Rural Development Department

Chapter 2: Implementation of Biju Setu Yojana

2.1 Introduction

Roads provide connectivity in physical term and also become vehicles for access to markets of goods and services and improved delivery of social services. Odisha has 2,50,086 km length of roads owned and maintained by multiple agencies/ departments of which 39,137 kms of roads are under the ownership of the Rural Development (RD) Department. Further, the State has a number of roads with unbridged nullahs/ rivers on them, thereby depriving villages of not only all-weather connectivity but also access to economic opportunities and basic services.

In October 2011 the Government of Odisha (GoO) in the RD Department launched a scheme called the Biju Setu Yojana (BSY) for construction of new bridges in rural areas[1] and to provide all-weather connectivity in rural areas. The primary objective of BSY is to bridge missing links so as to provide effective road network across the length and breadth of the State. The RD Department issued (October 2011) guidelines for the implementation of the scheme which broadly outlined factors to be considered in selection of sites, preparation of Detailed Project Reports (DPR) and quality assurance in construction of bridges. The guidelines were revised in May 2017, which, *inter alia*, provided that the location of the bridge would be such that there would be no alternative bridge within 5 km upstream or downstream and bridge width could be either 5.5 metre or 7.5 metre depending upon the projected traffic volume.

The overall responsibility for implementation of the BSY scheme lies with the RD Department, headed by a Secretary level officer. The Department is responsible for construction and maintenance of rural roads in the State as well as for implementation of various Central and State level rural connectivity programs like Pradhan Mantri Gram Sadak Yojana (PMGSY), Mukhya Mantri Sadak Yojana (MMSY) and Biju Setu Yojana (BSY).

Rural Works Organisation (RWO), under the RD Department is the implementing agency for the BSY and is headed by an Engineer-in-Chief (EIC). The EIC in turn is assisted by three Chief Engineers (CEs) at Heads of the Department level, 15 Superintending Engineers (SEs) at circle level and 65 Executive Engineers (EEs) at Division level.

Audit of BSY was conducted in two phases (November 2020 - March 2021 and September 2021 - November 2021) to assess efficiency and economy in implementation of the scheme in terms of compliance with the scheme guidelines in selection of work-sites and contractors, execution of construction works including preparation of estimates of works as well as inspection and monitoring. Activities/ transactions pertaining to the period 2017-18 to 2020-21 were examined in audit through test check of records at the RD

[1] Roads coming under the administrative control of the RD Department and Panchayat Samitis

Department, the EIC office and 14 out of 60 Rural Works (RW) Divisions. The sampled 14 RW Divisions were selected through Stratified Random Sampling (IDEA Software Tool), based on expenditure data. In these 14 sampled Divisions, Audit test checked records relating to 211 bridges executed during 2017-21 under BSY. In addition, two other bridge projects were also examined, which included one bridge[2] that collapsed during April 2020 and another bridge[3] which featured in a media report during February 2021. Entry conference was held (17 February 2021) with the Additional Chief Secretary and other senior officers of the RD Department to discuss audit objectives, scope, sampling and methodology of Audit. Joint physical inspections (JPI) of bridges were carried out and Non-Destructive Tests (NDT) were conducted at 12 selected bridges in the presence of Audit, as agreed upon in the Entry Conference.

The audit findings related to the above-mentioned examination are presented in the succeeding paragraphs.

Audit Findings

2.2 Funds management for bridge projects

At the time of the inception of the BSY scheme (in 2011), the State Government planned to take up 300 bridges initially, of which 55 bridges were to be funded by National Bank for Agriculture and Rural Development (NABARD). However, since 2015-16 onwards, 100 *per cent* of BSY works are funded from the Rural Infrastructure Development Fund (RIDF) operated by NABARD. A loan agreement was signed by the State Government with NABARD in order to avail funding for the BSY scheme. As per the terms stipulated by RIDF, the estimated expenditure for the works is at first provisioned for in the annual budget of the State and subsequently, claims for reimbursement are furnished to NABARD based on the actual expenditure. Audit analysed budgetary provisions made *vis-à-vis* utilisation and claim of reimbursements preferred during 2017-21 and found the following:

2.2.1 Non-utilisation of budgetary provision

A total budgetary provision of ₹ 2,570 crore was made for BSY during 2017-21, against which the actual utilisation stood at ₹ 2,255.62 crore (88 *per cent*) and ₹ 314.38 crore remained unutilised, as detailed in **Table 2.1**:

Table 2.1: Budgetary provision vis-à-vis expenditure during 2017-21

Year	Allotment	Expenditure	Unutilised (Savings/ Surrender)	Percentage of utilisation
	(₹ in crore)			
2017-18	500.00	457.51	42.49	92
2018-19	650.00	494.67	155.33	76
2019-20	560.00	550.74	9.26	98
2020-21	860.00	752.70	107.30	88
Total	**2570.00**	**2255.62**	**314.38**	**88**

(Source: Information furnished by EIC, Rural Works)

[2] High Level Bridge over river Suktel on Tamia Mudalsar road, RW Division, Bolangir

[3] High Level Bridge over river Baitarani at 1.500 km on Patuakudar-Basantpur road, RW Division-II, Keonjhar

The utilisation efficiency of the budgeted amount during the years from 2017-18 to 2020-21 ranged between 76 and 98 *per cent*. However, there was still scope for increasing spending efficiency by avoiding delays in completion of bridge projects by timely finalisation of tenders, timely settlement of land issues, avoiding revision of drawings and designs by conducting proper survey and investigations, *etc*., as noticed during audit and discussed in subsequent paragraphs.

2.2.2 Non-submission of reimbursement claim to NABARD

It was noted that while the RD Department expended ₹ 2,255.62 crore for BSY during 2017-21, it submitted reimbursement claim for ₹ 1,016.05 crore (45 *per* cent) only to NABARD, as shown in **Table 2.2**:

Table 2.2: Expenditure incurred claims submitted to NABARD

Year	Expenditure	Reimbursement claim submitted	Balance not submitted	Percentage of claim not submitted
	(₹ in crore)			
2017-18	457.51	356.79	100.72	22.01
2018-19	494.67	233.76	260.91	52.74
2019-20	550.74	135.61	415.13	75.38
2020-21	752.70	289.89	462.81	61.49
Total	**2,255.62**	**1,016.05**	**1239.57**	**54.95**

(Source: Information furnished by EIC, Rural Works)

The pending reimbursement claims not submitted to NABARD included significant amounts of expenditure incurred during 2017-18, 2018-19 and 2019-20 as well, resulting in overall pending balance of ₹1,239.57 crore up to March 2021. Balance reimbursement claims were not submitted on the ground of non-receipt of Statement of Expenditure from the implementing units (RW Divisions).

2.3 Physical Targets and achievements

Under the BSY, the State Government planned to complete 793 bridge projects during the period 2017-18 to 2020-21. The year-wise number of bridges targeted for completion and number of bridges actually completed during 2017-21 are shown in **Table 2.3**:

Table 2.3: Targets and achievements in completion of construction of bridges during 2017-21

Year	Completion target[4]	Completed	Completion *per cent*
	In number		
2017-18	125	121	96
2018-19	211	78	37
2019-20	181	89	49
2020-21	276	185	67
Total	**793**	**473**	**59**

(Source: Information furnished by EIC, Rural Works)

Out of the 793 bridges targeted for completion during 2017-21, only 473 bridges (59 *per cent*) were completed and 318 remained incomplete. Besides

[4] Including spill over incomplete bridges from previous years

this, one bridge[5] sanctioned in March 2013 still remained at the tendering stage only while the other[6] was transferred to the Works Department as of March 2021.

It can be seen from the table above that while in 2017-18, 96 *per cent* of the targeted completion was met, the rate of completion fell significantly to 37 and 49 *per cent* in the next two years as the targeted progress could not be achieved due to issues related to availability of land, change in design, non-shifting of utilities and slow progress by the contractors.

In the 14 divisions test checked by Audit, 211 bridges were taken up for construction during 2017-21 and were stipulated to be completed by March 2021. Of these 211 bridges, only around half (51 *per cent*) *i.e.*, 107 bridges were completed while 104 bridges remained incomplete (49 *per cent*) as of March 2021. Of these 107 completed bridges, only 11 were completed on time (10 *per cent*) while the remaining 96 bridges were completed with delays ranging between three and 73 months. Delay in finalisation of tender, deficiencies in initial survey resulting in subsequent changes in design, failure in sorting out land issues as well as overall slow pace of works by contractors were the primary reasons for non-achievement of targets for completion of bridge projects. Thus, the State Government could not provide all weather connectivity to targeted rural population as 318 bridge works remained incomplete against targeted completion of 793 bridges.

2.4 Selection of bridge projects

2.4.1 Selection of bridge projects in deviation from the guidelines

BSY guidelines, 2011 provided for selection of bridge projects with due importance to backward and flood prone areas and prioritisation in order of total population served. The EIC instructed (November 2017) to maintain a shelf of projects, keeping in view feasibility of the project by taking into account missing links/ unbridged crossings, non-existence of any bridge within 5 Km[7] upstream or downstream of the proposed site and construction of bridges that will provide single basic all-weather connectivity. Guidelines further specified that only bridge projects with minimum span of 25 meters were to be taken up under the scheme. Bridges and culverts proposed by Hon'ble MPs and MLAs are also to be given due consideration as per the guidelines for selection.

Scrutiny of available records revealed the following:

- There was no documentary evidence available to show that any overarching survey/ study had been carried out by the RD Department to identify missing links in the State and prioritise the same under the shelf of projects to be covered under BSY, based on population served or flood prone and backward areas. Instead, projects had been selected on a random basis, based on recommendation of Hon'ble MLA/ MP and approval of same by the RD Department. Thus, Audit was unable

[5] Penjwara Nallah on Nalabahar – Sartha Muhan Road, RW Division-I, Balasore

[6] High Level Bridge over river Subarnarekha at 1st Km on Churmara-Chaughari Road, RW Division-Jaleswar

[7] Modified guidelines (May 2017) provided non-existence of alternative bridge within 5 km upstream or downstream of proposed site

to derive assurance that the provisions in the scheme guidelines related to planning and prioritisation of bridge projects, had been complied with. As a result, there was lack of clarity on the overall requirement of number of bridges to provide all-weather connectivity to all citizens in the State, and on the prioritisation to determine the sequence of execution of bridge projects, to ensure that flood prone and backward areas were given due consideration.

- In case of five bridges in three RW Divisions, in contravention of BSY guidelines, sites for bridges were selected and approved despite the existence of alternate bridges within 5 km (***Appendix 2.1***). The concerned EEs of the Divisions stated (December 2020 and March 2021) that the sites had been selected on the basis of recommendations made by Hon'ble MLAs/ Ministers. The responses were not tenable, since the scheme guidelines clearly specified the minimum distance from an existing bridge required for selection of site for a new bridge. Further, taking up a new bridge within 5 km distance from an existing bridge defeated the objective of covering and prioritising missing links under BSY.

- In case of 27 bridge projects, the lengths of the bridges taken up were found to be ranging between 8.77 metres and 22.35 metres *i.e.*, less than 25 metres (***Appendix 2.2***), as specified in BSY guidelines. Thus, these bridge projects were not eligible for being considered under BSY, instead those should have been taken up under other schemes, like Integrated Action Plan, Western Odisha Development Council or Pradhan Mantri Gram Sadak Yojana (PMGSY) as recommended under the scheme guidelines. This would have, thus, allowed other potentially eligible, left out bridge projects to be included under BSY and fulfilled the objective of bridging missing links in rural areas. The concerned EEs of the Divisions stated (December 2020 and March 2021) that the bridges with length less than 25 metres had been approved on the basis of recommendations made by Hon'ble MLAs/ Ministers. The responses were not tenable, since the scheme guidelines had clearly specified the minimum span requirement for construction under BSY, and there was no provision for relaxations on the basis of recommendations.

2.5 Survey, investigation and design of bridge projects

As per the provisions in the Odisha Public Works Department (OPWD) Code (Paragraph 3.2.3), administrative approval to the estimate of a work shall be extended in two stages; first for preparation of DPR and the second after land acquisition, forest clearance, preparation of general alignment drawing (GAD) and detailed estimate. In addition, Paragraph 3.7.4 also stipulates that no work should be commenced on land which has not been duly handed over to the executing department.

Audit analysed records relating to survey and investigation, cost estimate and design of 211 selected bridge works in 14 divisions and found that the surveys were largely defective since requirement of land for bridge projects had not been correctly assessed. Audit also noted that technical specifications arrived at for bridge projects underwent subsequent changes since the surveys on

which these specifications were initially based, were found to be defective or incomplete during construction. Thus, deficient surveys led to revision of technical specifications for projects and ultimately delayed completion of bridge projects.

2.5.1 Non-assessment of requirement for land during finalisation of projects

Audit noted that works on 48 bridge projects remained incomplete after incurring expenditure of ₹ 184.84 crore due to non-acquisition of land required for the bridge or for approach roads to the bridge. Audit found that requirement of land had either not been correctly assessed at the time of survey and investigation of sites or had been arrived at only after construction had started. Due to non-completion of bridges, the expenditure so incurred would be rendered idle which indicates negligence of RW Organisation.

Some of the instances of delays in construction works due to persisting land issues are discussed below:

(I) Non-completion of bridge project due to absence of forest clearance and non-acquisition of land

To provide all-weather connectivity to the villagers of Patuakudar and Basantpur connecting Joda Block in Keonjhar district, the construction of a bridge over river Baitarani on Patuakudar-Basantpur road in the district of Keonjhar was sanctioned (September 2015) at an estimated cost of ₹9.12 crore by EIC, RW. The stipulated date of completion of work was April 2018, as per the agreement drawn up with the contractor (April 2016). The requirement of private land, forest clearance and shifting of utilities were not identified during survey and investigation of the site, as the details regarding private land required for approach road and valuation towards acquisition could not be made available by the Revenue authorities. The evaluation of private land required for right side approach was still pending with the Land Acquisition Officer, Keonjhar (February 2020), even after almost six years of sanction of work. Further, Audit noticed that the targeted progress could also not be achieved due to significant delay in obtaining forest clearance that was granted only in September 2020 *i.e.*, 29 months after the stipulated date of completion (April 2018). The work was lying incomplete after expenditure of ₹4.07 crore (41 *per cent*) as of November 2021.

(II) Defective assessment of land requirement

A bridge over river Lanth on Badipada PMGSY road was awarded (January 2016) at contract value of ₹12.95 crore for completion by May 2018. The scope of work included construction of 306.30 m bridge with an approach road of 2,150 m. The sanctioned estimate provided for construction of bridge proper on Government land without assessing if there was any requirement of private land either for the bridge or for the approach road.

Audit noted that requirement for private land measuring 4.59 acres for the project was arrived at only in August 2018, *i.e.*, three months after targeted completion date. A proposal for acquisition of the said land was moved during August-September 2018. However, the EE requested (September 2019) EIC, RW for provision of ₹ 1.41 crore towards land acquisition cost. Accordingly, the cost estimate of the work was also revised to ₹ 14.64 crore (September

2020). However, the required private land had not been acquired as of November 2021. At the time of Joint Physical Inspection (JPI), Audit noticed that only five of the ten spans of the superstructure of the bridge were completed and the work was lying incomplete with an expenditure of ₹ 7.53 crore (December 2021). Meanwhile, the RD Department rescinded (April 2021) the work with the contractor on the grounds of slow progress.

Incomplete bridge over river Lanth on Badipada PMGSY road

Thus, required land for the bridge project could not be made available despite lapse of six years of award of the work. Lapses during survey and investigation in correctly projecting land requirement led to non-completion of the project besides, depriving intended beneficiaries of all-weather road connectivity. Further, expenditure amounting to ₹ 7.53 crore incurred on the project remained idle.

(III) Non-assessment of land required for approach road to bridge

Construction of a bridge over Sapua Nallah at 2.4 km on Katakiasahi Balisahi road in the district of Cuttack was awarded (January 2014) at ₹ 8.37 crore with January 2016 as the stipulated date of completion. The scope of work included construction of bridge and an approach road of 3,200 meters. It was noted that no requirement of private land for construction of approach road was projected at the time of survey.

Audit found (17 December 2020) that while the bridge was completed in September 2016 at an expenditure of ₹ 4.94 crore, the same failed to become functional as the construction of the approach road to the bridge could not commence due to non-availability of land .

Non-construction of approach road to bridge over Sapua Nallah

Audit noted that requirement of private land (1.86 acres) was finalised, two years after the award of work in January 2016. The proposals for land acquisition were submitted in different phases by the EE to the Land

Acquisition Officer, Cuttack during January 2016-September 2017, *i.e.*, after the stipulated date of completion (January 2016). Though the District Compensation Advisory Committee approved (November 2021) purchase of land directly from the land owners, purchase had not been done as of December 2021.

The above indicated the fact that there were lapses in survey and investigation in terms of clearly assessing requirements of land for the bridge projects which led to targeted locals being deprived of benefits of a well-connected road network, despite outflow of ₹ 4.94 crore from the State exchequer.

(IV) Idle expenditure of ₹ 14.44 crore due to non-acquisition of private land

Construction of a bridge over river Tel at 8 km on Badacherigaon-Themera-Manning Road was awarded (April 2016) at ₹15.94 crore with October 2018 as the targeted date of completion. The scope of work included, *inter alia*, an approach road of 2,300 m. Although the requirement of private land was assessed during the survey and ₹ 15 lakh was provided in the sanctioned estimate towards cost of land acquisition, no acquisition had been made to make the bridge fully functional. As of March 2021, an expenditure of ₹ 14.44 crore was incurred on completion of the bridge proper and left side approach road of 810 m. However, 1.47 acre of private land needed for the construction of the right side approach road was not acquired even after a lapse of more than three years from the stipulated date of completion.

Audit conducted (1 November 2021) JPI and noticed that the right side approach road had not been started as could be seen in the picture.

Non-construction of approach road to bridge over river Tel

As such, all-weather connectivity could not be established even after lapse of more than three years of stipulated date of completion of bridge. Thus, expenditure of ₹14.44 crore incurred on the bridge project has remained unfruitful.

(V) Deficient survey led to unfruitful expenditure of ₹1.28 crore

The work 'Construction of the bridge over Jahala Nallah near Bhanraj village on Chahapada Kanpur road' was taken up in 2015-16 with a contract value of ₹ 2.10 crore. The due date of completion was December 2016. The project details provided for the construction of the bridge of 32.94 m length and approach road on both sides admeasuring 1,200 m.

It was noted (March 2020) that while the bridge was completed with an expenditure of ₹1.28 crore, the approach roads on both sides remained incomplete due to non-acquisition of required private land. The requirement of

private land for approach roads was not assessed at the time of survey (June 2015). Audit noted that revised estimate was prepared (October 2019) and length of approach road was reduced to 400 m due to non-availability of land.

Audit conducted JPI (18 December 2020) of the bridge project and noticed that there was no scope to complete the right side approach road for connecting Mallipur-Jahala RD road unless the existing *kutcha* houses of 'Das Sahi of Jahala village' coming across the alignment of the right side approach were acquired.

Completed bridge Proper

Right side approach alignment

As such, the expenditure of ₹1.28 crore already incurred on the project was rendered unfruitful due to non-establishment of connectivity between the targeted villages after more than four years from the stipulated completion date.

(VI) Non-completion of works due to non-acquisition of private land, rendering expenditure of ₹ 0.70 crore unfruitful

The construction of bridge over local Nallah at 2nd km on Masanibandha to Bhamarmal Chhaka road was awarded (March 2019) at ₹ 2.23 crore with March 2020 as the targeted date of completion. The sanctioned estimate provided for construction of bridge (53.85 m), and approach road of 1,000 m on both sides. As per the sanctioned estimate, only government land was required for the bridge project. Subsequently, the RW Division, Kesinga corresponded (30 September 2020) with Tahasildar, Kesinga and raised a requirement of private land for 0.83 acres[8] for construction of piers, abutment and approach roads. Although the private land needed for the bridge was demarcated (October 2020) by revenue authorities, the same had not been acquisitioned (November 2021) as the land was under

Non-construction of approach road due to non-availability of land

[8] 0.14 acres for left approach and 0.69 acres for right side pier, abutment and approach road

ST category. Audit noticed that the work was lying incomplete after an expenditure of ₹ 0.70 crore (31.55 *per cent* of project cost) even after lapse of 20 months from the stipulated completion date.

During JPI (24 September 2021) Audit noticed that the bridge work was lying incomplete with construction of only three (out of the five) spans, left abutment and three piers. Construction of approach roads to both the right and left abutment could not be started due to non-acquisition of required private land. Audit further noticed that there was no work force at the site since the execution of bridge work had been suspended since February 2021.

Thus, due to non-acquisition of land for approach road, the bridge project could not be completed and expenditure of ₹ 0.70 crore on this project was rendered unfruitful. Besides, the intended beneficiaries continued to remain deprived of road connectivity even after 20 months of due date of completion.

Audit observed that in some cases correspondence was made to Revenue Authorities for demarcation of required land for bridge projects, whereas in others the process was under negotiation with the private land owners. However, the updated status in this regard was not furnished to Audit. Due to delay in land acquisition, part of the bridges already constructed may degrade with passage of time.

2.5.2 Changes in design and scope of work due to deficiencies in site survey, investigation and pre-approvals

Paragraph 3.2.3 of OPWD code stipulated that Administrative Approval for a work should be accorded only after preparation of a DPR taking into account requirement of land acquisition, general alignment drawings, *etc*. Further, BSY guidelines (October 2011 and May 2017) also specified that DPRs were to be prepared for bridge projects after conducting necessary survey, investigation and designs.

Audit noticed in 211 BSY bridge projects taken up during 2017-21 in 14 Divisions that no specific DPRs had been prepared by RW divisions. Instead of a DPR, the estimates for the bridge works were prepared on the basis of surveys and preliminary investigations undertaken by RW divisions. Further, there were a number of cases where there were lacunae in the initial surveys and investigation, indicating improper planning by the department. This led to preparation of incorrect estimates, frequent changes in design and scope of work, ultimately contributing to overall time and cost overruns.

Absence of DPRs and deficiencies in surveys impacted timely completion of bridge projects under BSY. This is evident from the fact that out of the test checked 211 bridge projects taken up during 2017-21, completion of 96 bridges was delayed by 3 to 73 months and 104 bridges remained incomplete even after lapse of 2 to 85 months due to incorrect/ incomplete assessment of land requirement, pending statutory clearances from the Forest Department and Inland Waterways Authority of India (IWAI), shifting of utilities, subsequent changes in design/ scope of work, *etc*., all of which had not been previously clearly identified and documented *via* detailed surveys and DPRs.

Out of 104 incomplete bridges, there was escalation of cost by ₹ 24.47 crore in respect of 12 bridges, as summarised in **Table 2.4**.

Table 2.4: showing division-wise escalation in cost of bridge projects

Name of the Division	No. of works	Revised estimated cost (₹ in lakh)	Agreement cost (₹ in lakh)	Scheduled period of completion	Status as of December 2021	Expenditure as of December 2021 (₹ in lakh)	Additional cost involved (₹ in lakh)
Balasore-1	3	1872.98	1026.91	March 2014 to November 2020	Ongoing	1249.66	846.07
Cuttack-II	1	695.86	678.43	December 2018	Ongoing	663.41	17.43
Dharmgarh	2	3009.38	2482.54	January 2017 and October 2018	Ongoing	2338.83	526.84
Jaleswar	3	2039.85	1173.77	March 2017 to August 2020	Ongoing	621.92	866.08
Karanjia	2	1307.49	1134.42	April 2020 and May 2020	Ongoing	608	173.07
Kesinga	1	496.17	478.63	October 2017	Ongoing	235.16	17.54
Total	**12**	**9421.73**	**6974.70**			**5716.98**	**2447.03**

(Source: Compiled from the concerned bridge project files)

(i) Delay in execution due to changes in design necessitated due to deficiencies in initial survey and absence of DPR

Paragraph 4 of the BSY guidelines required that the DPR would be framed by the respective field functionaries and to take up the works after making necessary survey, investigation and designs.

Audit noticed in case of 25 bridge projects out of 211 examined that works had remained incomplete after incurring expenditure of ₹ 56.62 crore, due to subsequent changes in design necessitated due to deficiencies in initial survey and absence of DPR (***Appendix 2.3)***.

Case Study 1

Deficient survey led to idle expenditure and extra cost

The work of construction of a bridge over river Jalaka on Badadhanadi-Koilisahi road in Balasore district was awarded (December 2016) at a cost of ₹3.50 crore with stipulation to complete the project by June 2018. Even after 33 months from the targeted completion date, Audit noted that the work was lying incomplete (March 2021) after an expenditure of ₹1.96 crore, due to frequent modifications in the scope of work.

Audit observed that between June 2013 and May 2020, the general alignment drawing (GAD) of the project was frequently revised for modification of (i) length of the bridge from 65.25 to 79.762 m (ii) type of foundation (Raft to Well to Pile) (iii) no. of spans (6 nos. to 2 nos. to 3 nos.) (iv) sizes of spans (10.77m/ 30.63m/19.35m/24.13m), *etc*. With these frequent changes in the scope of work, the estimated cost of the project also escalated from ₹2.32 crore (November 2013) to ₹7.12 crore as of February 2021.

Besides the above, during JPI (29 January 2021), Audit also noticed that private land on both sides of the bridge was required for the construction of

abutment and approach road as well. However, the same had not been acquired although the proposal for acquisition had been submitted by the EE to the Tahasildar, Basta in February 2018.

Thus, due to repeated modification of GAD as well as non-acquisition of private land, the work could not be completed even after lapse of 33 months from the stipulated completion date as of March 2021. As a result, ₹1.96 crore spent on the work remained idle and intended benefits of the project could not be achieved. Further, there was cost overrun of ₹ 3.47 crore due to revision of estimates on the basis of modified GAD.

2.5.3 Designing bridge projects overlooking norms of IWAI

Inland Waterways Authority of India (IWAI), GoI is empowered with regulation and development of inland waterways for shipping and navigation as per Section 14 (1) (g) of the Inland Waterways Authority of India Act, 1985.

IWAI declared (April 2009) Coast Canal and Subarnarekha river system as National Waterways (NW) and stated that the construction of all bridges/ other structures across the NWs could commence only after obtaining its concurrence on horizontal and vertical clearance of the bridges/ other structures.

Audit noticed that specifications for bridges across NWs as specified by IWAI had not been adhered to in case of two bridge projects, as follows:

- Construction of a bridge[9] on Coast Canal was awarded in April 2016, at a cost of ₹ 3.80 crore with March 2017 as the stipulated completion date. However, after incurring an expenditure of ₹ 0.29 crore, work was stopped (May 2018) on the instructions of EIC, RW due to absence of concurrence of IWAI. It was noted that concurrence of IWAI had not been obtained at the time of initial sanction of the project and the same was belatedly applied for in January 2019. Approval was obtained from IWAI in August 2019. Based on the approval obtained from IWAI (August 2019), a revised cost estimate of the project was prepared for ₹ 11.50 crore (May 2020). Thus, due to delay in obtaining concurrence of IWAI, construction of the bridge could not be completed till December 2021 even after lapse of four years from the schedule date of completion *i.e.*, March 2017.
- The work for construction of a bridge[10] across the Subarnarekha river was awarded in March 2019 at a cost of ₹ 23.61 crore with July 2021

[9] Bridge over Coast Canal Nallah at 2.0 km on Kullhachhada-Badtalpada road, RW Division, Jaleswar

[10] Bridge over river Subarnarekha at 1st km on Churmara-Chaughari road, RW Division, Jaleswar

as the targeted date of completion. Post signing of the agreement and after confirmation of the fact that the bridge was going to be across NW-96, the EIC, RW sought (15 March 2019) clearance from the IWAI for the construction work. No amount was spent as the RD Department instructed the RW Division (28 March 2019) not to start the work since clearance from IWAI had not been obtained. Pending receipt of clearance from IWAI, the Department closed (10 December, 2019) the contract and subsequently the bridge project was handed over (September 2021) to the Works Department for execution.

As a result of non-compliance with the IWAI norms at the outset, the commencement of the bridge was delayed by 27 months as of March 2021 and the targeted rural population was deprived of all-weather connectivity guaranteed under the scheme.

The concerned EEs stated that the inclusion of Coast Canal and the stretch of River Subarnarekha under National Waterways recognised by IWAI was not known to them. The responses were not tenable, since EIC RW had clearly instructed (February 2014) all RW Divisions to adhere to the IWAI norms at the time of preparing proposals for construction of bridges across National Waterways.

2.6 Preparation of estimates

In order to achieve economy in construction of civil works, Paragraph 3.4.10 (i) of the OPWD Code provides that estimates should be prepared in the most economical way. Audit examined, on test check basis, estimates prepared for bridge projects and observations thereon are presented in the succeeding paragraphs.

2.6.1 Extra expenditure due to provision of manual excavation instead of mechanical excavation

The Analysis of Rates (AoR), 2006 prepared by the Works Department of GoO provides for excavation, loading and transportation through mechanical means to achieve economy.

Manual excavation is not desirable since it is a costlier alternative besides being time consuming. Audit noticed in 82 out of 211 bridge projects that estimates included provision for manual excavation instead of mechanical excavation. As a result, the estimated cost across these 82 bridge projects increased by ₹ 4.82 crore. Audit further noticed that there was no documentary evidence in the form of muster rolls, *etc*., maintained by the Divisions, to support that excavation had indeed been done manually. Thus, Audit was unable to derive assurance that manual excavation was actually carried out in these projects, since there was a material risk that work was carried out through mechanical means but the payments had been made on the basis of higher rates applicable for manual excavation.

2.6.2 Provision of excess carriage on stone products and steel, resulting in inflated project cost

Para 3.4.16(a)(vii) of the OPWD code stipulates that the approved quarry lead is to be provided judiciously for the purpose of the cost estimate. Besides, para

3.4.10 of the code stipulated preparation of estimates providing the most economical way for executing the work.

Audit noticed that in case of 19 bridge projects, provision for sourcing 0.51 lakh cubic metre of stone was made from distant quarries instead of nearby ones despite the fact that lead had been provided in previously completed and ongoing works from nearby quarries. Thus, making provision for sourcing stone products from more distant quarries instead of closer ones, led to overall inflation of cost of these projects by ₹ 1.87 crore.

Similarly, in case of 29 bridge projects, the estimates of works provided for sourcing of steel from places farther from the work sites (*viz.*, Bhubaneswar/ Rourkela) instead of nearby location though the same brand/ standard of steel materials were available nearby. This inflated the project cost by ₹1.84 crore towards carriage of 77,096.67 quintal steel, across these 29 projects.

Audit noted that the Divisions did not maintain any documentary evidence in support of the claim that the stone products had indeed been sourced from the distant quarries and not the nearby ones. Likewise, in case of steel also, there was no documentary evidence to support sourcing of steel from more distant locations.

In case of both stone and steel, the concerned EEs stated that adequate quantity of material was not available at the nearby quarries/ locations and therefore, lead had been provided from quarries or locations where adequate quantity of material was available.

The responses were not tenable as there was no documentary evidence in support of the statement that there was inadequate quantity of material available at the nearby quarries/locations.

2.6.3 Non-inclusion of provision for use of earth excavated from the project sites

In terms of Section - 301.3.4 of specification for rural roads by Ministry of Rural Development (MoRD), GoI, the materials for embankments shall be obtained from approved sources with preference given to materials becoming available from nearby roadway excavation or any other excavation under the same contract.

Audit noted that in case of 40 sample bridge projects, the work components, *inter alia*, involved excavation of earth for laying foundations. The work components also included sourcing earth from borrow areas located within five kilometres from the work sites for formation of road embankments in the same work. The cost estimates of the projects, however, did not provide for utilisation of the excavated earth in the projects. Thus, the cost estimates were not economical. In 40 sampled works, 1.71 lakh cum earth had been excavated. At the same time, 3.50 lakh cum earth was used for construction of road embankments, which was sourced from a distance of five kilometres.

Had the excavated earth of 1.71 lakh cum been utilised in the same works, additional expenditure of ₹ 2.15 crore towards sourcing earth from the other places, could have been saved.

In response, the EEs stated that the excavated cutting earth could not be utilised for road embankment as there was no provision for the same in the sanctioned estimates.

The reply indicates the fact that the cost estimates of the 40 bridge projects were not prepared to achieve economy.

2.7 Tendering and selection of bidder

2.7.1 Delay in finalisation of tender

As per para 3.5.18 (iv) of the OPWD code, the currency period of any tender should not be more than three months from the last date prescribed for receipt of the tenders. Further, Paragraph 3.5.18 (vii) envisaged that the order to commence work should be given within 15 days from the date of acceptance of tender in the Divisional Office, provided the contract agreement, complete in all respect, has been duly executed.

Audit noted in case of 30 bridge works with awarded cost of ₹ 275.46 crore that award of contracts was delayed as the tenders could not be finalised within the currency period of 90 days. The delay in finalisation of tender ranged from 25 to 275 days beyond the prescribed period.

Similarly, in case of 47 works with awarded cost of ₹ 294.92 crore, the agreements were executed with delays ranging from 10 to 142 days beyond the prescribed period of 15 days from the acceptance of tender. The concerned EEs stated that the delays were attributable to prolonged negotiation period, delay in submission of bank guarantee towards initial security deposit and additional performance security, outbreak of rainy season, imposition of modal code of conduct, *etc*.

Delayed finalisation of tenders and delays in execution of agreements led to deferment in commencement of construction work and overall delay in completion of these bridge projects.

2.7.2 Award of work without inviting tender

Rule 6 of Appendix VII of OPWD Code provided different financial powers to PWD officers to award works without calling for tenders. An Executive Engineer was authorised to award work costing up to ₹ 10,000 without calling tender.

A number of techno-feasibility surveys are undertaken either by RW Divisions themselves or *via* an outsourced agency, before sanction of bridge works. Audit noticed that EEs awarded 62 survey works[11] worth ₹ 0.32 crore for 10 bridge projects without calling for tenders. As the estimated cost of individual survey work awarded by the EEs on this basis varied from ₹ 0.17 lakh to ₹ 3.80 lakh, this was in contradiction of the prescribed financial limit of ₹ 10,000. Besides contravention of rules, the objective of ensuring competitive bidding also could not be achieved as works were awarded without invitation of tenders.

The concerned EEs stated that survey works had been taken up without tenders due to urgency in order to submit DPRs within the stipulated time.

[11] Hydrology survey, Geo-technical survey and Sub-soil investigation

The responses were not tenable, since the OPWD Code provisions had not been complied with and no DPRs had been prepared for the bridge projects.

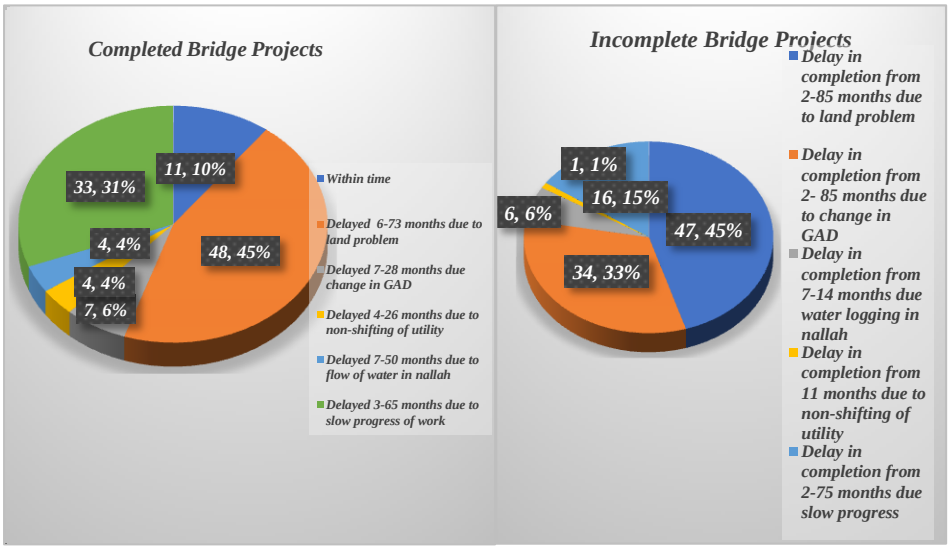
2.8 Timeliness in completion of bridge projects

2.8.1 Delays in execution of BSY projects

Out of 793 bridges taken up for execution under BSY scheme during 2017-21, only 473 were completed. Of the remaining 320 incomplete bridges, one was under tender process[12] and the remaining ones had been transferred[13] to Works Department as of March 2021. In the test checked 14 divisions, Audit examined 211 bridges which had been taken up for construction having schedule completion period between July 2012 and March 2021. Of these, construction of only 107 bridges (51 *per cent*) was completed and 104 (49 *per cent*) bridges remained incomplete as of March 2021.

The 107 completed bridges, with awarded value of ₹ 404.66 crore, were completed after incurring expenditure of ₹ 410.15 crore. Of these, only 11 bridges were completed on time. The delays in case of the remaining 96 bridges ranged from three to 73 months from the stipulated completion date. The incomplete 104 bridges with award value of ₹ 675.70 crore were still under construction on which an expenditure of ₹ 304.64 crore had been incurred as of March 2021. The delays in construction of these 104 bridges ranged from two to 85 months from the stipulated completion date.

The delays in execution were mainly attributable to formulation of incorrect/ incomplete assessment of requirement of land, pendency in statutory clearances (from Forest Department, IWAI, *etc*.), modification of drawings/ design due to deficiencies in initial survey, absence of DPR, not anticipating requirements related to shifting of utilities, *etc*.



The concerned EEs stated that efforts were being made to complete all the incomplete bridges on priority basis.

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12 Penjwara Nallah on Nalabahar – Sartha Muhan Road,RW Division-I, Balasore was under tender process

13 Bridge over river Subarnarekha at 1st Km on Churmara-Chaughari road, RW Division, Jaleswar transferred to Works Department

2.8.2 Delay in execution due to water logging

Paragraph 3.2.3 of OPWD code stipulated that Administrative Approval for a work should be obtained after preparation of DPR, taking into account requirement of land acquisition, detailed alignment drawings, statutory clearances, coordination with line Departments, *etc*.

Audit noticed that in case of six out of 211 test checked bridge projects, works had remained incomplete after incurring expenditure of ₹ 5.21 crore, due to water logging in the irrigation canals over which the bridges were being constructed (***Appendix 2.4***). The works were lying incomplete even after lapse of 16 to 62 months since stipulated dates of completion (October 2016 to September 2020). The water logging in the canals was mainly due to absence of coordination with the local authorities of the Department of Water Resources, GoO regarding stoppage of either water flow in canal during off season or maintenance to facilitate execution of bridge works.

The concerned EEs stated that the flow of water released in canals could not be stopped during crop season.

The responses were not tenable, as the concerned EEs had not carried out any correspondence with the local Irrigation Divisions seeking co-ordination to sort out the water logging issue to facilitate timely completion of works.

Case Study 2

Infructuous expenditure of ₹ 7.58 crore on demolition of a newly constructed bridge

A bridge over river Suktel on Tamia Mudalsar road in the district of Bolangir was taken up during February 2014 and completed (September 2015) at an expenditure of ₹ 7.58 crore. The EE informed (February 2020) the EIC regarding cracks developed in the Span-4 girder of the bridge. Further, one of the bridge experts, while confirming (March 2020) shear cracks and structural distress in Span-4, attributed this to execution of very poor and porous concrete in the deck. The Expert also recommended complete demolition of the badly distressed super-structure in Span-4 and reconstruction of the same. Besides, EIC also attributed the cracks and deflection to the substandard execution in super-structure of Span-4. The bridge collapsed (April 2020) while dismantling work was going on causing two causalities.

During JPI of the bridge audit evidenced the collapsed superstructure Span-4 and consequential failure to provide connectivity to the targeted rural habitations.

Further, it was noted that the survey done in April 2013 for the

project at the initial stage, was deficient, since soil investigation was carried out only in four bore holes, against the requirement of seven bore holes as per the provisions in IRC[14]. Moreover, as the bridge was put to use for four to five years, no remedial measures for the cracks were taken by the Division/ Department. As such, the expenditure of ₹7.58 crore incurred for the construction of the bridge was rendered unfruitful. A fresh tender was invited for reconstruction of Span-4 in July-August 2021; the finalisation of tender was under process (October 2021) at Chief Construction Engineer, RW Circle, Bolangir.

2.9 Contract Management

2.9.1 Excess provision and payment towards GST

Examination of sanctioned estimates of three completed bridge proejcts[15], completed with expenditure of ₹ 17.74 crore, Audit noticed that GST at a rate of 5 to 24 *per cent* had already been included in the item wise Analysis of Rate (AoR), 2006 against nine items. Despite inclusion of GST, a further 12 *per cent* GST was added to the total cost of work. As a result, there was excess provision and payment of GST on these items, resulting in undue benefit of ₹ 0.38 crore to the contractor.

In reply, the EE stated that the excess amount would be recovered.

2.9.2 Excess payment due to non-recovery of hard rock

As per AoR, 2006, useful stones obtained from the item of work 'excavation in foundation in hard rock' are to be utilised in the said work in the respective stone related items.

In case of 14 bridge projects, Audit noticed that the cost of excavated hard rock of 8,840.12 cum. worth ₹ 0.20 crore had not been recovered from the contractors (***Appendix 2.5***).

In reply, the EEs stated (September-November 2021) that the excess amount would be recovered.

2.9.3 Excess payment due to adoption of higher item rate in agreement, compared to sanctioned estimates

Paragraph 2.2.26 of OPWD Code Vol-I stipulates that any variation in sanctioned estimates should be promptly set right and brought to the notice of higher authorities to get the defect remedied before execution of work.

A bridge work[16] awarded in November 2018 at a contract value of ₹ 17.30 crore was lying incomplete since eight months from the stipulated completion date (March 2021) after incurring expenditure of ₹ 8.41 crore due to revision of GAD during execution of the work. Audit noticed that excess rates against 33 items were incorporated in the Bill of Quantity (BoQ) of the agreement as

[14] Clause 6.1.2 of IRC SP 54-2000 Manual for bridges

[15] Construction of HL bridge over Ghensali Nallah at 1st Km on Buromunda to Haldipadar road, Construction of HL bridge over Sonegarh river at 1st Km on Jarasingha to PWD Chhaka and Construction of Bridge over Kharkhadinallah at 1st Km on Sargipali to Tambipadar road in the district of Bolangir

[16] HL bridge over river Under on MDR-40 to Limpara, RW Division, Titilagarh

compared to the rate approved in the sanctioned estimate. This inflated the cost of the work by ₹ 0.86 crore. Of this, a sum of ₹ 0.45 crore had already been paid to the contractors as of November 2021.

In reply, the EE stated that BoQ rate had been taken as per the revised sanctioned estimates which was not traceable in the Division.

The response was not tenable, since the rate adopted was higher than the one indicated in the sanctioned estimates available on record.

2.9.4 Non-recovery of penalty of ₹ 7.06 crore

As per clause 2b(i) of agreement, 20 *per cent* of the value of left-over work will be realised from the contractors as penalty in case of rescission of contract.

In case of eight bridge projects with awarded cost of ₹ 55.12 crore, rescission proposals were approved/recommended under due to slow progress of work. Work valued at ₹ 28.13 crore was completed, leaving balance work worth ₹ 26.59 crore, which should have resulted in levy of 20 *per cent* penalty amounting to ₹ 5.32 crore (***Appendix 2.6***). However, this amount had not been demanded or recovered from the contractors.

The EEs stated that the contracts had been closed under clause 2(b)(i) of the agreement as per instruction of EIC RW. However, the responses made no mention of the recovery of penalty. The RD Department should fix responsibility on officials for non-imposition of penalty on erring contractors and should also take steps to recover the penalty amount.

2.10 Inspection and Quality Monitoring

2.10.1 Absence of quality monitoring by SQM

Paragraph 7 of BSY Guidelines prescribes a two-tier quality assurance mechanism to be followed for bridge projects. The field officers of RW division form the first-tier while independent State Quality Monitors (SQMs) form the second-tier. As per BSY guidelines of 2011, the SQMs were made up of retired engineers of repute and not below the rank of Superintending Engineers. Further, EIC instructed (December 2019), SE of one RW circle to function as SQM of another circle for quality checking of works executed under different schemes with frequency of five days in a month and submit their reports to the State Quality Coordinator (SQC).

Audit noted that only four bridge works[17] were inspected by the Departmental SEs. As such, SQM did not inspect 105 (96.33 *per cent*) bridge works due to which the two-tier mechanism, envisaged in the guidelines to ensure quality of bridge works, failed to work.

[17] H.L.Bridge over Guasulnallah (RW Divn, Jaleswar); 16.01.2020, H.L.Bridge over river Sono (RW Division, Baleswar-I); 14.01.2020 , H.L.Bridge over Kansabansa Br. (RW Division, Balasore-II); 23.02.2021 & Bridge over Reba nallah (RW Division, Balasore-II); 23.02.2021

2.10.2 Inadequate Inspection by the Third-Party Quality Monitoring (TPQM)

RD Department instructed (November 2015) that Third Party Quality Monitors (TPQM) would inspect all the bridge projects valued at ₹ 2 crore and above. As per this criterion, there were 166 BSY bridges that were eligible for inspection by TPQM. However, only 33 bridges (20 *per* cent) were inspected by TPQM during 2017-21. Of these, 17 were noted as 'Satisfactory', 12 were 'Satisfactory Requiring Improvement' and four were 'Unsatisfactory'. As such, TPQM did not inspect 80 *per cent* of bridge works despite standing instructions.

2.10.3 Non-Destructive Test (NDT) of bridge projects

As per Indian Standard (IS 456: 2000), non-destructive tests adopting methods like Ultrasonic Pulse Velocity (UPV)[18] and Rebound Hammer[19] (RH) tests are conducted to obtain estimation of the properties of concrete in the structure. Non-destructive tests also provide for estimating the strength and quality of concrete. As agreed upon in the Entry Conference (17 February 2021) NDT was taken up to assess the quality of concrete in bridge works.

UPV test was jointly conducted at 61 locations of five bridges by the Audit team and the RW Divisions. Out of 61 locations, in 38 locations (62 *per cent*) the results were Excellent/ Good and in 23 locations (38 *per cent*) the results of the test were Poor/ Doubtful.

RH test was also conducted by Audit with support from the divisions at 248 locations of 12 bridges. Out of 248 locations, the compressive strength was found to be of required strength in 187 locations (75 *per cent*) and in case of 61 locations (25 *per cent*), the compressive strength was found to be lower than required.

As an instance, in all 10 locations of the bridge over Dantia Nallah at 1st Km on Rinbachan to Budhisindol road, RW Division Bolangir, the results of UPV test were Poor/ Doubtful. Similarly, in 4 out of 10 locations of the same bridge, the compressive strength was found to be lower than required after the RH test.

2.10.4 Non-conduct of check measurement

As per OPWD Code Volume-II (Appendix-II-D), the Divisional Officer (EE) must check/measure 10 *per cent* of the measurements of important and costly items (judged by their money value) in respect of works costing more than ₹ 2 lakh. The Sub-Divisional Officer should check not less than 50 *per cent* of measurements of items made by Junior Engineer/ Sub-Assistant Engineer, in respect of works costing ₹ 2 lakhs. This check should cover both running payments and final bills.

Audit noticed that in case of 21 bridge projects, check measurement of important/ costly items worth ₹1.80 crore against execution amounting to ₹ 18 crore was not done by the EEs. Similarly, in one Division, the Sub-Divisional

[18] Ultrasonic Pulse Velocity Test is conducted to assess homogeneity/quality of concrete in addition to trace presence of cracks, voids and other imperfections in the concrete

[19] Rebound hammer test is conducted to assess the compressive strength/ uniformity of concrete in addition to quality relating standard of requirements

Officer had not checked 50 *per cent* running as well as final bills of ₹ 0.82 crore paid against two works. Due to absence of check measurement, Audit was unable to derive assurance on the adequacy of the authentication of execution and related payments.

2.10.5 Non-inspection of completed bridge projects

EIC instructed (July 2020) all EEs to conduct routine inspection of all completed bridges twice a year *i.e.*, before and after monsoon to avoid high maintenance and repair cost in future. The directions also asked for principal inspection to be conducted as per IRC guidelines, before expiry of defect liability period but not later than six months after completion of the bridge opening to traffic. During 2017-21, 107 bridges with expenditure of ₹ 436.53 crore were completed. Audit observed that no such inspections were conducted against any of the 107 completed bridges. During JPI of a few completed bridges, Audit noticed physical deficiencies as can be visualised from the below photographs.

Earth of Right Approach (both sides) displaced
Bridge over Jamjorinallah Ghasian to Chhelkhai road, RW Division, Patnagarh

In the absence of inspection of the completed bridges, Audit was unable to derive assurance that safety and maintenance aspects of the bridge projects had been adequately monitored by the Divisions and the Department.

In reply, the EEs stated that schedule for inspection of bridge could not be prepared but assured to take up the same.

2.11 Conclusion and Recommendations

2.11.1 Conclusion

There are significant deficiencies in planning for bridge projects under BSY, due to absence of an overall survey to identify bridge projects required for closing missing links in the State. Projects were randomly selected and there was absence of criteria for prioritisation of projects especially for flood prone and backward areas.

There was non-compliance with scheme guidelines related to aspects such as selection of project site, minimum length and width of bridges to be constructed under BSY. In case of all the 793 bridge projects taken up during the period 2017-21, only surveys had been undertaken and no DPRs as such had been prepared. Due to absence of DPRs, potential risks to execution such as, incorrect/ incomplete assessment of land acquisition requirement, subsequent changes to design due to deficient initial surveys, list of statutory clearances necessary to be obtained, coordination with other line Departments,

etc., could not effectively be mitigated. As a result, there were numerous cases of delays in project execution.

Out of 793 bridges taken up for execution during 2017-21, only 473 were completed while 318 bridges remained incomplete. In the test checked 14 divisions, of 211 bridges that had been taken up for construction, only 107 bridges were completed and 104 remained incomplete. Out of 107 completed bridge projects, only 11 bridge projects were completed within the stipulated time and rest 96 projects were completed with delay ranging from three to 73 months. In respect of 104 incomplete bridge projects, the stipulated date had already expired by two to 85 months as of November 2021. Delay in completion of projects was attributed to non-acquisition land/ encumbrance free sites on time, changes in design during execution, non-shifting utilities, water logging in nallahs and slow progress of work.

There were excessive provisions in the estimates on account of adopting manual excavation rates instead of mechanical excavation rates and provision of excess lead for materials. These carried the risk of avoidable inflation of project cost and excess payments to contractors.

Joint Physical Inspection of the incomplete bridges indicated that expenditure incurred so far had been rendered unfruitful due to unconnected piers, incomplete works and lack of approach roads.

Inspection and monitoring was not adequate as evident from the fact that State Quality Monitor, which forms the second-tier quality monitoring mechanism, did not inspect 96.33 *per cent* completed bridge works. Third Party Quality Monitors inspected only 33 completed bridge projects (20 *per cent*) against 166 bridge projects due for inspection. Further, inspection of bridges before expiry of defect liability period but not later than six months after completion had not been conducted.

2.11.2 Recommendations

Government may consider to:

- prepare a list of projects in accordance with the provisions of the BSY guidelines and with an aim to bridge missing links in the State.
- follow provisions in the OPWD Code scrupulously which requires sorting out land, forest and other issues before granting administrative approval for timely completion of bridge projects.
- start construction works only after Detailed Project Reports are prepared based on actual site condition and complete and proper survey.
- strengthen inspection and monitoring to ensure desired quality is maintained in the bridge projects.