative building, warehouse, cold storage, marketing hub/stalls, refrigerated trucks, Generator sets *etc*. were in dilapidated condition due to non- maintenance.

Fig. 5.1: Equipment lying idle

Fig. 5.2: Unutilised marketing hubs

Fig. 5.3: Refrigerated van in dilapidated condition

Further, it was observed that the prime reason for non-functioning of the PDC was due to the unwillingness of allottees to move to the facility unless the approach road to it from NH-31 was widened to allow smooth two-way movement of trucks and other vehicles.

However, SJDA had realised (November 2013) very late that the approach road from NH-31 to the PDC was narrow (20 ft only) and needed widening. SJDA

[257] *Work remained incomplete: i) underground reservoir, Marketing Hubs 32 number, Installation of sorting/grading units, indoor sub-station, washing and drying arrangement.*

identified that the PDC was located about 400 metres from NH-31, out of which, 215 metres (700 feet) required widening to at least 50 feet for smooth plying of trucks and other vehicles. SJDA took four years to finalise the requirement of land and forwarded (April 2017) a letter to the District Magistrate, Darjeeling requesting him to form a land purchase committee so that the proposal for acquisition of 0.398 acre of land could be finalised.

SJDA moved (March 2019) to Urban Development Department (UDD) for approval and sanction of ₹ 1.12 crore required for land acquisition (₹ 81.50 lakh) and road construction (₹ 31.46 lakh). Neither approval nor sanction for fund was received from UDD as of March 2021. Thus, the required plots of land could not be procured till December 2021 and the approach road could not be widened. Thus, even after eight years of allotment of stalls, no trader moved to the PDC. It was also observed that the DPR prepared for the work had acknowledged that the prime threat to the project was inadequate link road from NH to the project area. However, SJDA went ahead with the construction of the project without addressing the critical issue of adequate access to the proposed facility. This was also in violation of the West Bengal Public Works Department Code (Rule 258), which mandated that except in case of emergent work such as repair of breaches, *etc*., no work should be started on land which has not been duly made over by the responsible civil officers. Thus, going ahead with the construction of the PDC without procuring the required land for widening of approach road led to the unfruitful expenditure of ₹ 18.78 crore on the PDC which could not be commissioned even after lapse of more than eight years from its completion.

In reply, the Department stated (July 2022) that as per decision in 139th Board meeting[258] of SJDA, a committee was formed to resolve the issue related to construction of approach road and other issues related to PDC. However, the fact remains that the said committee was formed in June 2020 and it was yet to take affirmative action for construction of the approach road which can lead to commissioning of the PDC.

As a result, the intended outcome of revenue generation and export promotion of fresh fruit and food products of pineapple remained unachieved, and the infrastructure created at a cost of ₹ 18.78 crore remained unutilised.

Land and Land Reforms Refugee Relief and Rehabilitation Department

5.4 Non/short recovery of price of earth against unauthorised extraction of earth

Dues of ₹ 15.61 crore towards price of earth against unauthorised extraction of 18.51 crore cft of earth without valid permits were not recovered/short recovered in 877 cases by 11 District Land & Land Reform offices.

As per Rule 35 of the West Bengal Minor Mineral Concession Rules – 2016, (WBMMCR) the holder of a mining lease or any other mineral concession

[258] *18 June 2020.*

granted on or after the commencement of these rules, shall pay royalty in respect of mineral or minerals extracted at the rate as notified from time to time by the State Government through their Commerce and Industries Department. The rates of royalty were fixed vide a notification by Commerce and Industries Department in October 2016. In addition to the royalty[259], the Lessee/contractor has to pay different types of cesses[260] at prescribed rates[261] on extraction of minor minerals as per Cess Act 1880 (as amended in 1984). There were no enabling provisions in the WBMMCR-2016 to ensure timely payment of royalty and cess by the lessees/ contractors. No payment schedule was prescribed in the said Rules either.

Further, under Section 21 of the Mines and Minerals (Development and Regulation) (MMDR) Act, 1957 and Rule 50 of the WBMMCR, whenever any person removes, without any lawful authority, any mineral from any land, the State Government may, apart from penal actions like seizure, confiscation, eviction, imprisonment *etc*., recover from such person the mineral so removed or where such mineral has already been disposed of, the price thereof. Accordingly, the State Government has fixed price of earth at ₹ 123 per 100 cft which is 1.5 times the royalty[262] for extraction or removal of the earth.

Audit was conducted in 11[263] District Land and Land Reforms Offices (DL&LROs) during September 2019 to May 2021. The records for period between December 2017 and March 2020 were test checked. Audit scrutinised 1,375 cases of extraction of earth out of total 2,085 cases from the brick field registers. Balance 710 cases were those, where either relevant records were not available or the brick fields were not in operation and hence they could not be audited. Out of 1,375 cases, in 959 cases, brick field owners/individuals extracted 19.62 crore cft of earth from 2017-18 to 2019-20 without any valid permits. However, the concerned DL&LROs did not take any action to stop such unauthorised extractions, nor did they initiate penal action as per extant rules. Out of ₹ 24.13 crore recoverable for such unauthorised extraction of earth, nine DL&LROs[264] recovered only ₹ 7.15 crore as price of earth. This resulted in non/short recovery of ₹ 16.98 crore as shown in the **Table 5.4**:

[259] *At the rate of ₹ 82 per 100 cft.*

[260] *Public Works Cess, Road Cess, Rural Cess, Rural Education Cess and Rural Employment Cess.*

[261] *Cess at the rate of ₹15 per 100 cft.*

[262] *The rate of royalty for brick earth is ₹ 82 per 100 cft.*

[263] *Hooghly, Purba Burdwan, Paschim Burdwan, Nadia, Bankura, Paschim Medinipur, Coochbehar, Murshidabad, South 24 Parganas, Howrah, Purba Medinipur.*

[264] *Hooghly, Purba Medinipur, Paschim Medinipur, Cooch Behar, Nadia, Bankura, Purba Burdwan, Paschim Burdwan and Murshidabad.*

Table 5.4: Non/short recovery of price of earth

(₹ in crore)

Sl. No.	Nature of irregularities	No. of cases	Quantity of earth extracted (in crore cft)	Price of earth to be recovered @ ₹123 per 100 cft	Price of earth recovered	Non/short recovery of earth
1	2	3	4	5	6	7=5-6
1.	Non recovery of price of earth	541	9.87	12.14	Nil	12.14
2.	Short recovery of price of earth	418	9.75	11.99	7.15	4.84
	Total	***959***	***19.62***	***24.13***	***7.15***	***16.98***
	Recovered	82	1.11		1.37	1.37
	Total unrealised	**877**	**18.51**	**24.13**	**8.52**	**15.61**

No reasons were found on record for non/short recovery of price of earth. Though similar observations have been made on these 11 DL&LROs in Audit Reports of last five years (2013-14 to 2018-19)[265], no remedial measures were taken by the Department to stop recurrence of such non/short recovery of Government dues.

On this being pointed out in Audit, all the 11 DL&LROs accepted the observations and assured to realise the dues. However, the fact remains that despite assurances, such lapses in collection of revenue continued unabated year after year. At the instance of Audit, DL&LRO Bankura[266], Medinipur[267] and Hooghly[268] realised revenue of ₹ 1.36 crore. The recovery of balance ₹ 15.61 crore is pending.

The matter was reported to the Government in September 2021; the reply was awaited (November 2022).

5.5 Non/short realisation of revenue on land used for commercial purpose

Non/short realisation of rent, cess and surcharge of ₹ 32.12 crore in 12,415 cases pertaining to land used for commercial purpose.

Sections 22 and 23 of the West Bengal Land Reforms (WBLR Act, 1955) provide that raiyats[269] using land for commercial purposes are liable to pay land revenue at prescribed rates. Further, Section 3 of the West Bengal Rural Employment and Production (WBREP) Act, 1976 provides for levy and collection of a surcharge[270]. Different kinds of cess[271] are also realisable on the land revenue payable by raiyats. The *Bhumi Sahayaks* posted in the Revenue Inspectors' (RI) offices under the Block Land and Land Reforms Offices (BL&LROs)

[265] *Para No. 7.7 of AR 2013-14 (pg 133-134), Para No. 6.4.18 of AR 2014-15, Para No. 6.4 of AR 2015-16 (pg 101), Para No. 6.4 of AR 2016-17, Para 7.5 of AR 2017-18 and Para 6.4 of AR 2018-19 (pg 90-91).*

[266] *₹ 94.21 lakh.*

[267] *₹ 37.62 lakh.*

[268] *₹ 4.65 lakh.*

[269] *Raiyat means a person or an institution holding land for any purpose.*

[270] *Surcharge 15 paise on each rupee of land rent payable.*

[271] *Road cess 6 paise, public works cess 25 paise and primary education cess 10 paise, rural employment cess 30 paise on each rupee of land rent payable.*

are responsible for collection of land revenue. The RI Offices are to maintain prescribed Registers (I, II & III) to facilitate collection of revenues.

Audit checked 60,858 Registers (Register-III)[272] and Rent Receipt Books in 12 DL&LROs[273] and noticed between September 2019 and March 2021 that there was non-realisation/ short-realisation of land revenue, cess and surcharge of ₹ 32.12 crore[274] on 33,825.56 acres of land involving 12,415 cases from 6,349 raiyats, although the land was being used for various commercial and industrial purposes like rice mills, cold storage, godowns, garages, shops, markets, brickfields *etc*. between 2011-12 and 2019-20. Details of such cases are shown in **Table 5.5:**

Table 5.5: Non-realisation/short realisation of land revenue

(₹ in crore)

Sl. No.	Nature of irregularities	No. of cases	Total realisable amount	Amount realised	Un-realised Amount
1	Non-recovery of land revenue	12,209	31.37	0.00	31.37
2	Short recovery of land revenue	206	2.30	1.55	0.74
Total		**12,415**	**33.67**	**1.55**	**32.12**

Audit observed that there was no mechanism in place in the Department to realise the outstanding dues from the raiyats. DL&LROs did not initiate any action to realise dues from the raiyats. Even the prescribed Register-I (Revenue/ Rent Roll) and Register-II (Tenant's Ledger) as per the West Bengal Land and Land Reforms Manual 1991 were not being maintained in any of the RI offices under the test check DL&LROs.

After being pointed out in audit:

Eleven DL & LROs[275] accepted (between September 2019 and March 2021) the audit observations in 10,473 cases involving non-realisation of revenue on land used for commercial purposes of ₹ 23.99 crore.

Three DL & LROs[276] accepted (between February 2020 and March 2021) the audit observations in 199 cases involving short realisation of revenue of ₹ 0.68 crore on land used for commercial purposes.

However, the Department did not furnish any report on revenue realisation (November 2022).

In the remaining 1,743 cases involving revenue of ₹ 7.44 crore, two DL & LROs[277] did not furnish any specific reply.

[272] *Contains the collection of revenue, rent, cess and interest from raiyats.*

[273] *Bankura, Coochbehar, Darjeeling, Hooghly, Howrah, Murshidabad, Nadia, Paschim Burdwan, Paschim Medinipur, Purba Burdwan, Purba Medinipur and South 24 Parganas.*

[274] *In 12,209 cases, the authorities did not collect rent, cess and surcharge of ₹ 31.37 crore on 32,006.10 acres of land and in remaining 206 cases collected ₹ 1.55 crore against the payable amount of ₹ 2.30 crore on 1,819.46 acres of land resulting in short realisation of ₹ 0.75 crore.*

[275] *Bankura, Coochbehar, Darjeeling, Hooghly, Howrah, Nadia, Paschim Burdwan, Paschim Medinipur, Purba Burdwan, Purba Medinipur and South 24 Parganas.*

[276] *Hooghly, Paschim Medinipur and Purba Medinipur.*

[277] *Hooghly and Murshidabad.*

The Department may ensure maintenance of Register-I and Register-II immediately to watch the tenant-wise recovery of dues.

The matter was reported to the Government on November 2021. Their reply is still awaited (November 2022).

5.6 Non/Short realisation of royalty and cess on minor minerals

Five District Land & Land Reforms Officers failed to realise ₹ 4.53 crore from the lessees/contractors/brick field owners on account of royalty and cess levied on extraction of earth/sand/stone.

As per Rule 35 of the West Bengal Minor Mineral Concession Rules – 2016, (WBMMCR) the holder of a mining lease or any other mineral concession granted on or after the commencement of these rules, shall pay royalty in respect of mineral or minerals extracted at the rate as notified from time to time by the State Government through their Commerce and Industries Department. The rates of royalty were fixed vide a notification[278] by Commerce and Industries Department in October 2016. In addition to the royalty, the Lessee/contractor has to pay different types of cesses[279] at prescribed rates on extraction of minor minerals as per Cess Act 1880 (as amended in 1984). There were no enabling provisions in the WBMMCR-2016 to ensure timely payment of royalty and cess by the lessees/contractors. No payment schedule was prescribed in the said rules.

Audit test-checked[280] records relating to demand and collection registers of offices of five District Land and Land Reforms Officers (DL&LROs)[281]. The DL&LROs allowed extraction of 14.32 crore cft of earth/sand/stone to lessees/contractors/brick field owners between 2016-17 and 2019-20. Audit observed that in 229 cases there was non/short realization of royalty and cess. The concerned DL&LROs did not initiate any action to realise the dues. This resulted in non/short realization of royalty and cess of ₹ 4.53 crore from lessees/contractors/brick field owners.

On this being pointed out by audit, four[282] DL&LROs admitted the audit observations and stated (September 2019 to March 2021) that the concerned authorities would be instructed to realise the dues. They, however, did not furnish any report on realization till October 2021. One[283] DL&LRO did not furnish any specific reply till November 2022.

Occurrence of similar cases of short/non realization of royalty and cess in other DL&LROs cannot be ruled out.

The Department may consider necessary changes in the WBMMCR-2016 to ensure timely payment of royalty and cess by the lessees/contractors/ brick field owners with provisions of penalty for delayed payment.

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278 *No. 678-CI/O/MIN/GEN-RLT/02/2015 dated: 27.10.2016.*

279 *Public Works Cess, Road Cess, Rural Cess, Rural Education Cess and Rural Employment Cess.*

280 *Between September 2019 and March 2021.*

281 *Coochbehar, Darjeeling, Paschim Burdwan, Hooghly and Murshidabad.*

282 *Coochbehar, Darjeeling, Hooghly and Paschim Burdwan.*

283 *Murshidabad.*

The cases were reported (between October 2019 and April-2021) to the Government. Reply was awaited (November 2022).

Anadi Misra

KOLKATA	**(ANADI MISRA)**
The 06 January 2023	**Accountant General (Audit-II)**
	West Bengal

Countersigned

NEW DELHI	**(GIRISH CHANDRA MURMU)**
The 10 January 2023	**Comptroller and Auditor General of India**

Appendices

Appendices

Appendix –1

(Refer paragraph - 1.1, Page-1)

Statement of list of Departments as of 31 March 2022

{Under audit jurisdiction of O/o the PAG (Audit-II) West Bengal}

Sl. No.	Name of the Department
1.	Chief Minister's Office
2.	Council of Ministers
3.	Disaster Management and Civil Defence
4.	Environment
5.	Fire & Emergency Services
6.	Forest
7.	Governor's Secretariat
8.	Housing
9.	Industry, Commerce and Enterprises
10.	Information & Cultural Affairs
11.	Information Technology & Electronics
12.	Land & Land Reforms and Refugee Relief & Rehabilitation
13.	Legislative Assembly Secretariat
14.	Micro, Small & Medium Enterprises and Textiles
15.	Non-Conventional and Renewable Energy Sources
16.	Parliamentary Affairs
17.	Personnel & Administrative Reforms and e-Governance
18.	Power
19.	Public Enterprises and Industrial Reconstruction
20.	Public Health Engineering
21.	Public Works
22.	Science and Technology and Biotechnology
23.	Tourism
24.	Transport
25.	Urban Development and Municipal affairs

Appendix –2

(Refer paragraph - 1.2, Page-1)

Statement of list of Autonomous Bodies as of 31 March 2022

{Under audit jurisdiction of O/o PAG (Audit-II) West Bengal}

Sl.	Name of the Departments	Name of the Company
(i)	Environment	East Kolkata Wetland Management Authority
(ii)		Institute of Environmental Studies and Wetland Management
(iii)		West Bengal Pollution Control Board
(iv)		West Bengal Bio-Diversity Board
(v)	Forest	Compensatory Afforestation Fund Management and Planning Authority
(vi)		West Bengal State Forest Development Agency
(vii)	Housing	West Bengal Housing Board
(viii)		Real Estate Regulatory Authority*
(ix)	Information & Cultural Affairs	Paschimbanga Bangla Academy
(x)		Folk & Tribal Centre
(xi)		Roopkala Kendra
(xii)		Minerva Natya Sanskriti Charcha Kendra
(xiii)		Shishu Kishore Academy
(xiv)		West Bengal Heritage Commission
(xv)		Centre for Archaeological Studies & Training, Eastern India
(xvi)	Micro, Small & Medium Enterprises and Textiles	West Bengal State Export Promotion Society
(xvii)		West Bengal Khadi & Village Industries Board
(xviii)	Non-Conventional and Renewable Energy Sources	West Bengal Renewable Energy Development Agency
(xix)	Power	West Bengal Electricity Regulatory Commission*
(xx)	Public Works	Commissioners for the Rabindra Setu
(xxi)	Science and Technology and Biotechnology	West Bengal State Council of Science & Technology
(xxii)	Transport	Hooghly River Bridge Commissioners
(xxiii)	Urban Development and Municipal affairs	Digha-Sankarpur Development Authority
(xxiv)		Midnapore Kharagpur Development Authority
(xxv)		West Bengal State NGRBA (National Ganga River Basin Authority) Programme Management Group
(xxvi)		Haldia Development Authority
(xxvii)		Jaigaon Development Officer Authority
(xxviii)		Sriniketan-Santiniketan Development Authority
(xxix)		New-Town Kolkata Development Authority
(xxx)		Siliguri Jalpaiguri Development Authoritry
(xxxi)		Kolkata Metropolitan Development Authority
(xxxii)		Burdwan Development Authority
(xxxiii)		Asansol Durgapur Development Authority
(xxxiv)		West Bengal State Urban Development Agency

Sl.	Name of the Departments	Name of the Company
(xxxv)		Tarakeswar Development Authority
(xxxvi)		Changrabandha Development Authority
(xxxvii)		Gangasagar Bakkhali Development Authority
(xxxviii)		Bakreswar Development Authority
(xxxix)		Patharchapuri Development Authority
(xl)		Gajoldoba Development Authority
(xli)		Mukutmanipur Development Authority
(xlii)		Tarapith Rampurhat Development Authority
(xliii)		Furfura Sharif Development Authority
(xliv)		Birsingha Development Authority

**They are Regulatory Authority.*

N.B.: Entrustment has not been received against the Sl. Nos. (viii), (ix) to (xv) and (xxxv) to (xliv).

Appendix –3

(Refer paragraph - 1.2, Page-1)

Statement of list of SPSEs as of 31 March 2022

{Under audit jurisdiction of O/o PAG (Audit-II) West Bengal}

Sl.	Name of the Departments	Name of the Company
(i)	Bio-technology and Science & technology	West Bengal Biotech Development Corporation Limited
(ii)	Forest	West Bengal Forest Development Corporation Limited
(iii)	Information and Culture Affairs	Basumati Corporation Limited
(iv)		West Bengal Film Development Corporation Limited
(v)	Information Technology & Electronics	Webel Venture Capital Limited (Subsidiary of WBEIDC Limited)
(vi)		West Bengal Electronic Industry Development Corporation Limited (WBEIDC Limited)
(vii)		Webel Electronics Infrastructure Development limited
(viii)		Webel Electronics Manufacturing Clusters Limited
(ix)	Industry, Commerce & Enterprises	Durgapur Chemicals Limited
(x)		West Bengal Mineral Development and Trading Corporation Limited
(xi)		West Bengal Pharmaceutical and Phytochemical Development Corporation Limited
(xii)		WEBFIL Limited
(xiii)		Greater Calcutta Gas Supply Corporation Limited
(xiv)		Saraswaty Press Limited
(xv)		West Bengal Text Book Corporation (P) Limited (subsidiary of Saraswaty Press Limited)
(xvi)		West Bengal Industrial Infrastructure Development Corporation
(xvii)		West Bengal Trade Promotion Organisation (Subsidiary of WBIDC Limited)
(xviii)		West Bengal Tea Development Corporation Limited
(xix)		The Infusions (India) Limited
(xx)		West Bengal Sugar Industries Development Corporation Limited
(xxi)		West Bengal Industrial Land Holding Private Limited (subsidiary of WBIDC Ltd)
(xxii)		West Bengal Industrial Development Corporation Limited (WBIDC Limited)
(xxiii)	Micro Small & Medium Enterprises and Textiles	West Bengal Handicrafts Development Corporation Limited
(xxiv)		Biswa Bangla Marketing Corpration Limited
(xxv)		Mayurakshi Cotton Mills (1990) Limited
(xxvi)		Silpabarta Printing Press Limited (subsidiary of WBSIDC Limited)
(xxvii)		The West Bengal Small Industries Development Corporation Limited (WBSIDC Limited)
(xxviii)		The Kalyani Spinning Mills Limited

Sl.	Name of the Departments	Name of the Company
(xxix)		The West Dinajpur Spinning Mills Limited
(xxx)		West Bengal Ceramic Development Corporation Limited
(xxxi)		The West Bengal State Leather Industries Development Corporation Limited
(xxxii)		The West Bengal Projects Limited (subsidiary of WBSIDC Limited)
(xxxiii)		Pulver Ash Projects Limited (subsidiary of WBSIDC Limited)
(xxxiv)		West Bengal Handloom and Power loom Development Corporation Limited
(xxxv)	Personnel & Administrative Reforms and e-Governance	Webel Technology Limited
(xxxvi)	Power & Non-Conventional Energy Sources	The Durgapur Projects Limited
(xxxvii)		The West Bengal Power Development Corporation Limited
(xxxviii)		West Bengal State Electricity Distribution Company Limited
(xxxix)		West Bengal State Electicity Transmission Company Limited
(xl)		Bengal Birbhum Coalfields Limitted
(xli)		West Bengal Green Energy Development Corporation Limited
(xlii)	Public Enterprises & Industrial Reconstruction Department	Neo Pipes and Tubes Company Limited
(xliii)		National Iron and Steel Company (1984) Limited
(xliv)		The Carter Pooler Engineering Company Limited
(xlv)		West Bengal Plywood and Allied Products Limited
(xlvi)		Krishna Silicates and Glass (1987) Limited
(xlvii)		Lily Products Limited
(xlviii)	Public Works	Westinghouse Saxby Farmer Limited
(xlix)		Mackintosh Burn Limited
(l)		Britannia Engineering Limited
(li)		West Bengal Highway Development Corporation Limited
(lii)	Transport	North Bengal State Transport Corporation
(liii)		Calcutta State Transport Corporation
(liv)		South Bengal State Transport Corporation
(lv)		The Shalimar Works (1980) Limited
(lvi)		West Bengal Transport Corporation limited (Fomerly The Calcutta Tramways Company (1978) Limited)
(lvii)		West Bengal Surface Transport Corporation Limited
(lviii)		West Bengal Transport Infrastructure Development Corporation Limited
(lix)	Tourism	West Bengal Tourism Development Corporation Limited
(lx)		Great Eastern Hotel Authority
(lxi)	Urban Development & Municipal Affairs	West Bengal Housing Infrastructure Development Corporation Limited (WBHIDCO Limited)
(lxii)		New Town Telecom Infrastructure Development Company Limited (Subsidiary of WBHIDCO Limited)
(lxiii)		Newtown Kolkata Green Smart City Corporation Limited

Appendix – 4

(Refer paragraph - 1.5, Page-2)

Status of Tabling of Audit Reports

Audit Report for the Year	Number of the Audit Report	Title of the Audit Report	Date on which the Audit Report was sent to the Government	Date on which Audit Report was tabled in the State Assembly	Time taken for laying in the State Assembly
2015-16	Report No. 5 of 2016	Audit Report on Revenue Sector for the year ended 31 March 2016	06 February 2017	07 March 2018	1 year and 2 Months
	Report No. 1 of 2017	Audit Report on Economic Sector for the year ended 31 March 2016	27 February 2017	07 March 2018	1 Year and 1 Month
	Report No. 2 of 2017	Audit Report on Public Sector Undertakings for the year ended 31 March 2016	27 February 2017	07 March 2018	
2016-17	Report No. 2 of 2018	Audit Report on Public Sector Undertakings for the year ended 31 March 2017	17 May 2018	11 July 2019	1 year and 2 Months
	Report No. 3 of 2018	Audit Report on Revenue Sector for the year ended 31 March 2017	29 May 2018	11 July 2019	1 year and 2 Months
	Report No. 4 of 2018	Audit Report on Economic Sector for the year ended 31 March 2017	20 June 2018	11 July 2019	1 year and 1 Month
	Report No. 5 of 2018	Performance Audit of Pollution by Industries, for the year ended 31 March 2017	20 June 2018	11 July 2019	
2017-18	Report No. 3 of 2020	Audit Report on Public Sector Undertakings for the year ended 31 March 2018	13 August 2020	25 March 2022	1 year and 7 months
	Report No. 2 of 2019	Performance Audit of Flood Control Programme in West Bengal, for the year ended 31 March 2018	03 February 2020		2 years and 1 month
	Report No. 2 of 2020	Audit Report on Revenue Sector for the year ended 31 March 2018	11 August 2020		1 year and 7 months
	Report No. 1 of 2019	Audit Report on Economic Sector for the year ended 31 March 2018	20 December 2019		2 years and 3 months
2018-19	Report No. 2 of 2021	Audit Report on Economic Sector, Revenue Sector and Public Sector Undertakings for the year ended 31 March 2019	06 May 2021	25 March 2022	10 months
2019-20	Report No. 4 of 2021	Audit Report of the Comptroller & Auditor General Of India (Performance and Compliance Audit) for the year ended 31 March 2020	15 December 2021	25 March 2022	3 months

Appendix – 5

(Refer paragraph - 1.5, Page-2)

Statement of Pending Replies to Audit paragraphs/ reviews

Sl. No.	Name of the Department	Number of paras/ reviews involved in reports for the years				
		From 2006-07 to 2016-17	2017-18	2018-19	2019-20	Total
1.	Disaster Management & Civil Defence	3	-	-	-	3
2.	Environment	2	-	-	45	47
3.	Fire & Emergency Services	1	-	-	-	1
4.	Forest	2	14	-	-	16
5.	Housing	2	-	-	-	2
6.	Industry, Commerce and Enterprises	1	1	1	-	3
7.	Information & Cultuarl Affairs	4	-	-	-	4
8.	Information Technology & Electronics	3	-	-	-	3
9.	Land & Land Reforms and Refugee Relief & Rehabilitation	71	7	5	3	86
10.	Micro, Small & Medium Enterprises and Textiles	8	1	1	2	12
11.	Non-Conventional & Re-newable Energy Sources	26	-	-	-	26
12.	Personnel & Administrative Reforms	-	-	1	-	1
13.	Power	17	20	-	28	65
14.	Public Enterprises & Industrial Reconstruction	2	-	-	-	2
15.	Public Health Engineering	7	1	-	-	8
16.	Public Works	21	5	3	4	33
17.	Transport	121	18	7	-	146
18.	Urban Development & Municipal Affairs	22	4	3	-	29
	Total	**313**	**71**	**21**	**82**	**487**

Appendix – 6

(Refer paragraph 1.5, Page-3)

Department-wise Statement of outstanding Inspection Reports and Paragraphs

Sl. No.	Name of the Department	Number of IRs/ Paragraphs pending as of 31 March 2022	
		IRs	Paragraphs
1.	Disaster Management and Civil Defence	59	267
2.	Environment	2	7
3.	Fire & Emergency Services	7	43
4.	Forest	13	50
5.	Governor Secretariate	3	3
6.	Housing	52	199
7.	Industry, Commerce and Enterprises	3	10
8.	Information & Cultural Affairs	74	213
9.	Land & Land Reforms and Refugee Relief & Rehabilitation	295	2319
10.	Micro, Small & Medium Enterprises and Textiles	28	92
11.	Parliamentary Affairs	4	16
12.	Personnel & Administrative Reforms and e-Governance	6	26
13.	Power	8	33
14.	Public Enterprises & Industrial Reconstruction	1	5
15.	Public Health Engineering	48	147
16.	Public Works	69	236
17.	Science and Technology and Biotechnology	7	17
18.	Tourism	3	17
19.	Transport	30	199
20.	Urban Development and Municipal affairs	87	315
Total		**799**	**4,214**

Appendix – 7

(Refer paragraph 1.6, Page-3)

Status of placement of Separate Audit Reports in Legislature as on 31.03.2022

Sl. No.	Name of Autonomous Body	Year up to which SARs placed in Legislature	Years for which SARs not placed in Legislature	
			Year of SAR	Date of issue to the Government
	Autonomous Bodies			
1.	Comissioners for Rabindra Setu (CRS)	2008-09	2010-11 2011-12 2012-13 2013-14 2014-15 2015-16 2016-17 2017-18 2018-19 2019-20	10.02.2012 14.02.2013 15.07.2014 20.02.2015 05.02.2016 17.05.2017 14.08.2018 02.07.2019 02.07.2020 04.05.2021
2.	Compensatory Afforestation Fund Management and Planning Authority (CAMPA)	Not yet placed	2010-11 to 2016-17 2017-18	25.06.2018 05.11.2019
3.	Hooghly River Bridge Commissioners	2017-18	2018-19	10.02.2022
4.	Kolkata Metropolitan Development Authority	2014-15	2015-16 2016-17	05.01.2018 18.02.2020
5.	West Bengal Heritage Commission	Not yet placed	2008-09 2009-10 2010-11 2011-12 2012-13 to 2015-16 2016-17 2017-18	26.08.2011 18.11.2011 27.06.2012 13.04.2014 13.04.2017 04.10.2019 04.10.2019
6.	West Bengal Housing Board	2014-15	2015-16	04.07.2017
7.	West Bengal Khadi & Village Industries Board (WBKVIB)	2015-16	2016-17 2017-18 2018-19	22.10.2021 03.11.2021 03.11.2021
	State Public Sector Enterprises			
8.	Calcutta State Transport Corporation (CSTC)	2016-17	2017-18 2018-19	14.05.2019 29.11.2021
9.	South Bengal State Transport Corporation (SBSTC)	2017-18	2018-19 2019-20	12.08.2021 29.03.2022
10.	West Bengal Electricity Regulatory Commission* (WBERC)	2018-19	2019-20	21.01.2022

**It is a regulatory Authority*

Appendix-8

(Refer: Paragraph no. 2.6.3, Page-13)

Statement showing works where no intended benefit was assessed

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
1.	Alipurduar Highway Division	Strengthening of Bhatibari to Khatajani Road, 0.00 km to 10.55 km (VR)	9.64
2.	Alipurduar Highway Division	Strengthening of Volka road to Chepani Santi Nagar High Road, 0.00 km to 6.10 km	8.67
3.	Alipurduar Highway Division	Construction of Banchukumari GP Office to Kalchini Block Border Road, 0 km to 6.53 km (VR)	8.22
4.	Cooch Behar Highway Division	W&S of Cooch Behar-Baneswar-Alipurduar Road (SH-12A), 9.00 km to 19.20 km	28.35
5.	Bankura Highway Division	W&S of Simlapal-Khatra Road (SH-2), 0.00 km to 26.24 km, from single lane carriageway to 2-lane carriageway	52.42
6.	Burdwan North Highway Division	Strengthening of Balgona Chandrapur Road, 7.00 km to 14.50 km	15.07
7.	Burdwan North Highway Division	Strengthening of Kaichor–Nandigram Road (MDR), 13 km to 26.70 km	21.85
8.	Birbhum Highway Division-I	Strengthening of Nalhati-Rajgram Road (SH-7), 0.00 km (Nalhati) to 15.00 km (Murarai)	35.97
9.	Birbhum Highway Division-I	W&S of Tilpara-Massanjore Road, 0.00 km to 8.00 km	8.42
10.	Birbhum Highway Division-I	W&S and beautification of Rampurhat-Tarapit Road, 0.00 km to 7.00 km with a link to Atla from 0.00 km to 2.617 km	40.23
11.	Birbhum Highway Division-I	W&S of Rajgram-Mohanpur Road, 0.00 km to 6.00 km and 6.00 km to 13.00 km	17.37
12.	Birbhum Highway Division-II	Improvement of Suri-Rajnagar Road (4.00 km to 9.00 km, 14.00 km to 21.50 km and 22.50 km to 26.00 km)	10.45
13.	Birbhum Highway Division-II	Strengthening of Joydeb-Kenduli-Illambazar Road, 0.00 km to 6.00 km	8.04
14.	Birbhum Highway Division -II	W&S of existing 5.50 m carriageway to standard 2-lane carriageway of Ahmedpur-Kirnahar-Ramjibanpur Road (SH), 0.00 km to 29.106 km	71.73
15.	Birbhum Highway Division -II	Strengthening of Khagra- Joydev Road, 0.00 km to 8.00 km	11.66
16.	Birbhum Highway Division -II	W&S of Hirakuni-Aligarh Road from 4.90 km to 13.70 km	10.7
17.	Birbhum Highway Division-II	Strengthening of Joydeb-Kenduli-Illambazar Road, 6.00 km to 11.00 km	3.87
18.	South 24 Parganas Highway Division	Strengthening of Mohisgote pole to Chatta Bazar Road, 0.00 km to 6.30 km	7.88
19.	South 24 Parganas Highway Division	Strengthening of Sanjua-Maheshtala Road, 0.00 km to 7.10 km	8.15
20.	South 24 Parganas Highway Division	W&S of Lauhati Bhangar Bajar Road, 0.00 km to 15.20 km and Bhangar Bazar to Kulti Canal Road, 0.00 km to 2.431 km	66.58
21.	South 24 Parganas Highway Division	W&S of Sikharpur-Kulti Canal Road, 3.500 km to 12.550 km	30.14

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
22.	Barasat HW-I	Strengthening of Bashirhat-Pifa-Raghavpur Road, 11.00 km to 27.00 km	30.15
23.	Barasat HW-I	Rigid pavement work at Haroa Auto Stand to Notunhat Road, 0.00 km to 9.50 km	31.56
24.	Barasat HW-I	Construction of rigid pavement at Jessore Road, 13.70 km to 14.70 km	17.21
25.	Barasat HW-I	W&S of Dumdum-Lauhati Road, 0.75 km to 12.00 km	42.93
26.	Barasat Highway Division–I	W&S of Basirhat to Swarupnagar Road, 0.00 km to 18.00 km (MDR)	51.51
27.	Alipurduar PW Division	Strengthening of Alipurduar-Patlakhawa Road, 0.00 km to 14.50 km	8.48
28.	Alipurduar PW Division	Strengthening along with upgradation cross drainage works of Alipurduar-Volka Road, 11.275 km to 14.50 km, 19.00 km to 19.70 km and 20.20 km to 21.50 km	4.32
29.	Alipurduar PW Division	Strengthening of Alipurduar - Volka Road - Ch. From 0.00 km to 07.50 km and 7.80 km to 8.125 km 10.50 km to 11.275 km and allied works	4.98
30.	Alipurduar PW Division	Strengthening of Buxa Forest Road from 10.00 km to 15.50 km along with improvement of shoulder and side drain	6.37
31.	Alipurduar PW Division	Strengthening of Alipurduar - Volka Road - Ch. From 14.50 km to 20.00 km	3.59
32.	Alipurduar PW Division	Strengthening of Cross Road (balance road stretches of 4.347 km) and construction of one raised pedestrian walkway	2.36
33.	Alipurduar PW Division	Strengthening of Cross Road (under 14th FC)	2.18
34.	Cooch Behar PW Division	W&S of Atiabari-Fakirtakia-Kurshahat Road (11.97 km to 13.332 km)	1.25
35.	Cooch Behar PW Division	Widening and improvement of riding quality of Vivekananda Street from 0.00 km to 2.00 km	3.70
36.	Bankura PW Division	Strengthening and providing paved shoulder including hard shoulder of Bankura-Durgapur Road from 0.00 Km to 39.602 Km	68.54
37.	Bankura PW Division	Construction of footpath from Machantala to Lalbazar Traffic More with brick work, sand filling, soiling, cement concrete and pave block.	1.76
38.	Burdwan South Highway Division	Improvement of Mirjapur-Kaligram-Kusumgram-Samurdragar Road, (0-2) km, (17-19) km, (32-38) km & (43-52) km	13.67
39.	Birbhum PW Division	Improvement and strengthening of Kendua-Bansra Road (ODR), 0.00 km to 10.00 km	7.45
40.	Birbhum PW Division	W&S of Suri-Ahmedpur Road, 0.00 km to 20.00 km	34.79
41.	Birbhum PW Division	W&S Sriniketan-Gopalnagar Road, 0.00 km to 5.00 km	8.27
42.	Birbhum PW Division	Strengthening of Bagdogla to Joyrampur Road, 0.00 km to 6.70 km	6.91

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
43.	Barasat PW Division	Upgradation of Sayestanagar - Kaijuri - Chituri (SKC) Road from 0.00 km to 17.70 km	3.73
44.	Barasat PW Division	Emergent repair & Surfacing of Paikpara-Sutia Road, 0.00 km to 8.60 km (excluding 5.00 km to 7.00 km bituminous work)	1.53
45.	Barasat PW Division	Strengthening of Hingalganj Dulduli Road, 12.5 km to 33.6 km	7.46
46.	South 24 Parganas PW Division	Improvement of Riding surface of Garia-Mathurapur Road at chainage (18.900 to 20.750km, 20.900 to 22.072 km, 22.328 to 24.400 km, 24.600 to 25.000 km)	7.57
Total	**16 divisions**	**46 works**	**847.68**

Appendix-9

(*Refer paragraphs* 2.7.1.2, 2.7.1.3, 2.7.2.1, 2.7.2.3, 2.7.2.4, 2.7.2.5, 2.7.2.6, 2.7.2.7, 2.7.2.8, 2.7.2.9, 2.8.3, 2.8.5, 2.8.6, 2.8.7, 2.9.2.4, 2.10.1.3, 2.10.2.1 and 2.10.3.2, *Pages-16-26, 30-33, 37, 40, 41 and 43*)

Statement showing estimated cost of works and payments made by the division

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
(i)					
1	W&S of Burirhat Chowpathy to Salmara Bazar Road, 0.00 km to 11.00 km	Cooch Behar PW Division	30-06-2016	11.17	9.14
2	W&S of Kholapota-Baduria-Maslandapur-Habra Road, 24.40 km to 32 .00 km	Barasat PW Division	30-05-2017	20.60	20.32
(ii)					
1	Strengthening of Memari Jougram Road, 0.00 km to 10.50 km	Burdwan South Highway Division	23-08-2018	10.57	9.90
(iii)					
1	IRQ of Duduyar Par to Fulbari Hospital More Road	Cooch Behar PW Division	06-03-2020	3.08	3.69
2	Widening and IRQ of Vivekananda Street, 0.00 km to 2.00 km	Cooch Behar PW Division	25-11-2019	3.70	3.67
3	W&S of Dawaguri Bazar to Kaljani Health Centre Road (7th km), 0.00 km to 5.64 km	Cooch Behar Highway Division.	In Progress *as on 06-01-2021*	8.84	8.93
4	Kadamtala (90th km of SH-16) to Bagar Bazar Road (3rd km of Kakina road) via Tererpar of 2.50 km	Cooch Behar Highway Division.	28-03-2019	5.57	8.38
(iv)					
1	W&S of Beliatore-Sonamukhi Patrasayar Road 0.00 km to 20.00 km	Bankura PW Division	01-09-2016	40.70	41.18
2	W&S of Beliatore-Sonamukhi Patrasayar Road 20.00 km to 44.88 km	Bankura PW Division	31-03-2018	42.64	36.76
(v)					
1	W&S work of i) Kashemnagar-Natunhat-Sreekhanda Road to Majhigram H.C. Road, 0.00 km to 2.50 km, ii) Majhigram H.C. to Katwa-Churpurni-Billeswar-Palita Road, 0.00 km to 11.40 km and iii) Katwa-Churpurni-Billeswar-Palita Road, 0.00 km to 3.60 km	Burdwan North Highway Division	In progress *as on 09-02-2021*	38.75	38.87 *(upto 9th RA Bill)*

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
(vi)					
1	Improvement of Suri-Rajnagar Road (4.00 km to 9.00 km, 14.00 km to 21.50 km and 22.50 km to 26.00 km)	Birbhum Highway Division-II	30-09-2016	10.45	10.14
2	Improvement of Rajnagar Khairasole Road, 10.00 km to 19.80 km	Birbhum Highway Division-II	15-06-2016	5.85	5.87
3	Strengthening of Joydeb Kenduli Illambazar Road, 6.00 km to 11.00 km	Birbhum Highway Division-II	15-02-2016	3.87	3.97
4	Strengthening of Alipurduar Volka Road 0.00 km to 7.50 km, 7.80 km to 8.125 km and 10.50 km to 11.275 km	Alipurduar PW Division	06-06-2016	4.98	3.98
5	Strengthening of Alipurduar Volka Road, 14.50 km to 20.00 km	Alipurduar PW Division	29-07-2016	3.59	3.56
6	Strengthening of Cross Road	Alipurduar PW Division	30-12-2016	2.18	1.86
7	Widening and improvement of riding quality of MJN Road (1.25 km except ch. 0.320 km to 0.620 km), Magazine Road (1.12 km), Shibendra Narayan Road (2.04 km), NN Road (1.81km), RN Road (1.02 km)	Cooch Behar PW Division	24-08-2018	8.06	9.21
8	Improvement of Mirzapur-Kaligram-Kusumgram-Nadonghat-Samudragarh Road; 0.00 km to 2.00 km, 17.00 km to 19.00 km, 32.00 km to 38.00 km and 43.00 km to 52.00 km	Burdwan South Highway Division	20-03-2017	13.67	12.50
(vii)					
1	Improvement of Suri-Rajnagar Road (4.00-9.00 km, 14.00-21.50 km and 22.50 -26.00 km)	Birbhum Highway Division-II	30-09-2016	10.45	10.14
2	Improvement of Rajnagar Khairasole Road, 10.00 km to 19.80 km	Birbhum Highway Division-II	15-06-2016	5.85	5.87
3	Strengthening of Joydeb Kenduli Illambazar Road, 6000 km to 11.00 km	Birbhum Highway Division-II	15-02-2016	3.87	3.97
(viii)					
1	W&S of Simlapal-Khatra, 0.00 km to 26.40 km	Bankura Highway Division	26-04-2019	52.42	59.46
2	Strengthening work of Kaichor–Nandigram Road (MDR), 13.00 km to 26.70 km	Burdwan North Highway Division	10-01-2020	21.85	22.70

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
3	W&S of Hirakuni-Aligarh Road, 4.90 km to 13.70 km	Birbhum Highway Division-II	21-08-2019	10.70	11.09
4	Strengthening of Alipurduar Patlakhawa Road, 0.00 km to 14.50 km	Alipurduar PW Division	05-04-2016	8.48	7.72
5	W&S of Shyamnagar Feeder Road, 0.00 km to 2.766 km	Barrackpore PW Division	12-09-2018	7.36	6.22
6	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km	Birbhum PW Division	31-07-2018	38.60	38.49
(ix)					
1	W&S of Simlapal-Khatra, 0.00 km to 26.40 km	Bankura Highway Division	26-04-2019	52.42	59.46
2	Strengthening of Kaichor–Nandigram Road (MDR), 13.00 km to 26.70 km	Burdwan North Highway	10-01-2020	21.85	22.70
3	W&S of Hirakuni-Aligarh Road, 4.90 km to 13.70 km	Birbhum HW-II	21-08-2019	10.70	11.09
4	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km	Birbhum PWD	31-07-2018	38.60	38.49
(x)					
1	Strengthening of Alipurduar Patlakhawa Road, 0.00 km to 14.50 km	Alipurduar PW Division	05-04-2016	8.48	7.72
2	W&S of Shyamnagar Feeder Road, 0.00 km to 2.766 km	Barrackpore PW Division	12-9-2018	7.36	6.22
(xi)					
1	W&S of Boxirhat Jorai Road, 10.65 km to 17.80 km	Alipurduar PW Division	31-03-2017	8.04	8.06
2	W & S of Vivekananda Street, 0.00 km to 2.00 km	Cooch Behar PW Division	25-11-2019	3.70	3.67
3	W&S of Kholapota-Baduria-Maslandapur-Habra Road, 16.00 km to 24.40 km except 16.750 km to 17.250 km and 19.630 km to 20.073 km	Barasat PW Division	12-06-2018	23.82	20.37
(xii)					
1	Strengthening of Bhatar Bonpas Road, 0.00 km to 14.50 km	Burdwan North Highway Division	30-09-2020	9.63	7.73
2	W&S of Anandapur-Kharki-Boynan- Tadah Road, 0.00 km to 15.10 km	South 24 Parganas Highway Division	16-11-2019	25.93	28.43
(xiii)					
1	W&S of Burdwan-Kalna Road, 27.00 km to 51.00 km	Burdwan PW Division	24-03-2017	40.90	35.21

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
2	Strengthening of Nalhati-Rajgram Road, 0.00 km to 15.00 km	Birbhum Highway-I Division	30-04-2017	35.97	34.35
(xiv)					
1	Strengthening of Volka Road to Chepani Shantinagar High Road More, 0.00 km to 6.10 km (VR)	Alipurduar Highway Division	31-12-2019	8.67	4.68
2	Construction of Banchukumari GP Office to Kalchini Block Boarder Road, 0.00 km to 6.53 km (VR)	Alipurduar Highway Division	14-01-2020	8.22	6.96
3	Strengthening of Bhatibari to Khatajani Road, 0.00 km to 10.55 km (VR)	Alipurduar Highway Division	29-07-2019	9.64	9.26
4	Construction of single-lane carriageway at Jayanti Bazar to Unnishbisha G.P. Office Road, 0.00 km to 6.540 km (VR)	Cooch Behar Highway Division	28-03-2019	8.66	8.38
5	W&S of Jhantipahari-Kashipur Road, 0.00 km to 12.01 km (VR)	Bankura Highway Division	16-08-2019	34.24	30.53
6	W&S of Komarpur-Chakta Road, 0.00 km to 8.00 km (ODR)	Burdwan North Highway Division	15-06-2016	7.52	6.26
7	Strengthening of Margram-Sardha (Sailmile) Road via Hasan More, 0.00 km to 13.40 km (VR)	Birbhum Highway Division-I	30-07-2019	15.67	15.84
8	W&S of Hirakuni-Aligarh Road, 4.90 km to 13.70 km (VR)	Birbhum Highway Division-II	21-08-2019	10.70	11.09
9	W&S of Sashpur-Beher Road, 0.00 km to 5.37 km (ODR)	Bishnupur PW Division	31-01-2018	4.86	4.16
10	Upgradation of Rangpur Diversion Village path (Non bituminous to bituminous Road) , 0.00 km to 5.00 km	Cooch Behar PW Division	27-04-2016	2.42	2.48
11	IRQ of Duduyar par to Fulbari Hospital More Road (VR)	Cooch Behar PW Division	06-03-2020	3.08	3.69
12	W&S of Burirhat Chowpathy to Salmara Bazar Road, 0.00 km to 11.00 km (VR)	Cooch Behar PW Division	30-06-2016	11.17	9.14
13	W&S of Atiyabari-Fakirtakia-Kurshahat Road, 11.97 km to 13.33 km (ODR)	Cooch Behar PW Division	27-06-2016	1.25	1.21
(xv)					
1	W&S of Shantinagar Tarun Sangha to Lokgate More via New Koyrapur bridge & Itvata pond to Kalyani expressway & Vatrisangha to Bangiya Gramin Vikash Bank Idgah to SK Israf House (4.56 km)	Barrackpore PW Division	29-03-2019	8.88	8.28

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
(xvi)					
1	W&S of Simlipal-Khatra, 0.00 km to 26.40 km	Bankura Highway Division	26-04-2019	52.42	59.46
2	Strengthening work of Kashemnagar-Natunhat-Sreekhanda Road, 10.00 to 18.00 km	Burdwan North Highway Division	31-10-2019	10.48	10.96
3	W&S of existing of 5.50 m carriageway to standard 2-lane carriageway of Ahmedpur-Kirnahar-Ramjibanpur Road (SH), 0.00 km to 29.106 km,	Birbhum Highway Division-II	02-08-2018	71.73	71.84
4	Strengthening of Bashirhat-Pifa-Raghavpur Road, 11.00 km to 27.00 km	Barasat Highway Division-I	16-04-2018	30.15	28.26
(xvii)					
1	W&S of Saptagram-Tribeni-Kalna-Katwa Road, 83.00 km to 102.34 km	Burdwan North Highway Division	26-06-2020	53.53	54.37
2	Strengthening of Murarai-Mitrapur Road, 0.00 km to 13.50 km	Birbhum Highway Division-I	30-11-2016	22.64	22.18
(xviii)					
1	W&S of Ramjibanpur-Ketugram-Katwa (Futisanko to Jajigram), 76.00 km to 102.00 km	Burdwan North Highway Division	30-06-2018	68.52	70.34
2	Strengthening of Balgona Chandrapur Road, 7.00 km to 14.50 km	Burdwan North Highway Division	21-04-2017	15.07	13.55
3	W&S of existing of 5.50 m carriageway to standard 2-lane carriageway of Ahmedpur-Kirnahar-Ramjibanpur Road (SH), 0.00 km to 29.106 km	Birbhum Highway Division-II	02-08-2018	71.73	71.84
4	W&S of Dubrajpur-Khairasole Road, 0.00 km to 5.60 km	Birbhum Highway Division-II	10-06-2016	5.71	5.41
5	W&S of Panchara-Khairasole, 0.00 km to 8.60 km	Birbhum Highway Division-II	10-06-2016	9.22	8.61
6	Strengthening of Hatgobindapur-Purbabalisha Road, 0.00 km to 15.36 km	Burdwan South Highway Division	15-06-2018	35.86	32.60
7	W&S of Suri-Ahmedpur Road, 0.00 km to 20.00 km	Birbhum PW Division	03-08-2016	34.79	33.98

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
8	W&S Bolpur-Palitpur Road, 12.70 km to 25.70 km	Birbhum PW Division	31-07-2018	38.60	38.49
9	W&S Sriniketan-Gopalnagar Road, 0.00 km to 5.00 km	Birbhum PW Division	06-11-2019	8.27	8.16
10	W&S of Kholapota-Baduria-Maslandapur-Habra Road, 16.00 km to 24.40 km except chainage 16.750 km to 17.250 km and chainage 19.630 km to 20.073 km	Barasat PW Division	12-06-2018	23.82	20.37
11	W&S of Kholapota-Baduria-Maslandapur-Habra Road, 24.40 km to 32.00 km	Barasat PW Division	30-05-2017	20.60	20.32
(xix)					
1	Construction of new link road, Taranagar More at 4.60 km of Jibanmandalhat-Mahismarihat Road to Kalitalar More (Kankatar More) at 13.80 km of Joynagar-Jalaberia-Kultali Road	Diamond Harbour Highway Division	31-10-2019	8.98	7.27
2	W&S of Shantinagar Tarun Sangha to Lokgate More via New Koyrapur bridge & Itvata pond to Kalyani expressway & Vatrisangha to Bangiya Gramin Vikash Bank Idgah to SK Israf House (4.56 km)	Barrackpore PW Division	29-03-2019	8.88	8.28
3	W&S of Shyamnagar Feeder Road, 0.00 km to 2.766 km	Barrackpore PW Division	12-09-2018	7.36	6.22
4	W&S of Joynagar-Jalaberia-Kultali Road, 0.00 km to 7.40 km	Diamond Harbour Highway Division	25-04-2016	6.58	5.75
(xx)					
1	W&S to 2-lane/2-lane with paved shoulder configuration of Ghatakpukur-Malancha-Sarberia section of Kolkata-Basanti Road, 31.00 km	WBHDCL	20-01-2018	166.26	206.65
2	W&S to 2-lane/2-ane with paved shoulder configuration of Chanditala-Seakhala-Champadanga section of SH-15, 36.20 km	WBHDCL	09-10-2017	144.42	176.91
(xxi)					
1	W&S to 2-lane/2-lane with paved shoulder configuration of Ghatakpukur-Malancha-Sarberia section of Kolkata-Basanti Road, 31.00 km	WBHDCL	20-01-2018	166.26	206.65

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
2	W&S to 2-lane with paved shoulder configuration of Saptagram-Triveni-Kalna-Katwa Road section of SH-5 package-2	WBHDCL	31-03-2016	141.00	169.80
3	W&S of 2-lane/2-lane with paved shoulder of the ODR Road from Barjora to Mejia	WBHDCL	31-03-2016	86.06	78.26
(xxii)					
1	Strengthening of Vedua-Salbedia Road via Pitraboni Kantaboni, 0.00 km. to 18.40 km. (from Vedua to Kantaboni) and W&S of Junbedia-Amrakanan Road, 0.00 km. to 10.494 km. (from Junbedia to Sonadha More)	Bankura PW Division	02-05-2019	25.28	26.24
(xxiii)					
1	Strengthening work of Kashinagar-Roypur Ferryghat Road, 0.00 km to 13.00 km	Diamond Harbour Highway Division	31-05-2018	14.12	12.61
2	Strengthening of Jaynagar-Jalaberia-Kultali (0.00 km -7.40 km) road	Diamond Harbour Highway Division	25-04-2016	6.58	4.75
(xxiv)					
1	Strengthening of Vedua-Salbedia Road via Pitraboni Kantaboni, 0.00 km. to 18.40 km. (from Vedua to Kantaboni) and W&S of Junbedia-Amrakanan Road, 0.00 km. to 10.494 km. (from Junbedia to Sonadha More)	Bankura PW Division	02-05-2019	25.28	26.24
2	Strengthening of Bagdogla to Joyrampur Road, 0.00 km to 6.70 km	Birbhum PW Division	08-08-2018	6.91	6.87
(xxv)					
1	W&S of Saptagram- Tribeni - Kalna- Katwa (STKK) Road, 83.00 km to 102.34 km	Burdwan North Highway Division	26-06-2020	53.53	54.37
2	W&S of Rajgram-Mohanpur Road, 0.00 km to 6.00 km and 6.00 km to 13.00 km	Birbhum Highway Division-I	20-08-2019	17.37	15.38
(xxvi)					
1	W&S of Jhantipahari-Kashipur (Purulia Boarder) Road via Arrah, 0.00 km to 12.10 km	Bankura Highway Division	16-08-2019	34.24	30.53
2	W&S of Ramjibanpur-Ketugram-Katwa (Futisanko to Jajigram), 76.00 to 102.00 km	Burdwan North Highway Division	30-06-2018	68.52	70.34

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
3	W&S of Mollarpur-Majipara-Bolpur Road (SH-13), 33.86 km to 49.46 km	Birbhum Highway Division-II	31-07-2016	30.31	30.49
4	W&S of Sikharpur-Kulti Canal Road, 3.500 km to 12.550 km (MDR)	South 24 Parganas Highway Division	11-05-2020	30.14	29.88
5	W&S of Basirhat to Swarupnagar Road, 0.00 km to 18.00 km (MDR)	Barasat Highway Division–I	16-08-2019	51.51	53.42
6	W&S of Beliatore-Sonamukhi-Patrasayar Road (SH-8) from 20.00 km. to 44.876 km	Bankura PW Division	31-03-2018	42.64	36.76
7	W&S of Memari-Monteswar Road, 0.00 km to 31.30 km	Burdwan PW Division	28-02-2017	63.70	62.76
8	W&S of Bolpur-Palitpur Road (MDR) from 12.70 km to 25.70 km	Birbhum PW Division	31-07-2018	38.60	38.49
(xxvii)					
1	W&S of Mahachanda Road, 0.00 km to 10.45 km	Burdwan PW Division	15-09-2019	16.64	16.70
2	W&S of Monteswar-Denur-Putsuri Road, 0.00 km to 8.29 km	Burdwan PW Division	11-03-2019	10.79	9.92
3	W&S of Burirhat Chowpathi to Salmara Bazar Road, 0.00 km to 11.00 km	Coochbehar PW Division	30-06-2016	11.17	9.14
(xxviii)					
1	Strengthening of Memari-Jaugram Road, 0.00 km. to 10.50 km	Burdwan South Highway Division	23-08-2018	10.57	9.90
2	Improvement of Mirjapur-Kaligram-Kusumgram-Samurdragar Road, (0-2) km, (17-19) km, (32-38) km & (43-52) km	Burdwan South Highway Division	20-03-2017	13.67	12.50
(xxix)					
1	W&S of Burirhat Chowpathy to Salmara Bazar Road, 0.00 km to 11.00 km	Coochbehar PW Division	30-06-2016	11.17	9.14
2	W&S of Mahachanda Road, 0.00 km to 10.45 km	Burdwan PW Division	15-09-2019	16.64	16.70
3	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km	Birbhum PW Division	31-07-2018	38.60	38.49
4	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km	Birbhum PW Division	12-11-2016	4.95	4.78
(xxx)					
1	W&S of Burirhat Chowpathy to Salmara Bazar Road, 0.00 km to 11.00 km	Coochbehar PW Division	30-06-2016	11.17	9.14

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
2	W&S of Monteswar-Denur-Putsuri Road, 0.00 km. to 8.29 km	Burdwan PW Division	11-03-2019	10.79	9.92
3	W&S of Mahachanda Road, 0.00 km to 10.45 km	Burdwan PW Division	15-09-2019	16.64	16.70
4	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km	Birbhum PW Division	31-07-2018	38.60	38.49
5	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km	Birbhum PW Division	12-11-2016	4.95	4.78
6	Strengthening of Volka road to Chepani Santi Nagar High Road, 0.00 km to 6.10 km	Alipurduar Highway Division	31-12-2019	8.67	4.68
(xxxi)					
1	W&S of Monteswar-Denur-Putsuri Road, 0.00 km. to 8.29 km	Burdwan PW Division	11-03-2019	10.79	9.92
2	Strengthening of Hingalganj-Dulduli Road, 12.50 km to 33.60 km	Barasat PW Division	01-10-2016	7.46	7.62
(xxxii)					
1	Strengthening of Volka road to Chepani Santi Nagar High Road, 0.00 km to 6.10 km	Alipurduar Highway Division	31-12-2019	8.67	4.68
2	W&S of Ranirhat-Kamat-Changrabandha Road, 0.00 km to 5.76km	Cooch Behar Highway Division	19-02-2019	19.25	16.24
3	W&S of Jhantipahari-Kashipur (Purulia Boarder) Road via Arrah, 0.00 km to 12.10 km	Bankura Highway Division	16-08-2019	34.24	30.53
4	Strengthening of Rangamati-Ashuria-Dejuri Road, from 0.00 km to 16.65 km	Bankura Highway Division	05-01-2020	17.02	17.64
5	W&S of Saptagram-Tribeni-Kalna-Katwa Road, 83 km to 102.34 km	Burdwan North Highway Division	26-06-2020	53.53	54.37
6	W&S of Ramjibanpur-Ketugram-Katwa (Futisanko to Jajigram), 76.00 km to 102.00 km	Burdwan North Highway Division	30-06-2018	68.52	70.34
7	IRQ of Chowhatta-Hatia-Sainthia Road, 0.00 km to 18.80 km	Birbhum Highway Division-I	31-05-2018	11.09	12.87
8	W&S of Rajgram-Mohanpur Road via Gopalpur, 0.00 km to 13.00 km	Birbhum Highway Division-I	20-08-2019	17.37	15.38
9	Strengthening of Joydeb-Kenduli-Illambazar Road, 0.00 km to 6.00 km	Birbhum Highway Division-II	12-09-2016	8.04	8.25

Sl. No.	Name of work	Division	Date of completion	Est. value (₹ in crore)	Payment made (₹ in crore)
10	W&S of Mollarpur-Majipara-Bolpur Road (SH-13), 33.86 km to 49.46 km	Birbhum Highway Division-II	31-07-2016	30.31	30.49
11	Strengthening of Sanjua-Maheshtala Road, 0.00 km to 7.00 km	South 24 Parganas Division	28-06-2019	8.15	8.13
12	W&S of Shikarpur-Kulti Road, 3.50 km to 12.50 km	South 24 Parganas Highway Division	11-05-2020	30.14	29.88
13	W&S of Basirhat to Swarupnagar Road, 0.00 km to 18.00 km	Barasat Highway Division-I	16-08-2019	51.51	53.42
14	Strengthening along with upgradation cross drainage works of Alipurduar-Volka Road, 11.275 km to 14.50 km, 19.00 km to 19.70 km and 20.20 km to 21.50 km	Alipurduar PW Division	12-03-2020	4.32	4.13
15	W&S of Burirhat-Chowpathy to Salmara Road, 0.00 km to 11.00 km	Cooch Behar PW Division	30-06-2016	11.17	9.14
16	W&S of Beliatore-Sonamukhi Patrasayar Road 20.00 km to 44.88 km	Bankura PW Division	31-03-2018	42.64	36.76
(xxxiii)					
1	W&S of Mahachanda Road, 0.00 km to 10.45 km	Burdwan PW Division	15-09-2019	16.64	16.70
2	W&S of Monteswar-Denur-Putsuri Road, 0.00 km. to 8.29 km	Burdwan PW Division	11-03-2019	10.79	9.92
3	Construction of Road from Gantimore to Gandharbapur within Block Memari-II, 4.150 km	Burdwan South Highway Division	04-09-2018	3.61	3.59
4	Strengthening of Memari Jougram Road, 0.00 km to 10.50 km	Burdwan South Highway Division	23-08-2018	10.57	9.90
5	Improvement of Mirjapur-Kaligram-Kusumgram-Samurdragar Road, (0-2) km, (17-19) km, (32-38) km & (43-52) km	Burdwan South Highway Division	20-03-2017	13.67	12.50
6	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km	Birbhum PW Division	31-07-2018	38.60	38.49
7	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km	Birbhum PW Division	12-11-2016	4.95	4.78
8	Strengthening of Hingalganj Dulduli Road, 12.50 km to 3.60 km	Barasat PW Division	01-10-2016	7.46	7.62

Appendix-10A

(Refer: Paragraph no. 2.7.1.3, Page-16)

Statement showing works where traffic census was not conducted

Sl. No.	Division	Name of work	Est. value (₹ in crore)
1	Burdwan South Highway Division	Improvement of Mirjapur-Kaligram-Kusumgram-Samurdragar Road, (0-2) km, (17-19) km, (32-38) km & (43-52) km	13.67
2	Birbhum Highway Division-II	Improvement of Suri-Rajnagar Road (4.00 km to 9.00 km, 14.00 km to 21.50 km and 22.50 km to 26.00 km)	10.45
3	Birbhum Highway Division-II	Improvement of Rajnagar-Kharasol Road, 10.00 km to 19.80 km	5.85
4	Birbhum Highway Division-II	Strengthening of Joydeb-Kenduli-Illambazar Road, 6.00 km to 11.00 km	3.87
Total	**2 divisions**		**33.84**

Appendix-10B

(Refer: Paragraph no. 2.7.1.3, Page-17)

Statement showing works where insufficient traffic census was conducted in MDR & SH

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
1.	Alipurduar PW Division	Strengthening of Alipurduar-Patlakhawa Road, 0.00 km to 14.50 km	8.48
2.	Alipurduar PW Division	Strengthening along with upgradation cross drainage works of Alipurduar-Volka Road, 11.275 km to 14.50 km, 19.00 km to 19.70 km and 20.20 km to 21.50 km	4.32
3.	Cooch Behar PW Division	Widening and IRQ of Vivekananda Street, 0.00 km to 2.00 km	3.70
4.	Bankura PW Division	W&S of Beliatore-Sonamukhi Patrasayar Road 0.00 km to 20.00 km	40.70
5.	Burdwan PW Division	W&S of Memari-Monteswar Road, 0.00 km to 31.30 km	63.70
6.	Burdwan PW Division	W&S of Burdwan-Kalna Road, 27.00 km to 51.00 km	40.90
7.	Burdwan PW Division	W&S of Mahachanda Road, 0.00 km to 10.45 km	16.64
8.	Burdwan South Highway Division	Strengthening of Kalna-Baidyapur Road, 0.00 km to 8.00 km	11.06
9.	Burdwan South Highway Division	Strengthening & upgradation of Hatgobindapur-Purbabalisha Road, 0.00 km to 15.36 km	35.83
10.	Birbhum PW Division	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km	38.60

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
11.	Cooch Behar Highway Division	W&S of Cooch Behar-Baneswar-Alipurduar Road (SH-16), 0.00 km to 9.00 km excluding (1.80 km to 2.90 km)	30.07
12.	Cooch Behar Highway Division	W&S of Ranirhatkamat-Changrabandha Road, 0.00 km to 5.76 km	19.25
13.	Bankura Highway Division	W&S of Taldangra-Panchmura-Chowbeta Road, 0.00 km to 10.00 km	12.51
14.	Burdwan North Highway Division	Strengthening of Balgona-Chandrapur Road (MDR), 7.00 km to 14.50 km	15.07
15.	Burdwan North Highway Division	W&S of Ramjibanpur-Ketugram-Katwa (Futisanko to Jajigram), 76.00 km to 102.00 km	68.52
16.	Birbhum Highway Division-I	IRQ of Chowhatta- Hatia- Sainthia Road, 0.00 km to 18.80 km	11.09
17.	Birbhum Highway Division-I	W&S and beautification of Rampurhat-Tarapit Road, 0.00 km to 7.00 km with a link to Atla from 0.00 km to 2.617 km, (Balance work for the portion from 5.00 km to 7.00 km)	40.23
18.	Birbhum Highway Division-II	Strengthening of Joydeb-Kenduli-Illambazar Road, 0.00 km to 6.00 km,	8.04
19.	Birbhum Highway Division-II	W&S of Mollarpur-Majipara-Bolpur Road (SH-13), 33.86 km to 49.46 km	30.31
Total	**11 divisions**		**499.02**

Appendix-10C

(Refer: Paragraph no. 2.7.1.3, Page-17)

Statement showing works where insufficient traffic census was done for VR & ODR

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
1	Cooch Behar PW Division	W&S of Burirhat Chowpathy to Salmara Road, 0.00 km to 11.00 km	11.17
2	Burdwan PW Division	W&S of Monteswar-Denur-Putsuri Road, 0.00 km. to 8.29 km	10.79
3	Birbhum Highway Division-II	W&S of Dubrajpur-Khairasole via Kukutia Road, 0.00 km to 5.60 km	5.71
4	Birbhum Highway Division-II	W&S of Panchra-Khairasole Road, 0.00 km to 8.60 km	9.22
Total	**3 divisions**		**36.89**

Appendix-10D

(Refer: Paragraph no. 2.7.1.3, Page-17)

Statement showing works where traffic census done only in one season

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
i.	Cooch Behar PW Division	IRQ of Duduyar Par to Fulbari Hospital More Road	3.08
ii.	Cooch Behar PW Division	W&S of Burirhat Chowpathy to Salmara Bazar Road, 0.00 km to 11.00 km (VR)	11.17
iii.	Cooch Behar PW Division	Upgradation of Rangpur Diversion Village path (Non bituminous to bituminous Road), 0.00 km to 5.00 km	2.42
iv.	Cooch Behar PW Division	W&S of Atiyabari-Fakirtakia-Kurshahat Road, 11.97 km to 13.33 km (ODR)	1.25
v.	Bankura PW Division	W&S of existing carriageway of Rajgram-Surpanagar Road, 0.00 km to 8.75 km	8.23
vi.	Bankura PW Division	Strengthening of Vedua-Salbedia Road via Pitraboni Kantaboni, 0.00 km. to 18.40 km. (from Vedua to Kantaboni) and W&S of Junbedia-Amrakanan Road, 0.00 km. to 10.494 km. (from Junbedia to Sonadha More)	25.28
vii.	Burdwan PW Division	W&S of Monteswar-Denur-Putsuri Road, 0.00 km to 8.29 km	10.79
viii.	Burdwan PW Division	W&S of Chatni-Kumirpara Road, 0.00 km to 15.90 km	18.04
ix.	Burdwan South Highway Division	Strengthening of Badulia-Khandoghosh Road, 0.00 km to 17.50 km	13.01
x.	Burdwan South Highway Division	Construction of Road from Gantimore to Gandharbapur within Block Memari-II, 4.150 km	3.61
xi.	Birbhum PW Division	Improvement and strengthening of Kendua-Bansra Road (ODR), 0.00 km to 10.00 km	7.45
xii.	Birbhum PW Division	Strengthening of Bagdogla to Joyrampur Road, 0.00 km to 6.70 km	6.91
xiii.	Birbhum PW Division	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km	4.95
xiv.	South 24 Parganas PW Division	Strengthening of Betberia Station to Dhosa Road, 0.00 km to 13.00 km	11.98
xv.	South 24 Parganas PW Division	Strengthening of Natagachi to Chiner More Road, 0.00 km to 4.650 km	7.04
xvi.	South 24 Parganas PW Division	W&S of Champahati to Uttarbhag via Piyali Road, 0.00 km to 10.40 km	18.61
xvii.	Alipurduar Highway Division	Strengthening of Bhatibari to Khatajani Road, 0.00 km to 10.55 km (VR)	9.64
xviii.	Alipurduar Highway Division	Strengthening of Volka Road to Chepani Shantinagar High Road More, 0.00 km to 6.10 km (VR)	8.67

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
xix.	Alipurduar Highway Division	Construction of Banchukumari GP Office to Kalchini Block Border Road, 0.00 km to 6.53 km (VR)	8.22
xx.	Cooch Behar Highway Division	W&S of Dawaguri Bazar to Kaljani Health Centre Road (7th km), 0.00 km to 5.64 km	8.84
xxi.	Cooch Behar Highway Division	Kadamtala (90th km of SH-16) to Bagar Bazar road (3rd km of Kakina Road) via Tererpar of 2.50 km	5.75
xxii.	Cooch Behar Highway Division	Construction of single-lane carriageway at Jayanti Bazar to Unnishbisha G.P. Office Road, 0.00 km to 6.540 km (VR)	8.66
xxiii.	Bankura Highway Division	W&S of Jhantipahari-Kashipur Road, 0.00 km to 12.01 km (VR)	34.24
xxiv.	Burdwan North Highway Division	W&S of Komarpur-Chakta Road, 0.00 km to 8.00 km (ODR)	7.52
xxv.	Birbhum Highway Division -I	Strengthening of Margram-Sardha (Sailmile) Road via Hasan More, 0.00 km to 13.40 km (VR)	15.67
xxvi.	Birbhum Highway Division -I	W&S of Rajgram-Mohanpur Road, 0.00 km to 6.00 km and 6.00 km to 13.00 km	17.37
xxvii.	Birbhum Highway Division -II	W&S of Dubrajpur-Khairasole Road, 0.00 km to 5.60 km	5.71
xxviii.	Birbhum Highway Division -II	W&S of Panchra-Khairasole Road, 0.00 km to 8.60 km	9.22
xxix.	Birbhum Highway Division -II	W&S of Hirakuni-Aligarh Road, 4.90 km to 13.70 km	10.7
xxx	Barasat Highway Division -I	Rigid pavement work at Haroa Auto Stand to Notunhat Road, 0.00 km to 9.50 km	31.56
Total	**13 divisions**	**30 works**	**335.59**

Appendix-10E

(Refer: Paragraph no. 2.7.1.3, Page-17)

Statement showing works where location of traffic census was not mentioned

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
1.	Burdwan North Highway Division	Strengthening of Balgona Chandrapur Road, 7.00 km to 14.50 km	15.07
2.	Burdwan North Highway Division	W&S of Komarpur-Chakta Road, 0.00 km to 8.00 km (ODR)	7.52
3.	Birbhum Highway Division -II	W&S of Hirakuni-Aligarh Road, 4.90 km to 13.70 km (VR)	10.7
4.	South 24 Parganas Highway Division	Strengthening of Mohisgote pole to Chatta Bazar Road, 0.00 km to 6.30 km	7.88
5.	South 24 Parganas Highway Division	Strengthening of Sanjua-Maheshtala Road, 0.00 km to 7.10 km	8.15
6.	South 24 Parganas Highway Division	W&S of Sikharpur-Kulti Canal Road, 3.500 km to 12.550 km (MDR)	30.14
7.	South 24 Parganas Highway Division	Construction of Birbirhat-Gotakhat Road 4.20 km to 5.70 km	4.35
8.	Barasat Highway Division -I	Strengthening of Bashirhat-Pifa-Raghavpur Road, 11.00 km to 27.00 km	30.15
9.	Cooch Behar PW Division	Upgradation of Rangpur Diversion Village path (Non bituminous to bituminous Road), 0.00 km to 5.00 km	2.42
10.	Cooch Behar PW Division	W&S of Atiyabari-Fakirtakia- Kurshahat Road, 11.97 km to 13.33 km (ODR)	1.25
11.	Burdwan PW Division	Strengthening of Kusumgram- Samaspur Road, 0.00 km to 12.00 km	9.38
12.	Burdwan South Highway Division	Strengthening of Kalna-Baidyapur Road, 0.00 km to 8.00 km	11.06
13.	Burdwan South Highway Division	Strengthening of Hatgobindapur-Purbabalisha Road, 0.00 km to 15.36 km	35.83
14.	Burdwan South Highway Division	Construction of Road from Gantimore to Gandharbapur within Block Memari-II, 4.150 km	3.61
15.	South 24 Parganas PW Division	W&S of Canning Dock Ghat (Auto Stand) Tiger Project Office to Uttar Taldi Janakalyan More Road, 0.00 km to 8.10 km	14.53
16.	South 24 Parganas PW Division	W&S of Champahati to Uttarbhag via Piyali Road, 0.00 km to 10.40 km	18.61
Total	**8 divisions**	**16 works**	**211.65**

Appendix-10F

(Refer: Paragraph no. 2.7.1.3, Page-17)

Statement showing works where field data was not made available

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
1.	Alipurduar PW Division	Strengthening along with upgradation cross drainage works of Alipurduar-Volka Road, 11.275 km to 14.50 km, 19.00 km to 19.70 km and 20.20 km to 21.50 km	4.32
2.	Cooch Behar PW Division	W&S of Burirhat-Chowpathy to Salmara Road, 0 km to 11 km	11.17
3.	Burdwan PW Division	W&S of Memari-Monteswar Road, 0.00 km to 31.30 km	63.70
4.	Burdwan PW Division	W&S of Mahachanda Road, 0.00 km to 10.45 km	16.64
5.	Burdwan PW Division	W&S of Monteswar-Denur-Putsuri Road, 0.00 km to 8.29 km	10.79
6.	Burdwan South Highway Division	Strengthening of Memari Jougram Road, 0.00 km to 10.50 km	10.57
7.	Burdwan South Highway Division	Construction of Road from Gantimore to Gandharbapur within Block Memari-II, 4.150 km	3.61
8.	Birbhum PW Division	W&S of Bolpur-Palitpur Road, 12.7 km to 25.70 km	38.60
9.	Birbhum PW Division	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km	4.95
10.	Barasat PW Division	Strengthening of Hingalganj Dulduli Road, 12.50 km to 33.60 km	7.46
11.	Alipurduar Highway Division	W&S of Silbari-Salkumarhat Road, 0.00 km to 10.84 km	8.28
12.	Alipurduar Highway Division	W&S of Alipurduar-Kumargram Road; 0.00 km to 2.00 km, g and surfacing work from 3.00 km to 4.50 km	8.40
13.	Alipurduar Highway Division	Strengthening of Alipurduar- Kumargram Road, 2.00 km to 3.00 km and 6.90 km to 19.50 km	8.92
14.	Alipurduar Highway Division	Strengthening of Bhatibari to Khatajani Road, 0.00 km to 10.55 km (VR)	9.64
15.	Alipurduar Highway Division	Strengthening of Volka road to Chepani Santi Nagar High Road, 0.00 km to 6.10 km	8.67
16.	Alipurduar Highway Division	Construction of Banchukumari GP Office to Kalchini Block Border Road, 0.00 km to 6.53 km (VR)	8.22
17.	Cooch Behar Highway Division	W&S of Cooch Behar-Baneswar-Alipurduar Road (SH-12A), 9.00 km to 19.20 km	28.35
18.	Cooch Behar Highway Division	W&S of Cooch Behar-Baneswar-Alipurduar Road (SH-16), 0.00 km to 9.00 km excluding (1.80 km to 2.90 km)	30.07

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
19.	Cooch Behar Highway Division	W&S of Sitalkuchi-Gosanimari Road, 0.00 km to 16.55 km and Adabarighat Sitai Road, 0.00 km to 8.23 km	65.42
20.	Cooch Behar Highway Division	W&S of Ranirhatkamat-Changrabandha Road, 0.00 km to 5.76 km	19.25
21.	Cooch Behar Highway Division	W&S of Dawaguri Bazar to Kaljani Health Centre Road (7th km), 0.00 km to 5.64 km	8.84
22.	Cooch Behar Highway Division	Kadamtala (90th km of SH-16) to Bagar Bazar road (3rd km of Kakina Road) via Tererpar of 2.50 km	5.75
23.	Cooch Behar Highway Division	Construction of single-lane carriageway at Jayanti Bazar to Unnishbisha G.P. Office Road, 0.00 km to 6.540 km (VR)	8.66
24.	Bankura Highway Division	W&S of Taldangra-Panchmura-Chowbeta Roa, 0.00 km to 10.00 km	12.51
25.	Bankura Highway Division	Strengthening of Saltora-Murulia Road, 0.00 km to 12.70 km	24.37
26.	Bankura Highway Division	W&S of Simlapal-Khatra Road (SH-2), 0.00 km to 26.24 km, from single lane carriageway to 2-lane carriageway	52.42
27.	Bankura Highway Division	W&S of Saltora-Mejia Road, 0.00 km to 19.17 km	40.03
28.	Bankura Highway Division	W&S of Nabanda-Joykrishnapur Road, 10.00 km to 28.60 km (RIDF-XXII)	24.64
29.	Bankura Highway Division	W&S of Jhantipahari-Kashipur Road, 0.00 km to 12.01 km (VR)	34.24
30.	Bankura Highway Division	Strengthening of Rangamati-Ashuria-Dejuri Road, from 0.00 km to 16.65 km	17.02
31.	Burdwan North Highway Division	Strengthening of Balgona Chandrapur Road, 7.00 km to 14.5 km	15.07
32.	Burdwan North Highway Division	W&S of Komarpur-Chakta Road, 0.00 km to 8.00 km (ODR)	7.52
33.	Burdwan North Highway Division	W&S of Ramjibanpur-Ketugram-Katwa (Futisanko to Jajigram), 76.00 km to 102.00 km	68.52
34.	Burdwan North Highway Division	W&S work of i) Kashemnagar-Natunhat-Sreekhanda Road to Majhigram H.C. Road, 0.00 km to 2.50 km, ii) Majhigram H.C. to Katwa-Churpurni-Billeswar-Palita Road, 0.00 km to 11.40 km and iii) Katwa-Churpurni-Billeswar-Palita Road, 0.00 km to 3.60 km	38.75
35.	Burdwan North Highway Division	W&S of Bolgona-Guskara-Mankar Road (SH-14), 5.00 km to 18.15 km, (2-lane) and 21.40 km to 29.50 km, W&S (2-lane with paved shoulder)	53.44
36.	Burdwan North Highway Division	Strengthening of Kashemnagar-Natunhat-Sreekhanda Road (MDR), 10.00 km to 18.00 km	10.48
37.	Burdwan North Highway Division	Strengthening of Kaichor–Nandigram Road (MDR), 13.00 km to 26.70 km	21.85

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
38.	Burdwan North Highway Division	Strengthening of Bhatar Bonpas Road, 0.00 km to 14.50 km	9.63
39.	Burdwan North Highway Division	W&S of Saptagram-Tribeni-Kalna-Katwa Road, 83.00 km to 102.34 km	53.53
40.	Birbhum Highway Division-I	Strengthening of Nalhati-Rajgram Road (SH-7), 0.00 km (Nalhati) to 15.00 km (Murarai)	35.97
41.	Birbhum Highway Division-I	W&S of existing 2-lane carriageway of Nalhati Bye pass Road, 0.00 km to 3.00 km (with paved shoulder 1.50 m wide)	7.12
42.	Birbhum Highway Division-I	IRQ of Chowhatta-Hatia-Sainthia Road, 0.00 km to 18.80 km	11.09
43.	Birbhum Highway Division-I	W&S of Tilpara-Massanjore Road, 0.00 km to 8.00 km	8.42
44.	Birbhum Highway Division-I	W&S and beautification of Rampurhat-Tarapit Road, 0.00 km to 7.00 km with a link to Atla from 0.00 km to 2.617 km	40.23
45.	Birbhum Highway Division-I	Strengthening of Margram-Sardha (Sailmile) Road via Hasan More, 0.00 km to 13.40 km (VR)	15.67
46.	Birbhum Highway Division-I	W&S of Rajgram-Mohanpur Road, 0.00 km to 6.00 km and 6 km to 13 km	17.37
47.	Birbhum Highway Division-I	Strengthening and improvement of existing carriageway of Murarai Mitrapur Road, 0.00 km to 13.15 km	22.64
48.	Birbhum Highway Division-II	W&S of Dubrajpur-Khairasole via Kukutia Road, 0.00 km to 5.60 km	5.71
49.	Birbhum Highway Division-II	W&S of Panchra-Khairasole Road, 0.00 km to 8.60 km	9.22
50.	Birbhum Highway Division-II	Strengthening of Joydeb-Kenduli-Illambazar Road, 0.00 km to 6.00 km	8.04
51.	Birbhum Highway Division-II	W&S of Mollarpur-Majipara-Bolpur Road (SH-13), 33.86 km to 49.46 km	30.31
52.	Birbhum Highway Division -II	W&S of existing 5.50 m carriageway to standard 2-lane carriageway of Ahmedpur-Kirnahar-Ramjibanpur Road (SH), 0.00 km to 29.106 km	71.73
53.	Birbhum Highway Division -II	Strengthening of Khagra- Joydev Road, 0.00 km to 8.00 km	11.66
54.	Birbhum Highway Division -II	W&S of Hirakuni-Aligarh Road from 4.90 km to 13.70 km	10.7
55.	Birbhum Highway Division -II	Strengthening of Kankalitala-Lavpur Road, 0.00 km to 15.40 km	9.16
56.	South 24 Parganas Highway Division	Strengthening of Mohisgote pole to Chatta Bazar Road, 0.00 km to 6.30 km	7.88
57.	South 24 Parganas Highway Division	Strengthening of Sanjua-Maheshtala Road, 0.00 km to 7.10 km	8.15
58.	South 24 Parganas Highway Division	W&S of Anandapur-Kharki-Boynan-Tardah Road, 0.00 km to 15.10 km	25.93

Sl. No.	Divisions	Name of works	Est. value (₹ in crore)
59.	South 24 Parganas Highway Division	W&S of Lauhati Bhangar Bajar Road, 0.00 km to 15.20 km and Bhangar Bazar to Kulti Canal Road, 0.00 km to 2.431 km	66.58
60.	South 24 Parganas Highway Division	W&S of Sikharpur-Kulti Canal Road, 3.500 km to 12.550 km	30.14
61.	South 24 Parganas HW	W&S of Garia Railway Station-Gangajowara Road, 0.000 km to 4.434 km	16.81
62.	South 24 Parganas HW	Construction of Birbirhat-Gotakhat Road 4.20 km to 5.70 km	4.35
63.	Barasat HW-I	Strengthening of Bashirhat-Pifa-Raghavpur Road, 11.00 km to 27.00 km	30.15
64.	Barasat HW-I	Rigid pavement work at Haroa Auto Stand to Notunhat Road, 0.00 km to 9.50 km	31.56
65.	Barasat HW-I	Construction of rigid pavement at Jessore Road, 13.70 km to 14.70 km	17.21
66.	Barasat HW-I	W&S of Dumdum-Lauhati Road, 0.75 km to 12.00 km	42.93
67.	Barasat HW-I	W&S of Sarberia to Dhamakhali Road, 0.00 km to 7.96 km and 7.96 km to 9.96 km-rigid pavement work	39.78
Total	**14 divisions**	**67 works**	**1,511.81**

Appendix-11

(Refer: Paragraph no. 2.8.1, Page-29)

Statement showing works where DLP of seven years not considered in road signages

Sl. No.	Division	Name of work	Est. value (₹ in crore)
1	Alipurduar PW Division	Strengthening along with upgradation cross drainage works of Alipurduar-Volka Road, 11.275 km to 14.50 km, 19.00 km to 19.70 km and 20.20 km to 21.50 km	4.32
2	Cooch Behar PW Division	IRQ of Duduyar Par to Fulbari Hospital More Road	3.08
3	Cooch Behar PW Division	Widening and improvement of riding quality of MJN Road (1.25 km except ch. 0.320 km to 0.620 km), Magazine Road (1.12 km), Shibendra Narayan Road (2.04 km), NN Road (1.81 km), RN Road (1.02 km)	8.06
4	Cooch Behar PW Division	W & S of Vivekananda Street, 0.00 km to 2.00 km	3.70
5	Burdwan PW Division	Strengthening of Kusumgram- Samaspur Road, 0.00 km to 12.00 km	9.38
6	Burdwan PW Division	W&S of Mahachanda Road, 0.00 km to 10.45 km	16.64
7	Burdwan PW Division	W&S of Monteswar-Denur-Putsuri Road, 0.00 km to 8.29 km	10.79
8	Burdwan PW Division	W&S of Chatni-Kumirpara Road, 0.00 km to 15.90 km	18.04
9	Burdwan South Highway Division	Strengthening of Hatgobindapur-Purbabalisha Road, 0.00 km to 15.36 km	35.83
10	Burdwan South Highway Division	Strengthening of Memari Jougram Road, 0.00 km to 10.50 km	10.57
11	Birbhum PW Division	W&S Sriniketan-Gopalnagar Road, 0.00 km to 5.00 km	8.27
12	Birbhum PW Division	Improvement and strengthening of Kendua-Bansra Road (ODR), 0.00 km to 10.00 km	7.45
13	Birbhum PW Division	Strengthening of Bagdogla to Joyrampur Road, 0.00 km to 6.70 km	6.91
14	Barasat PW Division	Emergent repair & Surfacing of Paikpara-Sutia Road, 0.00 km to 8.60 km (excluding 5.00 km to 7.00 km bituminous work)	1.53
15	South 24 Parganas PW Division	Strengthening of Betberia Station to Dhosa Road, 0.00 km to 13.00 km	11.98
16	South 24 Parganas PW Division	W&S of Champahati to Uttarbhag via Piyali Road, 0.00 km to 10.40 km	18.61
	07 divisions		**175.16**

Appendix-12

(Refer: Paragraph no. 2.8.2, Page-30)

Statement showing works where Additional Performance Security were not obtained

Sl. No.	Division	Name of work	Est. value (₹ in crore)
1	Bankura PW Division	Construction of footpath from Machantala to Lalbazar Traffic More with brick work, sand filling, soiling, cement concrete and paved block	1.76
2	Burdwan South Highway Division	Emergent Repair work from 57.00 km to 64.00 km and 75.00 km to 83.00 km of Saptagram-Tribeni-Kalna-Katwa Road	0.42
3	Burdwan South Highway Division	Post Monsoon Estimate for Repairing Potholes and Depressions al 15.50 km to 25.50 km of Rasulpur Khandaghosh-Chakpurohit (SH-8) Road	0.17
4	Burdwan South Highway Division	Post Monsoon estimate for Repairing Potholes and depressions at 0.00 km to 2.00 km & 3.00 km to 9.00 km of Sagrai- Raina Road	0.13
5	Burdwan South Highway Division	Repairing work of Kalna Baidyapur Road, 8.00 km to 10.00 km	0.23
6	Burdwan South Highway Division	Constructive measures to minimise accident on SH 13 from 590.00 km to597.335 km by construction of a ISLAND and approach roads	0.16
7	Burdwan South Highway Division	Repairing work of Kalna Baidyapur Road from 10.00 km to 12.00 km (instr.)	0.10
8	Burdwan South Highway Division	Construction of a 4.00 M span Slab Culvert at 22nd km of Mirzapur-Kaligram-Kusumgram Road	0.21
9	Burdwan South Highway Division	Construction of a RCC Double Cell Box Culvert (2m X 2m) at 4.90th km of Jougram Khanpur Road	0.22
10	Burdwan South Highway Division	Construction of a culvert alongside both side pucca drain at 60th km of STKK Road	0.32
11	Burdwan South Highway Division	Surfacing work at Singerkone to Pandua Kulti Road via Badla, 0.00 km to 3.60 km	0.33
12	Burdwan South Highway Division	Surfacing work at Barabaharkuli to Badla Village Road, 0.00 km to 2.2 km	0.22
13	Burdwan South Highway Division	Surfacing work at Link Road from Arbelia on Kalna-Baidyapur Road to Dhapaspara via Chagram Health Centre, 0.00 km to 4.60 km	0.44
14	Burdwan South Highway Division	Surfacing work at Pandua-Kulti Road, 0.00 km to 2.60 km	0.30

Sl. No.	Division	Name of work	Est. value (₹ in crore)
15	Burdwan South Highway Division	Direction and place identification signs on Badulia Khandaghosh Road, 0.00 km to 17.50	0.08
16	Burdwan South Highway Division	Maintenance and Repairing work of GT. Road (SH-13), 591.00 km to 593.00 km; Repairing Pot-Holes, 20mm P.C. type B seal coat chilchalling *etc.*	0.07
17	Burdwan South Highway Division	Dressing and Chilchalling of Saptagram-Tribení-Kalna-Katwa Road, 53.00 km to 83.00 km	0.09
18	Birbhum PW Division	Construction of Plain Cement Concrete Road at Bolpur Sub-Divisional Hospital Campus	0.44
	03 divisions		**5.69**

Appendix-13

(Refer: Paragraph no. 2.8.3, Page-30)

Statement showing works where extension of time granted for non-clearance of site and non-availability of materials

Sl. No.	Division	Name of work
1	Coochbehar Highway Division	W&S of Cooch Behar-Baneswar-Alipurduar Road (SH-12A), 9.00 km to 19.20 km
2	Coochbehar Highway Division	Construction of Internal roads of Bangladeshi Enclave No. 31 (Poaturkuthi at Dinhata to Development Block)
3	Coochbehar Highway Division	IRQ of Toofanganj- Kammakkhyaguri Road, 0.00 km to 17.92 km
4	Coochbehar Highway Division	Construction of single-lane carriageway at Jayanti Bazar to Unnishbisha G.P. Office Road, 0.00 km to 6.540 km (VR)
5	Bankura Highway Division	Bridge over the river Kangsabati at Kechendaghat with both side approaches on Bankura-Ranibundh Road, balance work.
6	Bankura Highway Division	Bridge over river Sali on Bishnupur-Sonamukhi-Rangamati Road
7	Bankura Highway Division	W&S of Chandrakona-Goaltore-Sarenga-Simplighat Road, 29.00 km to31.80 km & 36.60 km to 40.00kmp. .
8	Bankura Highway Division	W&S of Taldangra-Panchmura-Chowbeta Road, 0.00kmp to 10.00 kmp
9	Birbhum Highway Division-I	W&S of Sibagram-Satpalsa Road, 0.00 km to 7.33 km & Sanakpur Link Road from 0.00 km to 2.00 km. Construction of rigid pavement for a length of 850m at 5th Km including structural work & Bituminous wearing course over existing bituminous macadum work from 0.00 km to 3.00 km and Sanakpur Link Road from 0.00 km to 2.00 km (balance work)
10	Birbhum Highway Division-I	W&S of Amba-Atla Road, 0.00 km to 6.00 km
11	Birbhum Highway Division-II	Replacement of existing damaged narrow minor bridge at 3rd km of Dubrajpur-Khairasole via Kukutia Road
12	Birbhum Highway Division-II	Strengthening of Dubrajpur- Power House Road, 0.00 km to 1.20 km
13	Birbhum Highway Division-II	W&S of Suri-Rajnagar Road, 0.00 kmp to 4.00 kmp
14	Burdwan North Highway Division	Strengthening.of Balgona Chandrapur Road, 7.00 km to 14.50 km
15	Bishnupur PW Division	W&S of Bishnupur -Kotulpur Road (Erstwhile-Bishnupur-Kotulpur-Arambagh Road), 0.00 km (Kumari Taki Cinema) to 18.00 km (Rajagram Girls High School), 7.00 m carriageway to 10.00 m
16	Bishnupur PW Division	W&S of Saspur-Behar Road, 0.00 kmp to 5.372 kmp
17	Bishnupur PW Division	W&S of Kumbhosthali-Hetia-Mirzapur Road, 0.00 kmp to 13.00 kmp
18	Diamond Harbour Highway Division	Strengthening of Kashinagar-Roypur-Ferryghat Road, 0.00 km to 13.00 km

Sl. No.	Division	Name of work
19	Alipurduar PW Division	Strengthening of Alipurduar-Patlakhawa Road, 0.00 km to 14.50 km
20	Alipurduar PW Division	Strengthening of Cross Road (balance road stretches of 4.347 kmp) and construction of one raised pedestrian walkway
21	Burdwan South Highway Division	Construction of Road from Gantimore to Gandharbapur within Block Memari-II (4.150 km)
22	Barasat PW Division	W&S of Kholapota-Baduria-Masalanadpur-Habra road from 16.00 km to 24.40 km except chainage 16.750 km to 17.250 km and chainage 19.630 km to 20.073 km)
23	Barasat PW Division	W&S of Kholapota-Baduria-Maslandapur-Habra Road, 16 km to 24.4 km except 16.750 km to 17.250 km and 19.630 km to 20.073 km
24	South 24 Parganas PW Division	W&S of Champahati to Uttarbhag via Piyali Road, 0.00 km to 10.40 km
	11 divisions	

Appendix-14

(Refer: Paragraph no. 2.8.4, Page-31)

Statement showing works where bitumen challans partially produced to Audit

Sl. No.	Division	Name of work	Est. value (₹ in crore)
1	Burdwan South Highway Division	Improvement of Mirjapur-Kaligram-Kusumgram-Samurdragar Road, (0-2) km, (17-19) km, (32-38) km & (43-52) km	13.67
2	Burdwan PW Division	W&S of Memari-Monteswar Road, 0.00 km to 31.30 km	63.70
3	Barasat PW Division	Strengthening of Hingalganj-Dulduli Road, 12.50 km to 33.60 km	7.46
4	South 24 Parganas PW Division	W&S of Champahati to Uttarbhag via Piyali Road, 0.00 km to 10.40 km	18.61
5	Alipurduar PW Division	Strengthening along with upgradation cross drainage works of Alipurduar-Volka Road, 11.275 km to 14.50 km, 19.00 km to 19.70 km and 20.20 km to 21.50 km	4.32
6	Cooch Behar PW Division	W&S of Burirhat-Chowpathy to Salmara Road, 0.00 km to 11 km	11.17
7	Bankura PW Division	W&S of Beliatore-Sonamukhi-Patrasayar Road (SH-8) from 20.00 km. to 44.876 km	42.64
8	Burdwan PW Division	W&S of Mahachanda Road, 0.00 km to 10.45 km	16.64
9	Burdwan PW Division	W&S of Monteswar-Denur-Putsuri Road, 0.00 km to 8.29 km	10.79
10	Burdwan South Highway Division	Construction of Road from Gantimore to Gandharbapur within Block Memari-II, 4.150 km	3.61
11	Burdwan South Highway Division	Strengthening of Memari Jougram Road, 0.00 km to 10.50 km	10.57
12	Birbhum PW Division	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km	38.60
13	Birbhum PW Division	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km	4.95
14	Barasat PW Division	W&S of Kholapota-Baduria-Maslandapur-Habra Road, 24.40 km to 32.00 km	20.60
15	South 24 Parganas PW Division	Strengthening of Betberia Station to Dhosa Road, 0.00 km to 13.00 km	11.98
16	South 24 Parganas PW Division	Strengthening of Natagachi to Chiner More Road, 0.00 km to 4.650 km	7.04
17	Barasat PW Division	W&S of Kholapota-Baduria-Maslandapur-Habra Road, 16.00 km to 24.40 km except chainage 16.750 km to 17.250 km and chainage 19.630 km to 20.073 km	23.82

Sl. No.	Division	Name of work	Est. value (₹ in crore)
18	Barrackpore PW Division	W&S of Shantinagar Tarun Sangha to Lokgate More via New Koyrapur bridge & Itvata pond to Kalyani expressway & Vatrisangha to Bangiya Gramin Vikash Bank Idgah to SK Israf House (4.56 km)	8.88
19	Barrackpore PW Division	W&S of Shyamnagar Feeder Road, 0.00 km to 2.766 km	7.36
20	Bishnupur PW Division	W&S of Motagoda to Kadmagarh Road, 0.00 km to 12.30 km	8.84
	10 divisions		**335.25**

Appendix-15

(Refer: Paragraph no. 2.8.7, Page-33)

Statement showing works where old machineries were used

Sl. No.	Division	Name of work	Est. value (₹ in crore)
1	Alipurduar PW Division	Strengthening of Alipurduar-Patlakhawa Road, 0.00 km to 14.50 km	8.48
2	Alipurduar PW Division	Strengthening of Alipurduar Volka Road 0.00 km to 7.50 km, 7.80 km to 8.125 km and 10.50 km to 11.275 km	4.98
3	Alipurduar PW Division	Strengthening of Buxa Forest Road, 10.00 km to 15.50 km along with improvement of shoulder and side drain	6.37
4	Alipurduar PW Division	Strengthening of Cross Road (under 14th Finance Commission)	2.18
5	Cooch Behar PW Division	IRQ of Duduyar Par to Fulbari Hospital More Road	3.08
6	Cooch Behar PW Division	Upgradation of Rangpur Diversion Village path (Non bituminous to bituminous Road) , 0.00 km to 5.00 km	2.42
7	Cooch Behar PW Division	W&S of Burirhat-Chowpathy to Salmara Road, 0.00 km to 11.00 km	11.17
8	Cooch Behar PW Division	Widening and improvement of riding quality of MJN Road (1.25 km except ch. 0.320 km to 0.620 km), Magazine Road (1.12 km), Shibendra Narayan Road (2.04 km), NN Road (1.81km), RN Road (1.02 km)	8.06
9	Cooch Behar PW Division	W&S of Atiyabari-Fakirtakia- Kurshahat Road, 11.97 km to 13.33 km (ODR)	1.25
	02 divisions		**47.99**

Appendix-16

(Refer: Paragraph nos. 2.9.1, 2.9.2.1, 2.9.2.2 and 2.9.2.3, Pages-35-37)

Statement showing status of various monitoring tools

Sl. No.	Division	Name of work	Est. value (₹ in crore)	Maintenance of Method statement	Submission status of Bar chart by contractor	Maintenance of Work Order Book	Commencement of subsequent layer	Fulltime supervision done?
1	Alipurduar Highway Division	Strengthening of Volka Road to Chepani Shantinagar High Road More, 0 km to 6.1 km (VR)	8.67	Not maintained	Not submitted	Not maintained	Without written approval	Yes
2	Cooch Behar Highway Division	W&S of Ranirhat-Kamat-Changrabandha Road, 0.00 km to 5.76kmp	19.25	Not maintained	Not submitted	Not maintained	Without written approval	Yes
3	Bankura Highway Division	W&S of Jhantipahari-Kashipur (Purulia Boarder) Road via Arrah, 0.00 km to 12.10 km	34.24	Maintained	Submitted	Not furnished to Audit	Without written approval	Yes
4	Bankura Highway Division	Strengthening of Rangamati-Ashuria-Dejuri Road, from 0.00 km to 16.65 km	17.02	Not maintained	Submitted	Not furnished to Audit	Without written approval	Yes
5	Burdwan North Highway Division	W&S of Saptagram-Tribeni-Kalna-Katwa Road, 83 km to 102.34 km	53.53	Maintained	Submitted	Not furnished to Audit	Without written approval	Yes
6	Burdwan North Highway Division	W&S of Ramjibanpur-Ketugram-Katwa (Futisanko to Jajigram), 76.00 km to 102.00 km	68.52	Maintained	Submitted	Not maintained	Without written approval	Yes
7	Birbhum Highway Division-I	IRQ of Chowhatta-Hatia-Sainthia Road, 0.00 km to 18.80 km	11.09	Maintained	Not submitted	Not maintained	Without written approval	Yes
8	Birbhum Highway Division-I	W&S of Rajgram-Mohanpur Road via Gopalpur, 0.00 km to 13.00 km	17.37	Not maintained	Not submitted	Not maintained	Without written approval	No
9	Birbhum Highway Division-II	Strengthening of Joydeb-Kenduli-Illambazar Road, 0.00 km to 6.00 km	8.04	Not maintained	Not submitted	Not maintained	Without written approval	Yes
10	Birbhum Highway Division-II	W&S of Mollarpur-Majipara-Bolpur Road (SH-13), 33.86 km to 49.46 km	30.31	Not maintained	Not submitted	Not maintained	Without written approval	Yes
11	South 24 Parganas Highway Division	Strengthening of Sanjua-Maheshtala Road, 0.00 km to 7.00 km	8.15	Not maintained	Not submitted	Not maintained	Without written approval	No
12	South 24 Parganas Highway Division	W&S of Sikharpur-Kulti Canal Road, 3.500 km to 12.550 km (MDR)	30.14	Maintained	Submitted	Not maintained	Without written approval	No
13	Barasat Highway Division–I	W&S of Basirhat to Swarupnagar Road, 0.00 km to 18.00 km (MDR)	51.51	Not maintained	Not submitted	Not maintained	Without written approval	No

Sl. No.	Division	Name of work	Est. value (₹ in crore)	Maintenance of Method statement	Submission status of Bar chart by contractor	Maintenance of Work Order Book	Commencement of subsequent layer	Fulltime supervision done?
14	Alipurduar PW Division	Strengthening along with upgradation cross drainage works of Alipurduar-Volka Road, 11.275 km to 14.50 km, 19.00 km to 19.70 km and 20.20 km to 21.50 km	4.32	Not maintained	Not submitted	Not maintained	Without written approval	Yes
15	Cooch Behar PW Division	W&S of Burirhat Chowpathy to Salmara Road, 0 km to 11 km	11.17	Not maintained	Not furnished to Audit	Not furnished to Audit	Without written approval	No
16	Bankura PW Division	W&S of Beliatore-Sonamukhi Patrasayar Road 20 km to 44.88 km	42.64	Maintained	Not furnished to Audit	Not furnished to Audit	Without written approval	No
17	Burdwan PW Division	W&S of Mahachanda Road, 0.00 km to 10.45 km	16.64	Maintained	Not furnished to Audit	Not furnished to Audit	Without written approval	No
18	Burdwan PW Division	W&S of Memari-Monteswar Road, 0.00 km to 31.30 km	63.70	Maintained	Not submitted	Not furnished to Audit	Without written approval	Yes
19	Burdwan PW Division	W&S of Monteswar-Denur-Putsuri Road, 0.00 km to 8.29 km	10.79	Maintained	Not submitted	Not furnished to Audit	Without written approval	Yes
20	Burdwan South Highway Division	Construction of Road from Gantimore to Gandharbapur within Block Memari-II, 4.150 km	3.61	Not maintained	Not furnished to Audit	Not maintained	No records furnished	Yes
21	Burdwan South Highway Division	Strengthening of Memari Jougram Road, 0.00 km to 10.50 km	10.57	Not maintained	Not submitted	Not furnished to Audit	Without written approval	No
22	Burdwan South Highway Division	Improvement of Mirzapur-Kaligram-Kusumgram-Nadonghat-Samudragarh Road; 0.00 km to 2.00 km, 17.00 km to 19.00 km, 32.00 km to 38.00 km and 43.00 km to 52.00 km	13.67	Maintained	Not furnished to Audit	Not maintained	No records furnished	Yes
23	Birbhum PW Division	W&S of Bolpur-Palitpur Road, 12.7 km to 25.70 km	38.60	Not maintained	Not furnished to Audit	Not maintained	Without written approval	Yes
24	Birbhum PW Division	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km	4.95	Maintained	Not furnished to Audit	Not furnished to Audit	No records furnished	No
25	Barasat PW Division	Strengthening of Hingalganj-Dulduli Road, 12.50 km to 33.60 km	7.46	Not maintained	Not submitted	Not maintained	Without written approval	Yes

Appendix-17

(Refer: Paragraph no. 2.10.1.1, Page-39)

Statement showing works where various tests were partially conducted for earth

Sl. No.	Division	Name of work
1	Cooch Behar PW Division	W&S of Burirhat Chowpathy to Salmara Road, 0.00 km to 11.00 km
2	Bankura PW Division	W&S of Beliatore-Sonamukhi Patrasayar Road 20.00 km to 44.88 km
3	Burdwan PW Division	W&S of Mahachanda Road, 0.00 km to 10.45 km
4	Burdwan PW Division	W&S of Memari-Monteswar Road, 0.00 km to 31.30 km
5	Burdwan PW Division	W&S of Monteswar-Denur-Putsuri Road, 0.00 km to 8.29 km
6	Burdwan South Highway Division	Construction of Road from Gantimore to Gandharbapur within Block Memari-II, 4.150 km
7	Burdwan South Highway Division	Strengthening of Memari Jougram Road, 0.00 km to 10.50 km
8	Birbhum PW Division	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km
9	Birbhum PW Division	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km
10	Barasat PW Division	Strengthening of Hingalganj-Dulduli Road, 12.50 km to 33.60 km

Appendix-18

(Refer: Paragraph no. 2.10.1.1, Page-39)

Statement showing tests of earth work conducted prior to commencement of works

Sl. No.	Tests	Total number of tests required	Tests not done	Percentage of tests not done
1	Deleterious Content Test	10	7	70
2	Clay Content	10	5	50
3	Liquid Limit	10	4	40
4	Plasticity Index	10	4	40
5	Maximum Dry Density	10	2	20
6	Highest Sub-soil level & soil water level	10	8	80
7	Sieve Analysis	10	5	50
Total		**70**	**35**	**50**

Appendix-19

(Refer: Paragraph no. 2.10.1.2, Page-39)

Statement showing works where various tests were partially conducted for granular items

Sl. No.	Division	Name of work	Granular items used
1	Alipurduar Highway Division	Strengthening of Volka Road to Chepani Shantinagar High Road More, 0.00 km to 6.10 km (VR)	WMM
2	Cooch Behar Highway Division	W&S of Ranirhat-Kamat-Changrabandha Road, 0.00 km to 5.76 kmp	WMM
3	Bankura Highway Division	W&S of Jhantipahari-Kashipur (Purulia Boarder) Road via Arrah, 0.00 km to 12.10 km	WMM
4	Bankura Highway Division	Strengthening of Rangamati-Ashuria-Dejuri Road, from 0.00 km to 16.65 km	WMM
5	Burdwan North Highway Division	W&S of Saptagram-Tribeni-Kalna-Katwa Road, 83.00 km to 102.34 km	WMM
6	Burdwan North Highway Division	W&S of Ramjibanpur-Ketugram-Katwa (Futisanko to Jajigram), 76.00 km to 102.00 km	WMM
7	Birbhum Highway Division-I	IRQ of Chowhatta-Hatia-Sainthia Road, 0.00 km to 18.80 km	WMM
8	Birbhum Highway Division-I	W&S of Rajgram-Mohanpur Road via Gopalpur, 0.00 km to 13.00 km	WMM
9	Birbhum Highway Division-II	Strengthening of Joydeb-Kenduli-Illambazar Road, 0.00 km to 6.00 km	WMM
10	Birbhum Highway Division-II	W&S of Mollarpur-Majipara-Bolpur Road (SH-13), 33.86 km to 49.46 km	WMM
11	South 24 Parganas Highway Division	Strengthening of Sanjua-Maheshtala Road, 0.00 km to 7.00 km	WMM
12	South 24 Parganas Highway Division	W&S of Sikharpur-Kulti Canal Road, 3.500 km to 12.550 km (MDR)	WMM
13	Barasat Highway Division–I	W&S of Basirhat to Swarupnagar Road, 0.00 km to 18.00 km (MDR)	WMM
14	Alipurduar PW Division	Strengthening along with upgradation cross drainage works of Alipurduar-Volka Road, 11.275 km to 14.50 km, 19.00 km to 19.70 km and 20.20 km to 21.50 km	WMM
15	Cooch Behar PW Division	W&S of Burirhat Chowpathy to Salmara Road, 0.00 km to 11.00 km	GSB, WBM, WMM
16	Bankura PW Division	W&S of Beliatore-Sonamukhi Patrasayar Road 20.00 km to 44.88 km	GSB, WMM
17	Burdwan PW Division	W&S of Mahachanda Road, 0.00 km to 10.45 km	GSB, WBM, WMM
18	Burdwan PW Division	W&S of Memari-Monteswar Road, 0.00 km to 31.30 km	GSB, WMM
19	Burdwan PW Division	W&S of Monteswar-Denur-Putsuri Road, 0.00 km to 8.29 km	GSB, WBM, WMM

Sl. No.	Division	Name of work	Granular items used
20	Burdwan South Highway Division	Construction of Road from Gantimore to Gandharbapur within Block Memari-II, 4.150 km	GSB, WBM, WMM
21	Burdwan South Highway Division	Strengthening of Memari Jougram Road, 0.00 km to 10.50 km	GSB, WMM
22	Burdwan South Highway Division	Improvement of Mirzapur-Kaligram-Kusumgram-Nadonghat-Samudragarh Road; 0.00 km to 2.00 km, 17.00 km to 19.00 km, 32.00 km to 38.00 km and 43.00 km to 52.00 km	GSB, WBM, WMM
23	Birbhum PW Division	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km	GSB, WMM
24	Birbhum PW Division	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km	GSB, WBM, WMM
25	Barasat PW Division	Strengthening of Hingalganj-Dulduli Road, 12.50 km to 33.60 km	WBM

Appendix-20

(Refer: Paragraph no. 2.10.1.2, Page-39)

Statement showing shortfall in testing of granular layers prior to the commencement of works

Number of works and name of item	Tests not carried out	Tests claimed to have been done but no records were available
10 works ***(Appendix-19)*** (GSB item valued at ₹ 19.28 crore)	Water absorption test in three works	Water absorption test in one work
	Gradation test was in one work	Gradation test in three works
	Atterberg limit test in four works	Atterberg limit test in four works
	Moisture Content test in two works	Moisture content test in three works
Seven works ***(Appendix-19)*** with WBM items valued at ₹ 3.61 crore	Aggregate Impact Value (AIV) or LAA test in three work	Aggregate Impact Value (AIV) or LAA test in one work
	Combined Flakiness and Elongation (CF&E) test in four works	Combined Flakiness and Elongation (CF&E) test in two works
	Water absorption test in four works	-
	Liquid limit test of screening material in three work	Liquid limit test of screening material in two works
	Plastic index of the screening material in three work	Plastic index of the screening material in two works
	Plastic index of binding material in four works	Plastic index of binding material in one work
24 works ***(Appendix-19)*** with WMM items valued at ₹ 97.88 crore	AIV test in four work	AIV test in one work
	CF&E in three work	CF&E in one work
	Water absorption test for the aggregates in two works	-
	Plasticity test of the screening materials in 13 works	Plasticity test of the screening materials in three works
	Gradation test in 1 work	Gradation test in one work

Appendix-21

(Refer: Paragraph no. 2.10.1.4, Page-40)

Statement showing works where various tests were partially conducted for bituminous items

Sl. No.	Division	Name of work	Bituminous items used
1	Alipurduar Highway Division	Strengthening of Volka Road to Chepani Shantinagar High Road More, 0.00 km to 6.10 km (VR)	BM
2	Cooch Behar Highway Division	W&S of Ranirhat-Kamat-Changrabandha Road, 0.00 km to 5.76 km	DBM, BC
3	Bankura Highway Division	W&S of Jhantipahari-Kashipur (Purulia Boarder) Road via Arrah, 0.00 km to 12.10 km	DBM, SDBC
4	Bankura Highway Division	Strengthening of Rangamati-Ashuria-Dejuri Road, from 0.00 km to 16.65 km	DBM, SDBC
5	Burdwan North Highway Division	W&S of Saptagram-Tribeni-Kalna-Katwa Road, 83.00 km to 102.34 km	DBM, BC
6	Burdwan North Highway Division	W&S of Ramjibanpur-Ketugram-Katwa (Futisanko to Jajigram), 76.00 km to 102.00 km	DBM, BC
7	Birbhum Highway Division-I	IRQ of Chowhatta-Hatia-Sainthia Road, 0.00 km to 18.80 km	BM
8	Birbhum Highway Division-I	W&S of Rajgram-Mohanpur Road via Gopalpur, 0.00 km to 13.00 km	DBM, BC
9	Birbhum Highway Division-II	Strengthening of Joydeb-Kenduli-Illambazar Road, 0.00 km to 6.00 km	BM, SDBC
10	Birbhum Highway Division-II	W&S of Mollarpur-Majipara-Bolpur Road (SH-13), 33.86 km to 49.46 km	DBM, BC
11	South 24 Parganas Highway Division	Strengthening of Sanjua-Maheshtala Road, 0.00 km to 7.00 km	BM, SDBC
12	South 24 Parganas Highway Division	W&S of Sikharpur-Kulti Canal Road, 3.500 km to 12.550 km (MDR)	DBM, BC
13	Barasat Highway Division–I	W&S of Basirhat to Swarupnagar Road, 0.00 km to 18.00 km (MDR)	DBM, BC
14	Alipurduar PW Division	Strengthening along with upgradation cross drainage works of Alipurduar-Volka Road, 11.275 km to 14.50 km, 19.00 km to 19.70 km and 20.20 km to 21.50 km	BM, SDBC, Mastic Asphalt
15	Cooch Behar PW Division	W&S of Burirhat Chowpathy to Salmara Road, 0.00 km to 11.00 km	BM
16	Bankura PW Division	W&S of Beliatore-Sonamukhi Patrasayar Road 20.00 km to 44.88 km	BM, DBM, BC, Mastic Asphalt
17	Burdwan PW Division	W&S of Mahachanda Road, 0.00 km to 10.45 km	DBM, BC, Mastic Asphalt
18	Burdwan PW Division	W&S of Memari-Monteswar Road, 0.00 km to 31.30 km	BM, DBM, BC, Mastic Asphalt
19	Burdwan PW Division	W&S of Monteswar-Denur-Putsuri Road, 0.00 km to 8.29 km	DBM, SDBC
20	Burdwan South Highway Division	Strengthening of Memari Jougram Road, 0.00 km to 10.50 km	DBM, BC

Sl. No.	Division	Name of work	Bituminous items used
21	Burdwan South Highway Division	Improvement of Mirzapur-Kaligram-Kusumgram-Nadonghat-Samudragarh Road; 0.00 km to 2.00 km, 17.00 km to 19.00 km, 32.00 km to 38.00 km and 43.00 km to 52.00 km	BM, SDBC, Mastic Asphalt
22	Birbhum PW Division	W&S of Bolpur-Palitpur Road, 12.70 km to 25.70 km	DBM, BC, Mastic Asphalt
23	Birbhum PW Division	W&S of Seorakuri-Kulkuri Road via Fulaipur and connecting Md. Bazar, 0.00 km to 9.50 km	BM
24	Barasat PW Division	Strengthening of Hingalganj-Dulduli Road, 12.50 km to 33.60 km	BM

Appendix-22

(Refer: Paragraph no. 2.10.1.4, Page-40)

Statement showing works where bituminous tests were done partially as per records prior to commencement

Name of items	Number of Bituminous items in 24 works	Number of each type of test to be done	Number of tests not done										Percentage of tests not done
			AIV	C &FE	Water absorption	Coating & stripping	Quality of binder	Gradation	Mix designs	Soundness test of aggregates	Retained tensile strength	
BM (11 works: ***Appendix-21)***	11	11	1	1	4	5	5	0	1	6	10	33
DBM (15 works: ***Appendix-21)***	16	16	2	1	7	12	8	7	1	15	14	47
SDBC (7 works: ***Appendix-21)***	7	7	2	2	2	5	2	0	0	6	6	40
BC (12 works: ***Appendix-21)***	12	12	0	0	3	4	6	0	1	8	10	30
Mastic Asphalt (6 works: ***Appendix-21)***	6	6	3	3	2	4	0	3	0	3	5	43
Total	**52**	**52**	**8**	**7**	**18**	**30**	**21**	**10**	**3**	**38**	**45**	**38**

Appendix-23

(Refer: Paragraph no. 2.10.2.1, Page-41)

Statement showing details of partial tests done of earthwork during execution

Sl. No.	Tests	Total number of tests required	Test not done	Percentage of tests not done
1.	Deleterious Content	248	210	84.68
2.	Clay Content	248	218	87.90
3.	Liquid Limit	248	122	49.19
4.	Plasticity Index	248	122	49.19
5.	OMC and Maximum Dry Density	248	32	12.90
6.	Grading	248	183	73.79
7.	Moisture Content	1,105	897	81.18
8.	Classification of the soil	248	204	82.26
9.	CBR of the soil	248	207	83.47
	Total	**3,089**	**2,195**	**71.06**

Appendix-24

(Refer: Paragraph no. 2.10.2.2, Page-41)

Statement showing details of partial tests done of Granular items during execution

Name of the item	Tests	Number of test Required	Number of Test not done	Percentage of tests not done
GSB	Gradation	332	29	8.73
	Atterberg's limits	85	12	14.11
	Moisture content prior to compaction	330	127	38.48
	Density of the compacted layer	846	541	63.95
WBM	Aggregate Impact Value	19	7	36.84
	Combined Flakiness & Elongation Indices	39	16	41.03
	Atterberg limit of binding material	25	10	40.00
	Atterberg limit test of screening material	37	13	35.14
	Grading	92	8	8.69
WMM	Aggregate Impact Value	470	186	39.57
	Combined Flakiness Index & Elongation Index	939	511	54.42
	Atterberg limit	611	406	66.45
	Density of the compacted layer	3,100	1,593	51.39
	Gradation	2,616	1,015	38.80
Total		**9,541**	**4,474**	**46.89**

Appendix-25

(Refer: Paragraph no. 2.10.2.3, Page-42)

Statement showing details of partial test done of bituminous items during execution

Items	Tests	Test required	Test not done	Test not done (%)
BM	Aggregate Impact Value	227	112	49.34
	Combined Flakiness and Elongation Indices	130	37	28.46
	Stripping Value of aggregates	10	4	40.00
	Water absorption of aggregates	10	3	30.00
	Water sensitivity of mix	10	8	80.00
	Soundness (Magnesium Sulphate/Sodium Sulphate)	10	9	90.00
	Quality of binder	66	50	75.76
	Grading of aggregates	537	184	34.26
	Binder content	339	150	44.25
	Percentage of fractured face	455	346	76.04
	Density of compacted layer	1,008	750	74.40
DBM	Aggregate Impact Value	346	140	40.46
	Combined Flakiness and Elongation Indices	346	160	46.24
	Water absorption of aggregates	16	11	68.75
	Moisture Susceptibility of mix	7	0	0.00
	Soundness (Magnesium Sulphate/Sodium Sulphate)	16	14	87.50
	Quality of binder	392	157	40.05
	Mix Grading	886	277	31.26
	Binder content	872	433	49.66
	Density of compacted layer	2,668	1,637	61.36
	Stability and voids analysis of mix	1,555	1,209	77.75
	Sand equivalent test	16	13	81.25
	Plasticity index	16	12	75.00
	Polished stone value	16	14	87.50
SDBC	Aggregate Impact Value	26	8	30.77
	Combined Flakiness and Elongation Indices	26	17	65.38
	Water absorption of aggregates	6	4	66.67
	Moisture Susceptibility of mix	3	3	100.00
	Soundness (Magnesium Sulphate/Sodium Sulphate)	6	6	100.00
	Quality of binder	34	4	11.76
	Mix Grading	49	1	2.04
	Binder content	78	14	17.95
	Density of compacted layer	534	248	46.44
	Stability and voids analysis of mix	131	89	67.94
	Sand equivalent test	6	6	100.00
	Plasticity index	6	6	100.00
	Polished stone value	6	6	100.00

Items	Tests	Test required	Test not done	Test not done (%)
BC	Aggregate Impact Value	120	33	27.50
	Combined Flakiness and Elongation Indices	120	35	29.17
	Water absorption of aggregates	12	8	66.67
	Moisture Susceptibility of mix	12	7	58.33
	Soundness (Magnesium Sulphate/Sodium Sulphate)	12	9	75.00
	Quality of binder	136	118	86.76
	Mix grading	422	180	42.65
	Binder content	422	190	45.02
	Density of compacted layer	1,724	1,078	62.53
	Stability and voids analysis of mix	664	462	69.58
	Sand equivalent test	12	8	66.67
	Plasticity index	12	9	75.00
	Polished stone value	12	8	66.67
Mastic Asphalt	Aggregate Impact Value	7	1	14.29
	Combined Flakiness and Elongation Indices	7	1	14.29
	Stripping Value of aggregates	6	4	66.67
	Water absorption of aggregates	6	2	33.33
	Water sensitivity of mix	6	4	66.67
	Soundness (Magnesium Sulphate/Sodium Sulphate)	6	5	83.33
	Quality of binder	6	2	33.33
	Hardness Number	73	0	0
Total		**14,662**	**8,306**	**56.65**

Appendix-26

(Refer: Paragraph nos. 2.10.3.3 and 2.10.3.5, Pages-43 and 44)

Statement showing deficiency in monitoring of tests by higher authorities and training on quality control of personnel conducted by the department

Sl. No.	Division	Status of quality control data sent to higher authority (Para: 6.3.3)	Status of training on quality control (Para: 6.3.5)
1	Alipurduar Highway Division	Not sent for perusal	Not conducted
2	Cooch Behar Highway Division	Not sent for perusal	Not conducted
3	Bankura Highway Division	Not sent for perusal	Not conducted
4	Burdwan North Highway Division	Not sent for perusal	Not conducted
5	Burdwan South Highway Division	Not sent for perusal	Not conducted
6	Birbhum Highway Division-I	Not sent for perusal	Not conducted
7	Birbhum Highway Division-II	Not sent for perusal	Not conducted
8	South 24 Parganas Highway Division	Not sent for perusal	Not conducted
9	Diamond Harbour Highway Division	No record found	No record found
10	Barasat Highway Division–I	Not sent for perusal	Not conducted
11	Alipurduar PW Division	Not sent for perusal	Not conducted
12	Cooch Behar PW Division	Not sent for perusal	Conducted
13	Bankura PW Division	No record found	Not conducted
14	Burdwan PW Division	Not sent for perusal	Not conducted
15	Birbhum PW Division	Not sent for perusal	Not conducted
16	South 24 Parganas PW Division	Not sent for perusal	Conducted
17	Barasat PW Division	No record found	Not conducted
18	Barrackpore PW Division	No record found	No record found
19	Bishnupur PW Division	No record found	No record found
	19 divisions		

Appendix-27

(Refer: Paragraph no. 2.11.1, Page-45)

Statement showing increase in number of vehicles in West Bengal

Sl. No.	Districts	2015-16	2016-17	2017-18	2018-19	Total	Percentage of increase (2015-16 to 2018-19)
1	Alipurduar	12,287	14,603	19,036	18,861	64,787	53.50
2	Bankura	25,884	32,743	35,036	40,236	1,33,899	55.45
3	Birbhum	30,236	34,428	38,496	49,302	1,52,462	63.06
4	Cooch Behar	24,071	28,975	30,743	35,484	1,19,273	47.41
5	Dakshin Dinajpur	11,475	13,596	15,215	17,399	57,685	51.63
6	Darjeeling	39,102	41,676	45,357	44,464	1,70,599	13.71
7	Hooghly	52,631	60,511	62,445	66,409	2,41,996	26.18
8	Howrah	45,239	54,901	63,494	65,803	2,29,437	45.46
9	Jalpaiguri	17,604	20,384	21,619	24,797	84,404	40.86
10	Jhargram	1,077	6,472	10,180	12,237	29,966	1,036.21
11	Kalimpong	1,281	1,620	1,557	2,786	7,244	117.49
12	Kolkata	49,109	43,992	49,674	48,411	1,91,186	-1.42
13	Malda	19,503	34,311	41,845	47,460	1,43,119	143.35
14	Murshidabad	55,259	62,789	71,093	84,099	2,73,240	52.19
15	Nadia	49,270	57,293	48,635	71,860	2,27,058	45.85
16	North 24 Parganas	1,06,875	1,11,970	1,32,117	1,37,224	4,88,186	28.40
17	Paschim Burdwan	47,707	49,469	53,227	60,325	2,10,728	26.45
18	Paschim Midnapur	24,934	59,792	71,010	72,784	2,28,520	191.91
19	Purba Burdwan	40,021	46,149	45,264	63,107	1,94,541	57.68
20	Purba Midnapur	41,254	46,895	60,377	68,710	2,17,236	66.55
21	Purulia	15,407	17,109	19,882	24,626	77,024	59.84
22	South 24 Parganas	75,011	88,765	96,477	99,116	3,59,369	32.14
23	Uttar Dinajpur	22,433	25,411	27,898	34,046	1,09,788	51.77
	Grand total	**8,07,670**	**9,53,854**	**10,60,677**	**11,89,546**	**40,11,747**	**47.28**

Appendix-28

(Refer: Paragraph no. 2.11.1, Page-45)

Statement showing increase in number of vehicles in selected districts

Districts	No. of cars registered as of 2015-16	Cars registered as on 2018-19	Percentage of increase (2015-16 to 2018-19)
Bankura	25,884	40,236	55.45
Cooch Behar	24,071	35,484	47.41
Alipurduar	12,287	18,867	53.50
Birbhum	30,236	49,302	63.06
Purba Burdwan	87,728	1,23,432	40.70
South 24 Parganas	75,011	99,116	32.14
North 24 Parganas	1,06,875	1,37,224	28.40
Total	**3,62,092**	**5,03,661**	**39.10**

Appendix-29

(Refer: Paragraph no. 2.11.4, Page-47)

Statement showing variable width of roads

Sl. No.	Name of roads	Actual length (in km)	Width	Divisions
1.	Dalgaon–Lankapara Road	18.10	i) 7.00 m (Ch-0.00 to 1.50 km) ii) 9.00 m (Ch-1.50 to 2.050 km) iii) 7.00 m (Ch-2.05 to 17.771 km) iv) 9.00 m (Ch-17.771 to 17.789 km) v) 5.50 m (Ch-17.789 to 18.10 km)	Alipurduar Highway Division
2.	Hatipota to Samuktala Road	16.05	i) 4.50 m (Ch-0.00 to 15.00 km) ii) 7.00 m (Ch-15.00 to 16.05 km)	Alipurduar Highway Division
3.	Alipurduar Kumargram Road	20.00	i) 14.00 m (Ch-0.00 to 2.00 km) ii) 5.50 m (Ch-2.00 to 20.00 km)	Alipurduar Highway Division
4.	Hirakuni Aligarh Road	13.70	i) 3.80 m (Ch-0.00 to 4.90 km) ii) 5.50 m (Ch-4.90 to 13.70 km)	Birbhum Highway Division-II
5.	Parui Batikar Road to Kurmitha	10.24	i) 5.50 m (Ch-0.00 to 5.73 km) ii) 3.80 m (Ch-5.73 to 10.24 km	Birbhum Highway Division-II
6.	Suri Rajnagar Road (SH-6)	26.00	i) 7.0 m (Ch-0.00 to 4.00 km) ii) 5.50 m (Ch-4.00 to 9.00 km) iii) 7.0 m (Ch-9.00 to 14.00 km) iv) 5.50 m (Ch-14.00 to 26.00 km)	Birbhum Highway Division-II
7.	Suri to Amjora Road	21.60	i) 7.0 m(Ch-0.00 to 11.00 km) ii) 3.75 m (Ch-11.00 to 21.60 km)	Birbhum Highway Division-II
8.	Kolkata Basanti Road	86.79	i) 9.00 m (Ch-0.00 to 5.00 km) ii) 10.00 m (Ch-5.00 to 16.00 km) iii) 7.00 m (Ch-16.00 to 29.00 km) iv) 10.00 m (Ch-29.00 to 68.00 km) v) 5.50 m (Ch-68.00 to 84.20 km) vi) 7.00 m (Ch-84.20 to 85.30 km) vii) 7.50 m (Ch-85.30 to 86.00 km) viii) 5.50 m (Ch-86.00 to 86.79 km)	South 24 Parganas Highway Division
9.	Boyalghata Pakapole Road	9.00	i) 3.75 m (Ch-0.00 to 2.975 km) ii) 5.50 m (Ch-2.975 to 9.00 km)	South 24 Parganas Highway Division
10.	Akra-Santoshpur	4.50	i) 7.00 m (Ch-0.00 to 3.75 km) ii) 10.00 m (Ch-3.75 to 4.50 km)	South 24 Parganas Highway Division
11.	Anandapur-Kharki-Boynan-Tardah	15.10	i) 5.50 m (Ch-0.00 to 10 km) ii) 7.00 m (Ch-7.00 to 15.10 km)	South 24 Parganas Highway Division
12.	Sikharpur-Kulti	12.20	i) 5.50 m (Ch-0.00 to 3.5 km) ii) 7.00 m (Ch-3.50 to 12.20 km)	South 24 Parganas Highway Division
13.	Bishnupur Beliaghata Road	15.20	i) 21.00 m (Ch-0.00 to 2.70 km) ii) 10.00 m (Ch-2.90 to 15.20 km)	Barasat Highway Division-I
14.	Madhyamgram main Road including VidyasagarSarani	3.05	i) 3.05 m & 4.50 m (Ch-0 to 2.2 km) ii) 5.50 m (Ch-2.2 to 3.05 km)	Barasat Highway Division-I
15.	Dhanakuria Junglepur Road	11.2	i) 3.80 m (Ch-0.00 to 5.50 km) ii) 5.50 m (Ch-5.50 to 11.2 km)	Barasat Highway Division-I
16.	Basirhat Swarupnagar Road	18	i) 10.0 m (Ch-0.00 to 8.30 km) ii) 5.50 m (Ch-8.30 to 18 km)	Barasat Highway Division-I

Sl. No.	Name of roads	Actual length (in km)	Width	Divisions
17.	Taki Murarisha BhebiaChaital Road	21.2	i) 5.50 m (Ch-0.00 to 12.00 km) ii) 7.00 m (Ch-12.00 to 21.20 km)	Barasat Highway Division-I
18.	Basirhat Pifa Raghabpur Murarisha Kalinagar Road	27	i) 5.50 m (Ch-0.00 to 3.40 km) ii) 7.00 m (Ch-3.40 to 11.00 km) iii) 5.50 m (Ch-11.00 to 27.00 km)	Barasat Highway Division-I
19.	Dhadhemi Ghojadanga Road	4.00	i) 7.00 m (Ch-0.00 to 1.60 km) ii) 10.50 m (Ch-1.60 to 4.00 km)	Barasat Highway Division-I
20.	Bishnupur Kotulpur Road	36.00	i) 10.00 m (Ch-0.00 to 18.00 km) ii) 7.00 m (Ch-18.00 to 36.00 km)	Bishnupur PW Division
21.	Bolgona Chandrapur Road with a link to Fulgram	15.00	i) 5.50 m (Ch-0.50 to 14.50 km) ii) link Road-3.05 m	Burdwan North Highway Division
22.	Bolgona-Guskar-Mankar	28.20	i) 7.00 m (Ch-0.00 to 20.10 km) ii) 5.5 m (Ch-21.40 to 29.50 km)	Burdwan North Highway Division
23.	Bhatar-Samanti Road with a link to Chattni, Radhanagar and BK Road to Bhatar Samanti	17.35	i) 5.50 m ii) 3.80 m	Burdwan North Highway Division
24.	Kumarpur- Chakta Road	13.20	i) 5.5 m (Ch-0.00 to 8.00 km) ii) 3.80 m (Ch-8.00 to 13.20 km)	Burdwan North Highway Division
25.	Monteswar-Dainhat Road to Chandrapur HC Road	1.00	i) 5.5m (Ch-0.00 to 0.45 km) ii) 3.80 m (Ch-0.45 to 1.00 km)	Burdwan North Highway Division
				06 divisions

Appendix-30

(Refer: Paragraph no. 2.11.5, Page-47)

Statement showing narrow bridges

Sl. No.	Name of the bridge	Location (km)	Name of the roads	Width of the bridge constructed (in mtr.)	Width of the concerned road	Status of bridge as on February 2022	Divisions
1.	Bridge2-Kumarpur Chakta	10.20	Kumarpur Chakta	3.00	3.80	No change	Burdwan North Highway Division
2.	Brahmani Bridge over Brahmani River-3	9.00	Katwa Karui Road	5.00	5.50	No change	
3.	Guskara Kashemnagar Road	0.50	Guskara Kashemnagar Road	3.00	5.50	No change	
4.	RCC vented box culvert on KNS-I Road	3.60	Kaichar Nandigram Singhi Road	4.00	5.50	No change	
5.	Bautia Baidhara Road	0.60	Bautia Baidhara Road	3.65	5.50	No change	Birbhum Highway Division-I
6.	Nalhati Bhabanandapur Road (9.18)	9.18	Nalhati Bhabanandapur Road	2.90	5.50	Work in progess	
7.	TakipurKushmore Road (1.00)	1.00	Takipur Kushmore Road	3.50	5.50	No change	
8.	TakipurKushmore Road (2.00)	2.00	Takipur Kushmore Road	3.15	5.50	No change	
9.	Tarapith Birchandrapur hazipur Mayureswar Kotasur Road (21.00)	21.00	Tarapith Birchandrapur Hazipur Mayureswar Kotasur Road	3.70	5.50	Replaced	
10.	Tarapith Birchandrapur Hazipur Mayureswar Kotasur Road (23.55)	23.55	Tarapith Birchandrapur Hazipur Mayureswar Kotasur Road	4.50	5.50	Replaced	
11.	Purandarpur Rongaipur Road (3.90)	3.90	Purandarpur Rongaipur Road	4.60	5.50	Replaced	
12.	PurandarpurRongaipur Road (6.14)	6.14	Purandarpur Rongaipur Road	4.70	5.50	Replaced	
13.	LaghataKueya Bridge	14.00	Ahmedpur Kirnahar Ramjibanpur Road (SH-6)	6.50	7.00	Replaced	Birbhum Highway Division-II
14.	Causeway at Dubrajpur Khoirasole via Kukutia Road	3.05	Dubrajpur Khoirasole via Kukutia Road	5.00	5.50	No Change	
15.	Ajoy Bridge	22.00	Illambajar-Dubrajpur Road (SH-14)	6.71	10.00	Work in progess	

Sl. No.	Name of the bridge	Location (km)	Name of the roads	Width of the bridge constructed (in mtr.)	Width of the concerned road	Status of bridge as on February 2022	Divisions
16.	Bridge at Mollarpur-Majjipara-Bolpur Road (31.3 km to 47.3 km) (SH-13)	37.43	Mollarpur-Majjipara-Bolpur Road	6.20	7.00	No change	
17.	Bridge at Mollarpur-Majjipara-Bolpur Road (31.3 km to 47.3 km) (SH-13)	45.00	Mollarpur-Majjipara-Bolpur Road	4.60	7.00	No change	
18.	Bridge at Mollarpur-Majjipara-Bolpur Road (31.3 km to 47.3 km) (SH-13)	47.43	Mollarpur-Majjipara-Bolpur Road	6.20	7.00	No change	
19.	Bridge at Illambajar Dubrajpur Road	44.00	Illambajar Dubrajpur Road	6.75	10.00	No change	
20.	Bridge at Parui-Brahmondihi-Koyra Road	14.75	Parui-Brahmondihi-Koyra Road	3.60	5.50	Work in progess	
21.	Bridge at Parui-Brahmondihi-Koyra Road	10.15	Parui-Brahmondihi-Koyra Road	3.60	5.50	Work in progess	
22.	Kolkata-Basanti Road	7.00	Kolkata-Basanti Road	7.50	10.00	No reply	South 24 Parganas Highway Division
23.	Langolpota Bridge over Nowaikhal on Bishnupur Beliaghata Road at 2.845 km	2.845	Bishnupur-Beliaghata Roads	6.50	10.00/ 21.00	Replaced	Barasat Highway Division-I
24.	Bridge over Nowai Khal at old Jessore Road	1.50	Old Jessore Road (From Doltola to Ganganagar	4.25	7.00	No Change	
25.	Bridge over Haroakhal on Bishnupur-Beliaghata Road	5.450	Bishnupur-Beliaghata Road	6.70	10.00	No change	
26.	Bridge over Maja Khal on at 5.92 km Bishnupur Beliaghata	5.92	Bishnupur-Beliaghata Road	6.75	10.00	No change	
27.	Bridge over Borokhal on Bishnupur Beliaghata Road	9.418	Bishnupur-Beliaghata Road	6.70	10.00	No change	
28.	Choto Khal on Bishnupur-Beliaghata Road	8.865	Bishnupur-Beliaghata Road	7.50	10.00	No change	

Sl. No.	Name of the bridge	Location (km)	Name of the roads	Width of the bridge constructed (in mtr.)	Width of the concerned road	Status of bridge as on February 2022	Divisions
29.	Bridge over Beliatore –Sonamukhi Road (SH-8)	17.940	Beliatore-Sonamukhi-Patrasayar Road (SH-8) from 0.00 km to 44.876 km	Division confirmed narrow bridge		No reply	Bankura PW Division
30.	Bridge over Beliatore –Sonamukhi Road (SH-8)	24.400	Beliatore-Sonamukhi-Patrasayar Road (SH-8) from 0.00 km to 44.876 km	Division confirmed narrow bridge		No reply	
31.	Bridge over Bankura-Durgapur Road	38.930	Bankura-Durgapur Road	Division confirmed narrow bridge		No reply	
32.	Tatkanali Bridge	3.800	Junbedia-Amarkanan Road	Division confirmed narrow bridge		No reply	
33.	Bridge on Rajgram-Swarupnagar Road	1.995	Rajgram-Swarupnagar Road	Division confirmed narrow bridge		No reply	
34.	Bridge over river Gurjowani at Nirolgachi village	49.000	Burdwan-Kalna Road	Division confirmed narrow bridge		No reply	
35.	Bridge Memari-Jaugram Road	1.500	Memari-Jaugram Road	Division confirmed narrow bridge		No reply	Burdwan South Highway Division
36.	Bridge Badulia-Khandaghosh Road	7.840	Badulia-Khandaghosh Road	Division confirmed narrow bridge		No reply	
37.	Bridge Badulia-Khandaghosh Road	8.410	Badulia-Khandaghosh Road	Division confirmed narrow bridge		No reply	
38.	Bridge on Debipur-Bulbulitala Road	1.630	Debipur-Bulbulitala Road	Division confirmed narrow bridge		No reply	
39.	Akhilesh Setu	0.000	Rathtala-Kanchannagar Road	Division confirmed narrow bridge		No reply	
40.	Bridge on Sriniketan-Gopalnagar Bypass Road	1.700	Sriniketan-Gopalnagar Bypass Road	Division confirmed narrow bridge		No change	Birbhum PW Division
41.	Bridge Bolpur-Palitpur Road	5.900	Bolpur-Palitpur Road	Division confirmed narrow bridge		No change	
42.	Panjijhora Bridge	12.100	Buxa Forest Road	Division confirmed narrow bridge		No reply	Alipurduar PW Division
43.	Pampu Basty Bridge	14.950	Buxa Forest Road	Division confirmed narrow bridge		No reply	
44.	Rajabhatkhawa Bridge	15.950	Buxa Forest Road	Division confirmed narrow bridge		No reply	
							09 divisions

Appendix-31

(Refer: Paragraph no. 2.11.6, Page-47)

Statement showing weak bridges

Sl. No.	Divisions	Name of the roads	Name of the bridges/ chainage points	Speed restriction and load restriction
1.	Alipurduar PW Division	Buxa-Forest Road	Pannijhora Bridge at 12.100 km	Speed and load
2.		Buxa-Forest Road	Pampu Basty Bridge at 14.950 km	Speed and load
3.		Buxa-Forest Road	Raja Bhatkhawa Bridge at 15.900 km	Speed and load
4.	Cooch Behar PW Division	Mathabhanga-Sitalkuchi Road	Upen Barman Setu	Speed and load
5.	Burdwan PW Division	Kusumgram-Samaspur Road	6.000 km - 7.000 km	Speed and load
6.	Birbhum PW Division	Not specified by the Division	Mayurakshi Bridge at Sainthia	Speed
7.		Rampurhat-Purulia Road	Lalita Kundala Bridge over river Darakwa	Speed
8.		Rampurhat-Purulia Road	Dulla Bridge over river Darakwa	Speed
9.	South 24 Parganas PW Division	Not specified by the Division	Matla Bridge	Speed
10.		Not specified by the Division	Uttarbhag Bridge	Speed and load
11.		Not specified by the Division	Suryapur Bridge	Speed and load
12.	Alipurduar Highway Division	Not specified by the Division	Turturi Bridge	Speed
13.		Not specified by the Division	Nonai Bridge	Speed
14.		Not specified by the Division	Dima Bridge	Speed
15.		Jayanti-Dhawala Road	Box culverts (08 nos.) & Bridge	Speed
16.		Kalchini-Joygaon Road	Distress bridges & culverts	Speed
17.		Union Academy Gudam Dabri Road	Distress bridges & culverts	Speed
18.		Kalchini-Pathikabari Road	Distress bridges & culverts	Speed
19.		Rajabhatkhawa-Joygaon Road	Distress bridges & culverts	Speed
20.	Cooch Behar Highway Division	Dawaguri to Kaljani Health Centre Road	Bridge at 0.200 km	Speed
21.		Boxirhat-Jorai Road	Bridge at 1.000 km	Speed
22.		Salbari-Nagurhat Road	Bridge at 2.000 km	Speed
23.		Balarampur Feeder Road	Bridge at 1.000 km	Speed
24.		Cooch Behar-Mathabhanga Road	Bridge at 1.000 km	Speed
25.		Rajarhat-Mathabhanga Road	Bridge at 7.000 km	Speed
26.		Sildanga-Falakata Road	Bridge at 3.000 km	Speed
27.		Ayroni-Chitolia Road	Bridge at 0.840 km- Hakaru Bridge	Speed
28.		Kakina Road	Bridge at 12.000 km	Speed

Sl. No.	Divisions	Name of the roads	Name of the bridges/ chainage points	Speed restriction and load restriction
29.		Kakina Road	Bridge at 15.000 km	Speed
30.		Patgram-Bhutan Cross Road	Bridge at 2.000 km	Speed
31.		Patgram-Bhutan Cross Road	Bridge at 6.000 km	Speed
32.		Ratherdanga-Moynatali Road	Bridge at 6.000 km- Mendar Bridge	Speed
33.		SItai-Kayeter Bari Road	Bridge at 1.000 km- Rabidas Setu	Speed
34.		Connecting Road at 8th Km of Cooch Behar-Baneswar Road to NBDD ZP Road	Bridge at 3.000 km	Speed
35.		Connecting Road to 780.50Km of NH-31 to Kundibazar ZP Road	Bridge at 4.000 km	Speed
36.		Road from Byapari Para to Krishnapur-Tufanganj ZP Road	Bridge at 1.000 km	Speed
37.		Khochamari High School to Vekrapool	Bridge at 3.245 km	Speed
38.		Gadli Bridge to Khater Bari ZP Road	Bridge at 1.500 km	Speed
39.		Panisala-Balarampur ZP Road	Bridge at 3.000 km	Speed
40.		Ghoksadanga Hospital Chowpathi to Atpukuri Road	Bridge at 2.000 km	Speed
41.		Tufanganj-Balabhut Road	Balabhut Bridge	Speed
42.		Not specified	Panchanan Setu	Speed
43.		Dinhata-Balarampur Road	Basantirhat Bridge	Speed
44.		Dewanhat-Balarampur Road	Batasi Bridge	Speed
45.	South 24 Parganas Highway Division	Not Specified	Samad Setu	Speed and load
46.		Not Specified	Satmukhi Bridge	Speed and load
47.	Burdwan North Highway Division	Bhatar Bonpas Road	Bridge over Kandar at 11.430 km	Speed and load

Appendix-32

(Refer: Paragraph no. 2.11.7, Page-47)

Statement showing roads terminating on river banks

Sl. No.	Divisions	Name of Roads
1.	Alipurduar Highway Division	Jayanti-Dhawla Road (0.00 km to 15.00 km)
2.	Cooch Behar Highway Division	Madhupur-Haripur Road
3.	Bankura Highway Division	Chandrakona-Goaltore-Sarenga-Simlighat Road terminates at Simlighat (River Kangsabati)
4.		Simlapal-Sarenga-Bamundiaghat Road terminates at Bamundiaghat (River Kangsabati)
5.		Raipur-Simlighat Road terminates at Raipur (River Kangsabati)
6.	Burdwan North Highway Division	only there is a gap due to lack of bridge at 3.60 km to 3.90 km of KCBP Road Agradwip-Deasin Road terminates at the bank of river Ganges
7.	Barasat Highway Division -I	Not specified
8.		Not specified
9.		Not specified
10.		Not specified
11.		Not specified
12.		Not specified
13.		Not specified
14.		Not specified
15.		Not specified
16.	Burdwan PW Division	Kalna-Kalna Ferryghat Road (ODR)
17.	Barasat PW Division	Hingalganj Dulduli Hemnagar Road (terminates at river Raimangal)
	07 divisions	

Appendix-33

(Refer: Paragraph no. 2.12.2, Page-50)

Statement showing black spots in 14 divisions

Districts	Divisions	Number of black spots	Year of identification	Short term measures	Long term measures
Alipurduar	Alipurduar Highway Division	3	2018-19	Partially done	Partially done
Cooch Behar	Cooch Behar Highway Division	11	2018-19	Done	Partially done
Bankura	Bankura Highway Division	3	2018-19	Done	Not done
	Bankura PW Division	11	2019-20	Done	Not done
Purba Burdwan	Burdwan North Highway Division	3	2016-17	Done	Done
		2	2017-18	Done	Done (1) Not done (1)
		3	2019-20	Done	Not done
	Burdwan PW Division	15	2015-16	Done (10) Not done (5)	Done (14) Partially done (1)
		1	2016-17	Done	Not done
	Burdwan South Highway Division	6	2015-16	Done	Not done
		2	2016-17	Done	Not done
		3	2018-19	Done	Not done
Birbhum	Birbhum Highway Division -I	2	2016-17	Done	Partially done
	Birbhum Highway Division -II	5	2018-19	Done	Partially done
	Birbhum PW Division	1	2018-19	Done	Not done
South 24 Parganas	South 24 Parganas Highway Division	6	2018-19	Partially done	Partially done
		1	2018-19	Done	Done
	South 24 Parganas PW Division	1	2019-20	Done	Not done
North 24 Parganas	Barasat Highway Division -I	8	2018-19	Partially done	Partially done
	Barasat PW Division	16	2019-20	Done (5) Not done (11)	Not done
Total		**103**			

Appendix-34

(Refer: Paragraph no. 2.12.3.1, Page-51)

Status of Road safety measures in in seven divisions

Divisions	Total no. of roads	All present	Signage and road marking	only signage/ pavement marking/ cats eye	No Road safety measures present	No illumination	No signage	Encroachment
Cooch Behar Highway Division	87	31	27	29	0	56	0	31
Bankura Highway Division	52	0	29	4	7	33	4	52
Burdwan North Highway Division	40	0	19	2	19	21	2	13
Birbhum Highway Division -I	46	13	0	15	17	15	0	4
Birbhum Highway Division -II	35	25	0	0	10	0	0	6
South 24 Parganas Highway Division	61	20	10	4	27	14	0	47
Barasat Highway Division -I	54	36	1	0	4	14	0	24
Total	**375**	**125**	**86**	**54**	**84**	**153**	**6**	**177**

Appendix-35

(Refer: Paragraph nos. 2.12.3.2 and 2.12.5.4, Pages-52, 54-56)

Statement showing various aspects of road safety issues

Sl. No.	Name of road	Name of Division
(i)	**No Gantry system**	
1	Bankura-Durgapur Road	Bankura PW Division
2	Kholapota- Baduria-Maslanadpur-Habra Road	Barasat PW Division
3	Suri-Ahmadpur Road, and	Birbhum PW Division
4	Bolpur-Purandarpur Road	Birbhum PW Division
5	Bolpur-Illambazar Road	Birbhum PW Division
6	Saltora-Murulia Road	Bankura Highway Division
7	Khatra-Ranibadh Road	Bankura Highway Division
8	Karnajora-Muratipur-Natunhat Road	Burdwan North Highway Division
9	Ramjibanpur-Natunhat Road	Burdwan North Highway Division
10-20	11 roads *(as per records of Division)*	Barasat Highway Division
		06 divisions
(ii)	**No hazard markings on tree trunks/pedestal poles/culvert walls within one metre of road shoulders**	
1	Bankura-Saltora Road	Bankura Highway Division
2	Bolgona-Chandrapur Road	Burdwan North Highway Division
3	Monteswar-Dainhat Road	Burdwan North Highway Division
4	Karjona-Muratipur-Natunhat Road	Burdwan North Highway Division
5	Sri Niketan Gopal Nagar Bypass Road	Birbhum PW Division
6	Bolpur Palitpur Road	Birbhum PW Division
7	Mahachanda Road	Burdwan PW Division
8	Memari-Monteswar Road	Burdwan PW Division

Sl. No.	Name of road	Name of Division
9	Monteswar Denur Putsuri Road	Burdwan PW Division
10	Kusumgram Samaspur Road	Burdwan PW Division
11	Chatni Kumirpara Road	Burdwan PW Division
		04 divisions
(iii)	**Unauthorised advertisement boards**	
1	Coochbehar-Dinhata-Gitaldah Road	Coochbehar PW Division
2	Shibendra Narayan Road	Coochbehar PW Division
3	RN Road	Coochbehar PW Division
4	Suniti Road	Coochbehar PW Division
5	BS Road	Coochbehar PW Division
6	Paikpara-Sutia Road	Barasat PW Division
		02 divisions
(iv)	**Inadequate pavement markings**	
1	Bankura-Saltora Road	Bankura Highway Division
2	Monteswar-Dainhat	Burdwan North Highway Division
3	Bolgona-Chandrapur Road	Burdwan North Highway Division
4	Karjona-Muratipur-Natunhat Road	Burdwan North Highway Division
5	Dewanganj Chaltaberia Road	South 24 Parganas Highway Division
6	Kusumgram-Samaspur Road	Burdwan PW Division
7	Burdwan-Kalna Road	Burdwan PW Division
8	Mahachanda Road	Burdwan PW Division
9	Memari-Monteswar Road	Burdwan PW Division
10	Chatni-Kumirpara Road	Burdwan PW Division
11	Sriniketan-Gopalnagar Bypass Road	Birbhum PW Division
12	Bagdogla-Jairampur Road	Birbhum PW Division
13	Kendua Bansra Road	Birbhum PW Division
14	Bolpur Palitpur Road	Birbhum PW Division
15	Kholapota- Baduria-Maslanadpur-Habra Road	Barasat PW Division
		06 divisions
(v)	**Missing Retro Reflective Road Studs**	
1	Junbedia Amarkanon Road	Bankura PW Division
2	Vedua Salbedia Road	Bankura PW Division
3	Rajgram Swaroopnagar Road	Bankura PW Division
4	Sriniketan Gopalnagar Bypass Road	Birbhum PW Division
5	Kendua Bansra Road	Birbhum PW Division
6	Kholapota- Baduria-Maslanadpur-Habra Road	Barasat PW Division
		03 divisions
(vi)	**Untreated curves**	
1	Bankura-Saltora Road	Bankura Highway Division
2	Bolgona-Chandrapur Road	Burdwan North Highway Division
3	Monteswar-Dainhat	Burdwan North Highway Division
4	Kotasur-Ramnagar	Birbhum Highway Division-I
5	Illambazar-Dubrajpur	Birbhum Highway Division-II
6	Dewanganj-Chaltaberia Road	South 24 Parganas Highway Division

Sl. No.	Name of road	Name of Division
7	Kusumgram-Samaspur Road	Burdwan PW Division
8	Memari-Jaugram Road	Burdwan South Highway Division
9	Bagdogla-Jairampur Road	Birbhum PW Division
10	Kendua-Basra Road	Birbhum PW Division
11	Seorakuri-Kulkuri Road	Birbhum PW Division
		07 divisions
(vii)	**Encroachments**	
1	Cross Road	Alipurduar PWD
2	Pilkhana Road	Coochbehar PWD
3	Vivekananda Street	Coochbehar PWD
4	Nripendra Narayan Road	Coochbehar PWD
5	S.N Road	Coochbehar PWD
6	Cooch Behar -Dinhata-Gitaldah Road	Coochbehar PWD
7	Burirhat-Chowpathy to Salmara Bazar Road	Coochbehar PWD
8	Bankura Durgapur-Road (encroachment of footpath)	Bankura PWD
9	Beliatore-Sonamukhi-Patrasayer-Rasulpur Road	Bankura PWD
10	Junbedia-Amarkanan Road	Bankura PWD
11	Memari-Monteswar Road	Burdwan PWD
12	Kendua-Bansra Road	Birbhum PWD
13	Bagdogla-Joyrampur Road	Birbhum PWD
14	Kholapota-Baduria-Maslandapur-Habra Road	Barasat PWD
15	Paikpara-Sutia Road	Barasat PWD
16	Bankura-Saltora Road	Bankura Highway
17	Bolgona-Chandrapur Road,	Burdwan North Highway
18	Karjona-Muratipur	Burdwan North Highway
19	Monteswar-Dainhat	Burdwan North Highway
		08 divisions
(viii)	**Road-side obstructions**	
1	Cross Road	Alipurduar PW Division
2	N.N. Road	Coochbehar PW Division
3	Sibendra Narayan Road	Coochbehar PW Division
4	Vivekananda Street	Coochbehar PW Division
5	Beliatore-Sonamukhi-Patrasayar-Rasulpur Road	Bankura PW Division
6	Junbedia-Amarkanan Road	Bankura PW Division
7	Kusumgram-Samaspur Road	Burdwan PW Division
8	Mahachanda Road	Burdwan PW Division
9	Memari-Monteswar Road	Burdwan PW Division
10	Monteswar-Denur-Putsuri Road	Burdwan PW Division
11	Chatni-Kumirpara Road	Burdwan PW Division
12	Kalna-Baidyapur Road	Burdwan South Highway Division
13	Badulia-Khandaghosh Road	Burdwan South Highway Division
14	Sriniketan-Gopalnagar Bypass Road	Birbhum PW Division
15	Bagdogla-Joyrampur Road (27 numbers of dumped construction materials found at roadside)	Birbhum PW Division

Sl. No.	Name of road	Name of Division
16	Kendua-Bansra Road	Birbhum PW Division
17	Seorakuri-Kulkuri Road	Birbhum PW Division
18	Bolpur-Palitpur Road	Birbhum PW Division
19	Kholapota-Baduria-Maslandapur-Habra Road	Barasat PW Division
		07 divisions

Appendix-36

(Refer: Paragraph no. 2.12.3.3, Page-52)

Statement showing mismatch of signage found during joint physical verification

Divisions	Name of the roads	Number of signage as per last project work	Number of signage found during joint physical verification	Shortage of road signage	Number of signage those were in damaged condition
Birbhum-I Highway Division	Nalhati-Rajgram	157	84	73	9
	Kotasur-Ramnagar	149	107	42	31
Birbhum-II Highway Division	Joydev-Keduli-Illambazar (0 km to 6 km)	93	43	45	9
Birbhum PW Division	Kendua-Bansra Road (0 km to 10 km)	70	58	12	0
Total		**469**	**292**	**172**	**49**

Appendix-37

(Refer: Paragraph no. 2.12.4, Page-53)

Statement showing absence of metal beam crash barriers

Divisions	Name of the roads	Name of the bridges/ locations	Chainage point (km)	Remarks
Alipurduar PW Division	Alipurduar-Patlakhawa Road	Kaljani Bridge	0.600	Partially installed
	Alipurduar-Volka Road	Raidak Bridge	10.800	Partially installed
Cooch Behar PW Division	Torsa Bridge approach Road	Torsa Bridge approach Road	Not available	Not installed
	Mathabhanga-Sitalkuchi Road	Approach Road to Upen Barman Setu	5.500, 5.200 & 5.350	Not installed
Burdwan South Highway Division	Memari-Jaugram Road	Kolsara Irrigation Bridge	6.000	Not installed
03 divisions	**05 roads**			

Appendix-38

(Refer: Paragraph no. 2.12.5.1, Page-53)

Statement showing works where Supervisory Consultants were appointed

SL No.	Division	Name of work	Name of Supervisory consultant
1.	Burdwan South Highway Division	W&S of Hatgobindopur-PurbaBalisa Road (16.00 km)	LEA
2.	Burdwan North Highway Division	W&S of RKK Road (25.29 km)	
3.	Burdwan PW Division	W&S of Burdwan Kalna Road (0.00 km to 27.00 km) and Kalna Link Road (0.00 km to 3.00 km)	
4.		W&S of G.T. Road from Nababhat to Ullash More (7.60 km)	
5.	Bankura Highway Division	W&S of Saltora Mejia (19.00 km)	ICD
6.		W&S of Simlipal Khatra (0.00 km to 26.36 km)	
7.	Bishnupur PW Division	Strengthening of Bishnupur Kotulpur Arambag Road (18.00 km)	Inter Continental Construction & Technocrat Pvt. Ltd.
8.		W&S of Chichuria Raniganj Mediapara Road via Asansol (0.00 km to 23.43 km) and Bisnhupur Bypass	
9.	Birbhum Highway Division-I	W&S of Balance work of Rampurhat Tarapith Road (5.00 km to 7.00 km)	RODIC
10.	Birbhum PW Division	Strengthening of Bolpur and Palitpur Road (13.00 km)	S.S. Consultant
11.	South 24 Parganas Highway Division	W&S of Kolkata Basanti Road (60.00 km to 72.00 km)	Voyant Solution Pvt. Ltd.
12.		W&S of Kolkata Basanti Road upto Godkhali (72.00 km to 96.00 km)	
13.		Strengthening of Lauhati Bhangar Bazar Road from 0.00 km to 15.57 km (add 2.40 km)	
14.	Diamond Harbour Highway Division	Improvement of Gangasagar Island	
15.	Barasat Highway Division-I	W&S of Bishnupur Beliaghata Road (rigid Pavement 2.60 kmp) and Strengthening of existing two lane carriageway from 0.00 km to 15.00 km	
16.		Strengthening of Basirhat Pifa Raghabpur Kalinagar Road (11.00 km to 23.00 km)	
17.		Strengthening of Lauhati Road (9.00 km to 18.00 km)	
18.		Strengthening of Warupnagar Hakimpur Road (0.00 km to 11.20 km) and Gobra Gobindapur Swarupnagar Road (0.00 km to 11.00 km)	
19.	Barasat PW Division	Strengthening of Bongaon-Chakdah Road (0.00 km to 16.00 km)	
	11 divisions		

Appendix- 39

(Refer paragraph no.- 3.8.1, Page-66)

Annual Targets for Sub-stations, Transformer capacities and Transmission lines

Sl. No.	Description	2016-17	2017-18	2018-19	2019-20	2020-21
A	**No. of Sub-stations (Nos.)**					
1	At the beginning of the year	117	119	126	137	142
2	Additions planned for the year	23	11	16	9	14
3	Actual additions during the year	3	7	5	5	3
4	Upgraded during the year	1	-	2	-	-
5	Added during the year due to transfer from DPL	-	-	6	-	-
6	De-commissioning of existing sub-stations during the year	1	-	-	-	-
7	Total sub-stations at the end of the year	119	126	137	142	145
8	Shortfall in additions/augmentation/ upgradation	(-)19	(-)4	(-)9	(-)4	(-)11
B	**Transformers capacity (MVA)**					
1	Capacity at the beginning of the year	25,660.75	27,752.23	31,050	33,800	35,545
2a	Additions planned for the year	4,179	3,082.50	3,173	1,600	2,376
3	Capacity added during the year	1,470	2,085	1,310	1,230	350
4	Capacity augmented during the year	621.40	1,212.80	577.50	515	102
5	Added during the year due to transfer from DPL	-	-	863	-	-
6	Capacity at the end of the year	27,752.23	31,050	33,800	35,545	35,997
7	Shortfall in additions/augmentation	(-)2,087.6	215.3	(-)1,285	145.3	(-)1,924
C	**Transmission line (CKm)**					
1	At the beginning of the year	12,584	12,962	13,599	14,060	14,734
2a	Additions planned for the year	2,231	753	1,890	1,080	1,465
3a	Added during the year	378	637	416	674	855
4	Added during the year due to transfer from DPL	-	-	45	-	-
5	Total lines at the end of the year	12,962	13,599	14,060	14,734	15,589
6	Shortfall in additions/augmentation	(-)1,853	(-)116	(-)1,474	(-)406	(-)610

Appendix- 40

(Refer paragraph- 3.10.1, Page-77)

Statement showing Cost Overrun in respect of 12 projects

Sl. No.	Year	Name of the Projects/ Scheme	LOA Date	LOA Value (in ₹)	Actual Date of Commencement	Schedule Date of Completion	Actual Date of Completion	Expenditure Upto March 2021 (in ₹)	Cost overrun (-) / cost still under LOA (+) (in ₹)
1	FY 2015-16	D/C LILO of Howrah – Foundry Park 220 KV D/C Line at New Chanditala 400 KV Substation.	02-02-2016	26,22,47,866	02-02-2016	01-02-2017	03-08-2017	26,84,51,514	(62,03,648)
2	FY 2015-16	220 KV D/C Line from Subhashgram (PGCIL) Substation to Baruipur 220 KV Substation.	02-02-2016	44,74,76,666	02-02-2016	01-08-2017	27-01-2021	59,01,38,490	(14,26,61,824)
3	FY 2015-16	LILO of KTPS – Jeerat 400 KV S/C Transmission line at New Chanditala 400 KV Substation.	02-03-2016	9,82,86,068	02-03-2016	01-03-2017	03-07-2017	10,32,89,557	(50,03,489)
4	FY 2016-17	Sagardighi 220/132/33 KV GIS District – Murshidabad under Package-36	07-06-2016	43,65,50,665	07-06-2016	06-02-2018	24-12-2018	44,59,55,001	(94,04,336)

Sl. No.	Year	Name of the Projects/ Scheme	LOA Date	LOA Value (in ₹)	Actual Date of Commencement	Schedule Date of Completion	Actual Date of Completion	Expenditure Upto March 2021 (in ₹)	Cost overrun (-) / cost still under LOA (+) (in ₹)
5	FY 2016-17	Construction of Subhasgram(PG) 400 KV Substation -Baruipur 220 KV D/C Transmission Line (UG cable Part)	17-08-2016	9,30,11,012	17-08-2016	16-04-2017	06-05-2019	9,93,01,763	(62,90,751)
6	FY 2015-16	132 KV D/C Line from Bashirhat 132 KV substation to nearest point of existing Barasat - New Town AA-III 132 KV line.	29-09-2015	35,46,81,615	29-09-2015	28-03-2017	TOC yet to issue	36,29,30,856	(82,49,241)
7	FY 2013-14	Construction of 400 KV D/C Transmission line with Quadruple Moose ACSR conductor from Sagardighi Thermal Power Station to Gokarna 400 KV Substation	15-07-2013	1,32,24,37,841	15-07-2013	14-07-2015	Terminated	1,53,55,30,431	(21,30,92,590)
8	FY 2013-14	400 KV D/C Transmission line with twin Moose ACSR conductor from Kharagpur 400KV Substation to New Chanditala 400 KV Substation.	10-02-2014	2,40,26,82,704	10-02-2014	09-02-2016	07-09-2017	2,54,44,01,968	(14,17,19,264)

Sl. No.	Year	Name of the Projects/ Scheme	LOA Date	LOA Value (in ₹)	Actual Date of Commencement	Schedule Date of Completion	Actual Date of Completion	Expenditure Upto March 2021 (in ₹)	Cost overrun (-) / cost still under LOA (+) (in ₹)
9	FY 2013-14	132 KV D/C Transmission line from Moinaguri 132KV Substation to Mathabhanga 132KV Substation.	22-05-2013	30,93,66,645	22-05-2013	21-04-2014	TOC yet to issue	37,84,80,300	(69,113,655)
10	FY 2013-14	220 KV (M/C & D/C) Transmission line from Kharagpur 400/220/132 KV Substation to Vidyasagar Park 220/132 KV GI Substation.	17-04-2013	59,07,25,723	17-04-2013	16-04-2014	24-09-2015	60,36,11,808	(12,886,085)
11	FY 2013-14	Diversion of 132 KV D/C Midnapur - Hizli Transmission line at Vidyasagar Park 220/132 KV GI Substation on M/C tower.	17-04-2013	4,98,75,569	17-04-2013	16-10-2013	02-12-2015	5,42,12,717	(4,337,148)
12	FY 2014-15	Sadaipur 220/132/33 KV Substation at Birbhum District under Package - 24	29-10-2014	49,50,55,534	29-10-2014	28-04-2016	08-11-2017	49,92,16,392	(4,160,858)

Appendix-41

(Refer Paragraph 3.10.5, Page-84)

Statement showing Taking-Over Certificates issued and works pending there against

Sl. No.	Projects name	Package no.	LOA Value (in ₹)	Effective Date of provisional TOC/ Date of reckoning of TOC	Works pending at the date of Provisional TOC	Issue Date of Actual TOC	Range of days between TOC date and effect of TOC	Actual LD Imposed	Delays in Weeks	LD to be imposed* (in ₹)
1	Construction of 2 numbers 220 KV Feeder Bays at existing Krishnanagar 220/132 KV Substation	19	2,90,84,235	31-05-2016	Earthing, part cable laying, extension of roads, testing commissioning and gravelling spreading work.	14-07-2017	409	79,943	58	14,54,211.75
2	Sadaipur 220/132/33 KV Substation at Birbhum District under Package 24	24	49,50,55,534	08-11-2017	1. Supply of portable kit 2. Work involving to commissioning of 160 MVA auto transformer where not complete as transformers (Sl. No. 2041905 and 2041906) supplied by M/s BHEL were found to be defective (December 2017) 3. submission of final deviation statement and final materials reconciliation statement	01-02-2018	85	77,738	12	2,47,52,776.7

Sl. No.	Projects name	Package no.	LOA Value (in ₹)	Effective Date of provisional TOC/ Date of reckoning of TOC	Works pending at the date of Provisional TOC	Issue Date of Actual TOC	Range of days between TOC date and effect of TOC	Actual LD Imposed	Delays in Weeks	LD to be imposed* (in ₹)
3	Vidyasagar Park (WBIDC) 220/132/33KV GIS at Paschim Medinipur district	17	59,06,24,216	19-11-2016	Commissioning of fiber optic sensor (March 2017)	01-12-2016	12	Nil	2	29,53,121.08
4	Diversion of 132 KV D/C Midnapur - Hizli Transmission line at Vidyasagar Park 220/132 KV GI Substation on M/C tower.	J	4,98,75,569	29-08-2016	Stringing work (0.26 meter), dismantling of tower of existing Midnapore- Hizli 132 KV line	27-09-2016	29	Nil	4	9,97,511.38
5	400 KV D/C Transmission line with twin Moose ACSR conductor from Kharagpur 400KV Substation to New Chanditala 400 KV Substation.	S	2,40,26,82,704	07-09-2017	1. Submission of As built drawings and documents in requisite copies as stipulation of the relevant clause of GCC, 2. Final joint checking of line 3. dressing, leveling of earth and felling/trimming of trees wherever necessary	03-03-2018	177	Nil	25	12,01,34,135

Sl. No.	Projects name	Package no.	LOA Value (in ₹)	Effective Date of provisional TOC/ Date of reckoning of TOC	Works pending at the date of Provisional TOC	Issue Date of Actual TOC	Range of days between TOC date and effect of TOC	Actual LD Imposed	Delays in Weeks	LD to be imposed* (in ₹)
6	132 KV D/C Line from Gokarna 220/132 KV substation to Bhadrapur 132 KV GIS using existing 132 KV D/C Gokarna – Raghunathganj Line.	AB	13,34,44,542	28-01-2019	Stringing work 0.077 KM of existing TL No. 89	19-02-2019	22	Nil	3	20,01,668.13
7	Sagardighi 220/132 KV GIS	36	43,65,50,665	24-12-2018	1. Construction of 100 KVA diesel generating system 2. One 33 KV outgoing feeder	21-11-2019	332	Nil	47	2,18,27,533.3
8	132 KV D/C Transmission line from Basirhat 132 KV S/S to nearest point of existing Barasat- Newtown AA III132 KV D/C Transmission line	AB	35,46,81,615	04-08-2020	Commissioning of OPGW	07-12-2020	125	2,83,218	18	1,77,34,080.8
							Total	4,40,899		19,18,55,038

** LD was calculated @ of 0.5 per cent of LOA Value for per week of delay Maximum upto 5 per cent of LOA value. The Delay is taken from unfinished work TOC effect date to date of issue of TOC*

Appendix-42

(Refer Paragraph no. 4.1, Page-94)

Types of Reliefs provided by Different Departments

Sl No	Name of the department	Type of relief assistance	Number of districts in which assistance provided	Amount of assistance sought for by GoWB	Amount allotted	Amount disbursed	Number of beneficiaries
				(₹ in crore)			
1.	Disaster Management and Civil Defence Department	House Building Grant	16[284]	18,188.86	1,948.51	1,906.07	21,03,384
2.	Agriculture Department	Crop damage	9[285]	2,431.20	360.08	352.59	23,42,012
3.	Department of Food Processing Industries and Horticulture	Paan-Boroj[286]	9[287]	273.76	81.29	66.14	1,32,284
4.	Department of Fisheries, Aquaculture, Aquatic Resources &Fishing Harbour	Damage of boats, hundi and net and distribution of lime and potassium permanganate	9[288]	1,550.76	30.01	30.01	96,154
5.	Animal Resources Department	Replacement of animals due to death, Health camps, Feed and fodder distribution and distribution of duckling and chicks	10[289]	245.09	31.55	14.57	16,384
	Total			**22,689.67**	**2,451.44**	**2,369.38**	**46,90,218**

[284] *Bankura, Birbhum, Hooghly, Howrah, Jhargram, Kolkata, Malda, Murshidabad, Nadia, North 24 Parganas, Paschim Medinipur, Paschim Burdwan, Purba Burdwan, Purba Medinipur, Purulia and South 24 Parganas.*

[285] *Hooghly, Howrah, Jhargram, Nadia, North 24 Parganas, Paschim Medinipur, Purba Burdwan, Purba Medinipur, and South 24 Parganas.*

[286] *Betel leaf gardening.*

[287] *North 24 Parganas, South 24 Parganas, Purba Medinipur, Paschim Medinipur, Howrah, Hooghly, Nadia, Bankura and Malda.*

[288] *Hooghly, Howrah, Murshidabad, Nadia, North 24 Parganas, PaschimMedinipur, Purba Burdwan, PurbaMedinipurand South 24 Parganas.*

[289] *Bankura, Birbhum, Hooghly, Howrah, Nadia, North 24 Parganas, PaschimMedinipur, Purba Burdwan, PurbaMedinipurand South 24 Parganas.*

Appendix-43

(Refer Paragraph no 4.8.1, Page-103)

Details of variation between the assessed and actual beneficiaries for House Building grant

Sl No	Name of the Districts	Fully/Severely Damaged Houses				Partly Damaged Houses (excluding Huts)			
		No of households assessed and assistance sought by GoWB (A)	No of households provided with grants (B)	Short/ (Excess) grant provided C = (A-B)	Percentage of Short/ (Excess) grant provided D = (C/A)*100	No of Households assessed and assistance sought by GoWB (E)	No of Households provided with grants (F)	Short/ (Excess) grant provided G =(E-F)	Percentage of Short/ (Excess) grant provided (H)= (G/E)*100
1	Bankura	564	1,489	(925)	(164.01)	2,819	1,613	1,206	42.78
2	Birbhum	674	1,187	(513)	(76.11)	2,833	517	2,316	81.75
3	Hooghly	53,491	17,391	36,100	67.49	49,310	49,606	(296)	(0.60)
4	Howrah	51,768	20,111	31,657	61.15	70,584	39,725	30,859	43.72
5	Jhargram	82	139	(57)	(69.51)	1,091	1,444	(353)	(32.36)
6	Kolkata	16,150	1,443	14,707	91.07	350	9,912	(9,562)	(2732)
7	Malda	-	300	(300)	-	297	-	297	100.00
8	Murshidabad	1,796	1,794	2	0.11	19,876	2	19,874	99.99
9	Nadia	15,229	9,854	5,375	35.29	52,350	31,790	20,560	39.27
10	North 24 Parganas	4,53,000	1,92,467	2,60,533	57.51	-	3,88,642	(3,88,642)	-
11	Paschim Burdwan	1,005	475	530	52.74	517	-	517	100.00
12	Paschim Medinipur	5,020	10,462	(5,442)	(108.41)	45,210	68,864	(23,654)	(52.32)
13	Purba Burdwan	2,094	1,608	486	23.21	10,639	7,434	3,205	30.13
14	Purba Medinipur	3,09,623	86,628	2,22,995	72.02	2,43,682	2,53,546	(9,864)	(4.05)
15	Purulia	450	450	-	-	-	-	-	-
16	South 24 Parganas	9,82,000	2,23,799	7,58,201	77.21	-	6,80,692	(6,80,692)	-
	Total	**18,92,946**	**5,69,597**	**13,23,349**	**69.91**	**4,99,558**	**15,33,787**	**(10,34,229)**	**(207.03)**

Appendix-44

(Refer to to Paragraph no 4.8.3, Page-106)

District-wise list of Non-Indigent Beneficiaries provided with HB grant

Sl No	Name of district	Total number of beneficiaries paid in the district	Total No. of Blocks/ ULBs in the district	No. of Blocks/ ULBs for which Form B was produced to Audit	Number of beneficiaries in the Blocks/ ULBs for which Form B was produced to Audit	Number of non-indigent beneficiaries in the blocks/ULBs for which Form B was produced to Audit				
						Fully damaged	Partly damaged	Total	Percentage of Non Indigent Beneficiaries to Total Beneficiaries Checked (Col.9/Col.6*100)	Amount of HB grant (₹ in crore)[290]
1	2	3	4	5	6	7	8	9	10	11
1	Hooghly	66,997	18/13	18/13[291]	66,470	3,941	12,450	16,391	24.66	14.11
2	Nadia	41,644	18/11	12/06[292]	25,105	119	57	176	0.70	0.27
3	North 24 Parganas	5,81,109	22/27	22/24[293]	3,70,099	34,431	1,51,712	1,86,143	50.30	144.72
4	Paschim Medinipur	79,326	21/07	19/03[294]	37,393	2,519	2,450	4,969	13.38	6.26
5	Purba Medinipur	3,40,174	25/05	21/05[295]	2,67,349	18,808	47,589	66,397	24.84	61.41
6	South 24 Parganas	9,04,491	29/07	03/01[296]	91,880	3,737	34,275	38,012	41.37	24.61
Total		**20,13,741**	**133/70**	**95/52**	**8,58,296**	**63,555**	**2,48,533**	**3,12,088**	**36.36**	**251.38**

290 Calculated @ of ₹ 20,000 each for Fully damaged houses and @ ₹ 5,000 each for Partly damaged houses.

291 ***Blocks(18):****Arambagh, Balagarh, Chanditala-I, Chanditala-II, Chinsurah-Mogra, Dhaniakhali, Goghat-I, Goghat-II, Haripal, Jangipara, Khanakul-I, Khanakul-II, Pandua, PolbaDadpur, Purshura, Serampore-Uttarpara, Singur, Tarkeshwar, Urban-Local bodies (13:)Arambagh, Baidyabati, Bansberia, Bhadreswar, Chandannagar, Champdani, Dankuni,Hooghly-Chinsurah, Konnagar, Rishra, Serampore, Tarakeswar and Uttarpara-Kotrang.*

292 ***Blocks(12):****Chakdah, Chapra, Haringhata, Kaliganj, Kalyani, Karimpur-I, Krishnaganj, Krishnanagar-I, Nakashipara, Ranaghat-I, Ranaghat-II and Santipur, Urban-Local bodies (Six)Birnagar, Gayeshpur,Haringhata, Kalyani, Nabadwip and Ranaghat.*

293 ***Blocks (22):****Amdanga, Baduria,Bagdah, Barasat-I, Barasat-II, Barrackpore-I, Barrackpore-II,Basirhat-I,Basirhat—II, Bongaon; Deganga,Gaighata,Habra-I,Habra-II,Hasnabad, Haroa,Hingalganj,Minakha,Rajarhat, Sandeshkhali-I, Sandeshkhali-II, Swarupnagar, UrbanLocal bodies (24): Ashoknagar-Kalyangarh, Baduria, Barasat, Barrackpore, Barrackpore Cantonment Board Basirhat, Bhatpara, Bidhannagar Municipal Corporation, Bongaon, Dum Dum, Garulia, Gobarganga, Halisahar, Kanchrapara, Kamarhati, Madhyamgram, Naihati, New Barrackpore, North Barrackpore, North Dum Dum, Panihati, South Dum Dum, Taki and Titagarh.*

294 ***Blocks (19):*** *Chandrakona-I, Chandrakona-II, Dantan-I, Dantan-II, Daspur-I, Daspur-II, Debra,Garbeta-I, Garbeta-II, Garbeta-III, Ghatal, Keshiary, Keshpur,Kharagpur-II, MedinipurSadar, Mohanpur, Narayangarh, Pingla and Salboni, Urban-Local bodies (three):Chandrakona, Khirpai and Medinipur.*

295 ***Blocks (21):*** *Bhagawanpur-I, Bhagawanpur-II, Chandipur, Contai-I, Contai-III, Deshapran, Egra-I, Egra-II, Khejuri-II, Kolaghat, Mahishadal, Moyna, Nanda Kumar, Nandigram-I, Nandigram-II, Panskura, Patashpur-I, Patashpur-II, Ramnagar-I, Ramnagar-II and ShahidMatangini,* ***Urban-Local bodies (Five):*** *Contai,Egra,Haldia, Panskura and Tamluk.*

296 ***Blocks (Three):*** *Kulpi, Mograhat-I and Namkhana,* ***Urban-Local bodies (One):****Maheshtala.*

Appendix-45

(Refer Paragraph no 4.14, Page-121)

Distribution of Relief Materials in Different Districts post Amphan

Sl No	Name of districts	Tarpaulins	Dhoti	Saree	Relief contingency (` in crore)	Child garments (boys)	Child garments (girls)	Kurti, leggings	Pyjama Punjabi	Special GR (Rice) in MT	DM Kits
1	Hooghly	65,000	8,000	7,000	80	-	-	-	-	800	-
2	Nadia	15,000	5,000	5,000	70	-	-	-	-	300	-
3	North 24 Parganas	3,90,000	78,000	1,03,000	425	45,000	45,000	85,000	85,000	1,900	18,000
4	Paschim Medinipur	15,000	4,000	5,000	80	-	-	-	-	800	-
5	Purba Medinipur	1,00,000	8,000	8,000	200	15,000	15,000	15,000	15,000	1,400	7,000
6	South 24 Parganas	6,60,000	78,000	1,03,000	875	45,000	45,000	85,000	85,000	2,500	37,000
Sub-Total (A)		**12,45,000**	**1,81,000**	**2,31,000**	**1,730**	**1,05,000**	**1,05,000**	**1,85,000**	**1,85,000**	**7,700**	**62,000**
7	Bankura	15,000	4,000	5,000	50	-	-	-	-	300	-
8	Birbhum	15,000	4,000	5,000	50	-	-	-	-	200	-
9	Howrah	1,15,000	8,000	7,000	80	-	-	-	-	900	-
10	Jhargram	15,000	4,000	5,000	50	-	-	-	-	100	-
11	Kolkata	40,000	-	-	50	-	-	-	-	350	-
12	Malda	15,000	5,000	2,500	70	-	-	-	-	400	-
13	Murshidabad	15,000	5,000	2,500	80	-	-	-	-	300	-
14	Paschim Burdwan	15,000	4,000	5,000	60	-	-	-	-	700	-
15	Purba Burdwan	5,000	4,000	5,000	50	-	-	-	-	700	-
16	Purulia	15,000	4,000	5,000	50	-	-	-	-	150	-
Sub-Total (B)		**2,65,000**	**42,000**	**42,000**	**590**	-	-	-	-	**4,100**	-
Grand Total (A+B)		**15,10,000**	**2,23,000**	**2,73,000**	**2,320**	**1,05,000**	**1,05,000**	**1,85,000**	**1,85,000**	**11,800**	**62,000**

(Source: Memorandum of Super Cyclone Amphan)

Appendix-46

(Refer Paragraph no 4.16.1.1, Page-125)

Details of applications checked in Audit

District	Block/ Municipality	Grant Type	Number of cases								
			Checked	Application not found	Hand-written	Typed	Documents available	Bank details available	Applications with dated signature	Photographs available	Verification Report
Hooghly	Arambagh Municipality	HBG	33	-	4	29	8	33	4	4	33
Hooghly	Tarkeshwar	HBG	33	-	14	19	27	2	20	31	21
Hooghly	Chinsurah-Mogra	HBG	33	1	6	26	14	15	29	33	33
Hooghly	Jangipara	HBG	33	2	0	31	31	33	20	31	10
Nadia	Krishnanagar-I	HBG	33	-	16	17	33	33	-	33	4
Nadia	Krishnanagar-II	HBG	33	-	23	10	33	33	20	13	4
Nadia	Nakashipara	HBG	33	-	10	23	33	33	13	33	4
Nadia	Ranaghat Municipality	HBG	40	3	36	1	40	40	37	40	2
North 24 Parganas	Barrackpore-I	HBG	33	27	2	4	32	32	2	21	2
North 24 Parganas	Habra-II	HBG	33	4	28	1	33	33	23	4	29
North 24 Parganas	Bongaon	HBG	33	-	-	33	33	33	-	-	33
North 24 Parganas	Taki Municipality	HBG	36	34	1	1	2	2	2	1	2
Paschim Medinipur	Sabang	HBG	35	20	15	-	15	15	11	12	-
Paschim Medinipur	Debra	HBG	36	-	36	-	36	36	-	-	-
Paschim Medinipur	Medinipur Sadar	HBG	33	-	33	-	33	33	31	-	4
Paschim Medinipur	Medinipur Municipality	HBG	40	-	40	-	40	40	19	0	-

District	Block/ Municipality	Grant Type	Number of cases								
			Checked	Application not found	Hand-written	Typed	Documents available	Bank details available	Applications with dated signature	Photographs available	Verification Report
Purba Medinipur	Sutahata	HBG	85	-	26	59	35	35	19	18	7
Purba Medinipur	Tamluk Municipality	HBG	60	-	5	55	60	60	36	29	5
Purba Medinipur	Nandigram-I	HBG	13	-	1	12	13	13	13	1	-
Purba Medinipur	Ramnagar-I	HBG	45	-	-	45	45	45	-	-	-
South 24 Parganas	Namkhana	HBG	61	-	61	-	51	51	-	-	51
South 24 Parganas	Maheshtala Municipality	HBG	57	-	57	-	-	-	-	-	57
South 24 Parganas	Kulpi	HBG	48	-	-	48	48	48	-	-	-
South 24 Parganas	Magrahat-I	HBG	44	-	-	44	-	-	44	-	-
	TOTAL		**963**	**91**	**414**	**458**	**695**	**698**	**343**	**304**	**301**
	Percentage			**9.45**	**42.99**	**47.56**	**72.17**	**72.48**	**35.62**	**31.57**	**31.26**

Glossary of Abbreviations

Glossary of Abbreviations

Abbreviation	Full form
AA	Assessing Authority
AB	Autonomous Body
AD	Assistant Director
AG	Accountant General
APEDA	Agricultural and Processed Food Products Export Development Authority
ASIDE	Assistance to States for Infrastructure Development for Exports
ATN	Action Taken Note
BC	Bituminous Concrete
BL&LROs	Block Land and Land Reforms Officers
BM	Bituminous Macadam
BoD	Board of Directors
CAG	Comptroller and Auditor General of India
CBR	California Bearing Ratio
CC	Cement Concrete
CEA	Central Electricity Authority
CFE	Combined Flakiness and Elongation
CHDS	Comprehensive Handlooms Development Programme
CoPU	Committee on Public Undertakings
CTU	Central Transmission Utility
DBM	Dense Bituminous Macadam
DL&LROs	District Land and Land Reforms Officers
DLC	Dry Lean Concrete
DMCD	Disaster Management and Civil Defence
DP	Draft Paragraph
DPC	Duties, Powers and Conditions of Service
DPRs	Detailed Project Reports
EMD	Earnest Money Deposit
ERPC	Eastern Regional Power Committee
GoWB	Government of West Bengal
GSB	Granular Sub-base
GSDP	Gross State Domestic Product
HB	House Building
HPMs	Highway Project Monitors
I&WD	Irrigation & Waterways Department
IDEA	Interactive Data Extraction and Analysis
IEGC	Indian Electricity Grid Code
IFMS	Integrated Financial Management System
IMCT	Inter-Ministerial Central Team
IRC	Indian Road Congress
IRs	Inspection Report
KBAIS	Krishak Bandhu Assured Income Scheme
LoA	Letter of Award

Abbreviation	Full form
MDRs	Major District Roads
MHA	Ministry of Home Affairs
MI	Marketing Incentives
MMDR	Mines and Minerals Development and Regulation
MoEFCC	Ministry of Environment, Forest and Climate Change
MoRTH	Ministry of Road Transport and Highways
MSA	Million Standard Axles
MSS	Mix Seal Surface
MVA	Mega Volt Ampere
NDRF	National Disaster Response Fund
NEPo	National Electricity Policy
NHDP	National Handloom Development Programme
NHs	National Highways
ODRs	Other Districts Roads
OMC	Optimum Moisture Content
PA	Performance Audit
PC	Premix Carpet
PAC	Committee on Public Accounts
PAG	Principal Accountant General
PDC	Pineapple Development Centre
PGCIL	Power Grid Corporation of India Limited
PM & E	Plant, Machinery and Equipment
PoSOCo	Power System Operation Corporation Limited
PPP	Public Private Partnership
PSUs	Public Sector Undertakings
PWCS	Primary Handloom Weavers' Cooperative Society
PWD	Public Works Department
RI	Revenue Inspector
SAR	Separate Audit Report
SC	Supervisory Consultants
SCCRS	Supreme Court Committee on Road Safety
SD	Security Deposit
SDB	Standard Bidding Document
SDBC	Semi-Dense Bituminous Concrete
SDRF	State Disaster Response Fund
SGEs	State Government, Entities,
SHs	State Highways
SJDA	Siliguri Jalpaiguri Development Authority
SLDC	State Load Despatch Centre
SoR	Schedule of Rates
SPSC	State Project Screening Committee
SPSEs	State Public Sector Enterprises
SPV	Special Purpose Vehicle
STU	State Transmission Utility

Abbreviation	Full form
SuCS	Super Cyclonic Storm
ToC	Taking over Certificate
ULB	Urban Local Body
VAR	Volt Ampere Reactive
VRs	Village Roads
WBEGC	West Bengal Electricity Grid Code
WBFR	West Bengal Financial Rule
WBHDCL	West Bengal Highway Development Corporation Limited
WBKVIB	West Bengal Khadi & Village Industries Board
WBLR	West Bengal Land Reforms
WBM	Water Bound Macadam
WBMMCR	West Bengal Minor Mineral Concession Rules
WBPDCL	West Bengal Power Development Corporation Limited
WBREP	West Bengal Rural Employment and Production
WBSEB	West Bengal State Electricity Board
WBSEDCL	West Bengal State Electricity Distribution Company Limited
WBSETCL	West Bengal State Electricity Transmission Company Limited
WMM	Water Mix Macadam
ZCE	Zonal Chief Engineer
ZP	Zila Parishad

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