

## Chapter II Performance Audit

### Department of Water Resources

#### 2.1 Performance Audit on Contract Management

##### *Executive Summary*

*Department of Water Resources (DoWR) has the mandate to plan, develop and manage water resources. Allocations were regularly provided in annual budget for construction and maintenance of irrigation and flood control projects. The works were carried out by contractors through contracts enforceable by law as per Indian Contracts Act of 1872. DoWR followed the provisions of Odisha Public Works Department (OPWD) Code which laid down the procedure for award and execution of works. This report focuses on the performance of DoWR in respect of tendering process and execution of projects and management of contracts. Performance Audit was conducted from April to June 2017 covering award of contracts for execution of works during 2012-17. Out of 44 divisions, 15 divisions were selected based on expenditure incurred. Against 2892 contracts valuing ₹ 3140.93 crore (in the 15 test checked divisions), 1014 contracts with value of ₹ 1933.41 crore, were reviewed during the audit.*

*Contracts were awarded to Orissa Construction Corporation (OCC) on nomination basis. A total of 198 works for a value of ₹ 1549.09 crore were entrusted to OCC by the DoWR bypassing the tendering procedure. Out of 198, Ninety Six (96) works awarded to OCC were not completed within the scheduled time. Of those, 51 works were delayed by more than one year.*

*The works involving 618 contracts awarded to contractors other than OCC were not completed within the stipulated period.*

*E-tendering portal introduced in January 2009 is yet to be fully utilised.*

*In five divisions, 20 embankments/canal works were executed providing for manual excavation of earth though mechanical excavation was cheaper. This resulted in undue payment of ₹ 18.13 crore to the contractors.*

*As per Schedule of Rates 2013, hire charges of a dozer (D-80-A-12) was ₹ 2463.54 per hour, excluding supervision charges, for compaction of 300 cum of earth. The outturn was reduced from 300 cum to 100 cum for compaction of earth, however, the rate was not reduced accordingly. Thus, adoption of items rate of 300 cum of earth, with reduced outturn of dozer, inflated estimated cost between ₹ 19.60 and ₹ 20.30 per cum. Audit observed that in 38 works, for compaction of 63.31 lakh cum of earth, the estimates were inflated by ₹ 12.41 crore.*

*Two projects were taken up with objective of providing irrigation to 4850 ha of land and one project was taken up to provide 75 MLD drinking water to Puri town. However, due to delay in acquisition of land these objectives remained unfulfilled.*

*The construction of three flood protection embankments was partially completed. As a result investment on three works was lying idle. Further, the*

*objective of protecting lives and property from flood water remained unfulfilled.*

*Overall, there was an idle investment of ₹134.07 crore on seven works.*

*There were inordinate delays in completion of projects due to lack of proper design. As a result, objectives of providing effective communication facilities to local people remained unfulfilled.*

*Effective quality assurance as envisaged by Government was not achieved.*

### **2.1.1 Introduction**

The Department of Water Resources (DoWR) has the mandate to plan, develop and manage water resources. Accordingly, the DoWR undertakes construction and maintenance of major, medium, minor irrigation, drainage and flood control projects. The Department also maintains 1591.312 km of Capital Embankment, 2443.974 km of Other Agricultural Embankment, 1534.909 Test Relief Embankments and 1567.555 km of Saline Embankment.

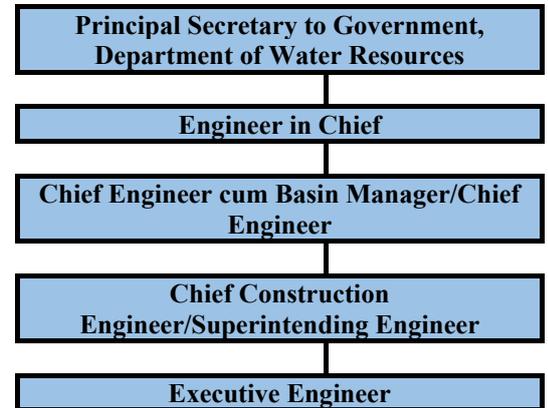
Allocations were regularly provided in annual budget for creating above assets. The works were carried out by contractors through contracts enforceable by law as per Indian Contracts Act, 1872. DoWR followed the provisions of Odisha Public Works Department (OPWD) Code. It has laid down the procedure for award and execution of works undertaken by the Department through contractors.

The essence of efficient and effective contract management is that competitive rates were ensured, qualified contractors were engaged and the works were executed in time bound manner. Performance Audit of contract management was conducted in 15 divisions covering 1014<sup>5</sup> contracts for ₹ 1933.41 crore awarded during 2012-17 to assess economy, efficiency and effectiveness in execution of works.

### **2.1.2 Organisational set up**

The Principal Secretary to Government of Odisha is the officer in charge of Department of Water Resources and implements various projects in the State. The project implementation is administered by Engineer in Chief (EIC) assisted by eight Chief Engineer & Basin Managers (CE&BM), two Chief Engineers (CE), 10 Chief Construction Engineers (CCE) and 17 Superintending Engineers(SE). At field level, execution of projects was supervised by 132 Executive Engineers (EE). The flow chart No 1 indicates the organisational structure.

Chart No 1: Organisational Structure



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<sup>5</sup> 78 OCC (₹ 622.74 crore) and 936 Non-OCC (₹ 1310.67 crore)

### 2.1.3 Audit Objectives

The performance audit was conducted to assess whether;

- availability of water for irrigation and drinking purpose was ensured;
- procedures as per code/rules were followed for invitation, finalisation of tenders and also award of works;
- projects were executed as per conditions of contract relating to payments, quality assurance and timely completion including funds utilisation;
- internal control and monitoring at all levels were adequate;

### 2.1.4 Audit Criteria

Audit criteria were sourced from the following:

- Provisions of OPWD Code
- Orders issued by Government of Odisha
- Contract conditions
- Specifications of Indian Road Congress/ Bureau of Indian Standards, Schedule of Rates and State Analysis of Rates
- Inspection notes of higher authorities

### 2.1.5 Scope and methodology

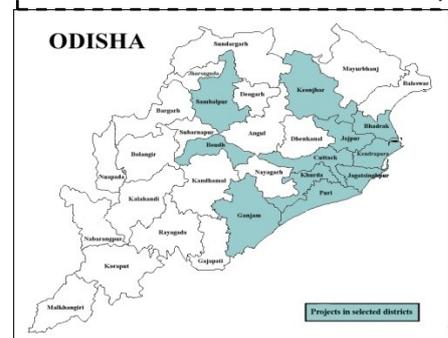
Performance Audit was conducted from April to June 2017 covering award of contracts for execution of works during 2012-17. Contracts under Accelerated Irrigation Benefit Programme (AIBP) were excluded since a separate Performance Audit is being conducted for inclusion in Audit Report on Union Government.

The audit universe constituted offices of four CE&BM, one CE, 12 SEs and 44 EEs. Out of 44 divisions, 15 divisions were selected by adopting stratified random sampling method based on expenditure incurred.

In the 15 test checked divisions, out of 2892 contracts for ₹ 3140.93 crore, 1014 contracts with value of ₹ 1933.41 crore were reviewed during the audit. Audit objectives, criteria as well as scope and methodology were discussed in the entry conference held with Special Secretary to Government of Odisha in DoWR on 22 April 2017.

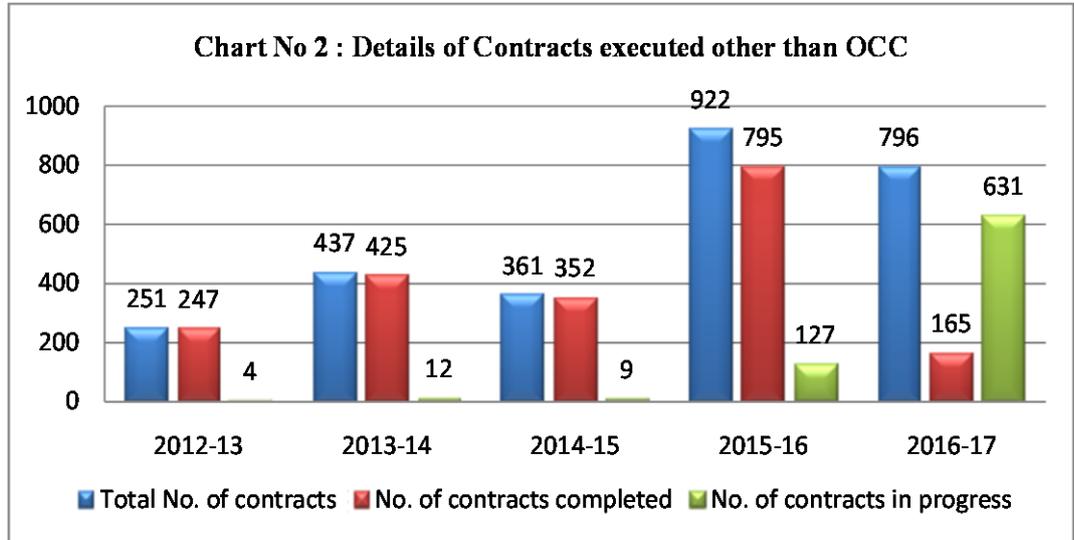
Draft Performance Audit Report was issued on 26 July 2017 to Government and findings were discussed in an exit conference held on 13 September 2017. Views of the Government wherever necessary have been considered while finalising the report.

Map No 1: Districts where projects were implemented



**2.1.6 Details of Contracts executed by contractors other than OCC**

In 15 test checked divisions, the following contracts were awarded to contractors other than OCC. Contracts for works which were completed and in progress as of March 2017 are given below:



**Table No. 2.1: Details of Contracts executed by contractors other than OCC during 2012-17**

(₹ in crore)

Year	Total contracts		Contracts where works were completed			Contracts where works were in progress			
	No. of contracts	Contract Value	No. of contracts	Contract Value	Expenditure incurred	No. of contracts	Contract Value	Value of works done	Percentage of works done
2012-13	251	93.11	247	88.61	87.49	04	4.50	4.20	98
2013-14	437	400.38	425	348.35	343.37	12	52.03	45.22	97
2014-15	361	300.13	352	207.65	202.69	09	92.48	58.82	97
2015-16	922	747.26	795	407.95	391.20	127	339.31	226.16	86
2016-17	796	756.52	165	76.41	68.53	631	680.11	220.36	20
<b>Total</b>	<b>2767</b>	<b>2297.40</b>	<b>1984</b>	<b>1128.97</b>	<b>1093.28</b>	<b>783</b>	<b>1168.43</b>	<b>554.76</b>	<b>71</b>

(Source-Information furnished by Executive Engineers)

**2.1.7 Contracts executed by Odisha Construction Corporation**

Department of Water Resources has been awarding contracts to OCC, a State Public Sector Undertaking without tender. As per the procedure prescribed by Government, where the bid is non-responsive or due to exigency or security reasons, works were to be awarded to OCC on negotiated value with overhead charges at 10 per cent of contract value for supervising execution of works. However, Audit observed that the works were awarded to OCC even when there were no exigencies or security reasons. Further, only 34 per cent of the works awarded to OCC were completed in time.

In 15 test-checked divisions, year wise details of contracts awarded to OCC during 2012-17, contracts for works which were completed, contracts for works which were in progress and expenditure incurred are given below:



**Table No.2.2: Details of contracts awarded to OCC and expenditure incurred**

(₹ in crore)

Year	Total works contracts		Contracts for which works were completed			Contracts for which works were in progress		
	No of contracts	Contract Value	No of contract	Contract Value	Expenditure	No of contracts	Contract Value	Expenditure
2012-13	12	45.59	11	40.92	10.47	01	4.67	0
2013-14	50	350.09	38	214.28	178.86	12	135.81	103.00
2014-15	19	107.17	13	52.82	44.63	06	54.35	34.72
2015-16	32	255.47	10	30.68	25.49	22	224.79	46.74
2016-17	12	85.21	01	1.10	0.38	11	84.11	23.58
<b>Total</b>	<b>125</b>	<b>843.53</b>	<b>73</b>	<b>339.80</b>	<b>259.83</b>	<b>52</b>	<b>503.73</b>	<b>208.04</b>

(Source: Information furnished by OCC)

It may be observed from Table-2.1 and 2.2 that only 125 contracts out of 2892(2767 + 125) were awarded to OCC for ₹ 843.53 crore. It was only four per cent of the total number of contracts. It, however, made up 27 per cent of total value of contracts ₹ 3140.93 crore (2297.40 crore + 843.53 crore). This indicates that many of the high value contracts were awarded to OCC on nomination basis as discussed in paragraph 2.1.8.2.

### 2.1.8 Audit Findings

#### 2.1.8.1 e-Procurement system

To eliminate the human interface in bid submission process, Government of Odisha introduced e-tendering system in January 2009. E-tendering is an internet based process wherein the complete tendering process beginning with advertising, placing of tender documents, submission of bids with required documents by the tenderers, evaluation of bids and finalisation of list of responsive bidders is done on a real time basis over the internet. For the above purpose, e-procurement portal was created in Works Department with Engineer-in-Chief (Civil) Odisha as Chief Procurement Officer. Government decided to host all tenders costing ₹ 20 lakh and above on the e-procurement portal. This was revised to ₹ 10 lakh from July 2013. Audit of the e-procurements system showed the following deficiencies:

- As per Government instructions (January 2009) the Procurement Officer shall upload on the portal a summary of status regarding technical bid opening, technical evaluation, financial bid opening, financial bid evaluation, award of contract and cancelled tender/ re-tendering. After uploading the above details on the portal, the Procurement Officer shall

declare the above process as complete.

Audit observed that the Chief Engineer-cum-Chief Manager (Technical), State Procurement Cell, Odisha intimated (January 2017) EIC of the DoWR that the uploading of the above details up to the award of contracts during the period from April 2012 to March 2016 was not done.

Audit further observed that, out of 9932 tenders published, only in respect of 493 cases, details were uploaded. The details of works executed by OCC were also not uploaded on the portal. Thus, in the absence of uploading of all the relevant details on the portal, the e-procurement system was not fully utilised.

- Odisha Public Works Department Code (Para 3.5.14) stipulated that in case a contractor is blacklisted, it will be widely published by uploading the details of blacklisted contractors on the portal and intimated to all departments of Government of Odisha and the Government of India Agencies working in the State.

Audit observed that since the uploading of most of the details pertaining to the contracts was not done, the details of blacklisted contractors were not available on the portal. Test check of records showed that defaulting contractors were not blacklisted as discussed in paragraph 2.1.12.

The Government accepted the factual position and stated (September 2017) that any error so pointed out by audit in tendering procedure is being rectified.

#### **2.1.8.2 Award of works on nomination basis to OCC**

Best governance practices requires award of works on competitive basis. In this regard Central Vigilance Commission (CVC) had instructed (December 2012) Government bodies to curb the practice of Government Public Sector Undertakings (PSUs) obtaining contract from other Government organisation/PSUs and subsequently awarding the same to private entities, to avoid the competitive tendering mechanism. CVC had also observed that the above practice subverts integrity, transparency, fairness and equity in decision making. CVC directions also require that details of all tenders awarded on nomination basis shall be posted on website in public domain along with brief reasons for doing so.

Further, Government prescribed (September 2012) procedure which stipulated that projects should be executed through tender/e-tender process. However, the option of taking up works execution through OCC was also available where the bidding is non-responsive in tender/e-tender or due to exigencies or security reasons.

Audit observed that works were awarded to OCC on nomination basis to avoid competitive tendering mechanism. The details of award of works on nomination basis were not posted on web site in public domain in violation of CVC guidelines. As such, the DoWR failed to explore the competitive or the lowest rate at which the works could have been awarded. Execution of 198 works valuing ₹ 1549.09 crore was entrusted to OCC by the DoWR during 2012-17. DoWR entered into agreements with OCC for execution of works till 2012-13. From 2013-14, only Memorandums of Understanding (MoU) were

**The works were awarded to OCC without invitation of bid.**

signed though the procedure prescribed by Government in September 2012 and May 2015 required an agreement. The MoU had no contractual clause for levy of liquidated damages and penalty for abandonment of works, OCC was given undue advantage as discussed in paragraphs 2.1.8.4 and 2.1.8.5.

The Government stated (September 2017) that OCC is a wholly owned Government of Odisha Corporation. The DoWR entered into annual agreement (MoU), to award certain works valuing at ₹ 400 crore in 2015-16 and ₹ 700 crore in 2016-17, to enhance the activities and efficiency of the corporation. The Government also stated that OCC was highly efficient in works meant for protection from flood and executed works in difficult and complex conditions. The Government further stated (September 2017) that the above works were taken up through OCC considering vulnerability of embankments during and before flood seasons to safeguard the localities from floods.

The reply was not acceptable since Central Vigilance Commission guidelines insisted on award of work through tender to ensure transparency in public procurement. It was to maximise economy and efficiency, to promote healthy competition among the tenderers and to provide for fair and equitable treatment of all tenderers. Moreover, the Government reply was silent regarding its failure to post the details of works awarded to OCC on nomination basis on web site. Further, many of works were delayed by OCC defeating the very purpose of safeguarding localities from floods. The works executed by OCC also had certain shortcomings as delineated in the report.

### 2.1.8.3 Delays in execution of works by OCC

Audit observed that 198 (from all 44 divisions) works were entrusted to OCC through agreements/MoUs. However, the Government had stipulated in working procedure issued in June 2002, September 2012 and May 2015 that the DoWR should enter into an agreement with OCC. The agreement would include a clause for levy of liquidated damages (LD) for not completing the work in stipulated time. Details of Agreements/MoUs signed by OCC with department, number of works completed and range of delays in execution during 2012-17 are given below:

**Table No. 2.3: Details of works under execution by OCC**

Sl. No.	Year	Total No. of Agreements / MoU	Value of Agreements/ MoUs	Completed in time	Range of delays in Completed works			Work in progress within scheduled time	Range of delays in work in progress		
					Up to one Year	One year and above	Total		Up to one year	One year and above	Total
1	2012-13	20*	178.07	05	03	07	10	0	0	05	05
2	2013-14	72**	484.58	28	09	20	29	0	2	13	15
3	2014-15	36	185.65	16	08	02	10	02	5	03	08
4	2015-16	47	326.15	15	02	0	02	19	10	01	11
5	2016-17	23	374.64	03	01	0	01	14	05	0	05
	<b>Total</b>	<b>198</b>	<b>1549.09</b>	<b>67</b>	<b>23</b>	<b>29</b>	<b>52</b>	<b>35</b>	<b>22</b>	<b>22</b>	<b>44</b>

Source: Data collected from OCC  
\*Agreements up to 2012-13. \*\* MoUs from 2013-14

The above table shows that 96 (52+44) out of 198 works awarded to OCC were not completed within the stipulated time. Of them 51 (29+22) works were delayed by more than one year. Agreements were entered into during

2012-13 however no liquidated damages were levied for slow progress of work. From 2013-14, MoUs signed between the Department and OCC did not include a clause for levy of LD. The records were not maintained to identify delays for which OCC could be held responsible. Hence, the potential loss to Government towards levy of LD could not be worked out.

The Government stated (September 2017) that provision for levy of liquidated damages had not been incorporated in the MoU and inclusion of penalty clause was not in the interest of Government as OCC was a State PSU.

The reply was not tenable since as per the working procedure issued by Government in June 2002, September 2012 and May 2015 agreement should be entered into with OCC which included recovery of LD for slow progress. This would have ensured timely completion by fixing accountability of OCC. Thus, award of works through MoU having no LD clause was in deviation from the working procedure of Government.

#### **2.1.8.4 Payment of advances to OCC**

**Advances of ₹ 1059.02 crore were released violating provisions of OPWD Code.**

Para 3.7.21 of OPWD Code stipulated that advances to contractors are as a rule prohibited. When issue of such advances is indispensable sanction of Government should be obtained in exceptional circumstances. Such advances shall carry interest at the rate of 18 *per cent* per annum.

It was seen that in violation of OPWD code, DoWR stipulated that 33 *per cent* of the project cost should be deposited with OCC in advance and the balance 67 *per cent* should be released in two equal installments in relaxation of the above codal provisions. Release of second and third installments would be subject to submission of utilisation certificate of at least 75 *per cent* of the funds released earlier.

Audit observed that the Chief Engineer and Basin Managers (CE&BM) of the projects concerned sanctioned interest free advances and Executive Engineers released the amount to OCC. However, efforts were not made to adjust the same in the subsequent installments. As of March 2017, against ₹ 1059.02 crore released as advances, ₹ 737.94 crore only had been adjusted and a balance of ₹ 321.08 crore remained unadjusted.

Audit further observed that for 75 contracts, ₹ 65.00 crore was released as first advances to OCC during 2012-17. Even before adjustment of 75 *per cent* of the first advances, further advances amounting to ₹ 106.60 crore were also released in above cases.

The Government stated (September 2017) that OCC was a PSU under DoWR and it did not get any budgetary support from Government. Interest free advances were paid as per working procedure approved by Government. In some cases, advances remained unadjusted for reasons beyond the control of OCC and department.

The reply was not acceptable since provisions of OPWD Code were violated and the release of further advances before adjustment of 75 *per cent* of earlier advances was in violation of procedure approved by the Government.

### 2.1.8.5 Payment of Overhead Charges

Department of Water Resources has been paying 10 per cent of project cost as overhead charges to OCC as per working procedure. The OCC bears the cost of survey, investigation, design, drawing and preparation of estimates out of the above charges. Accordingly, for 198 works with contract value of ₹ 1549.09 crore, ₹ 154.90 crore was payable to OCC, against which ₹ 67.09 crore was paid to OCC as of March 2017.

Audit, however, observed that detailed estimates based on survey/investigation had been prepared by Divisional Officers themselves and not by OCC. The circular of May 2016 stipulated that officers of OCC were to be assisted by the Divisional Officers during execution, measurement as well as to ensure quality of works. As such, the payment of overhead charges lacked justification.

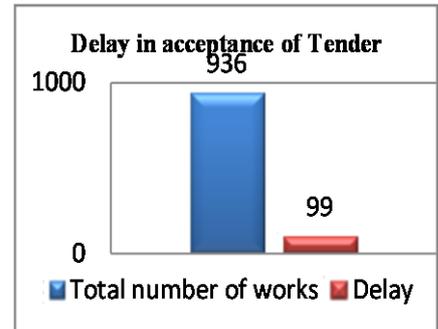
The Government stated (September 2017) that OCC was being paid overhead charges as per Finance Department Notification of February 2011. The Government further stated that as and when required, OCC took up investigation, design and drawing of works, especially mechanical works.

The reply was not acceptable since the above notification stipulated only the rate of overhead charges at 10 per cent payable to OCC. OCC was provided with all technical support by the Department in planning and execution of work. Thus, the payment of overhead charges to OCC lacked justification.

### 2.1.9 Delay in acceptance of tenders

**Tender for 99 out of 936 works with tender value of ₹ 484.30 crore were not accepted within three months.**

Para 3.5.18 (iv) of OPWD Code stipulated that currency period of any tender should not be more than three months from the last date prescribed for receipt of the tenders. In 15 test checked divisions, it was observed that tenders for 99 out of 936 works with tender value of ₹ 484.30 crore were not accepted within three months from the last date for receipt of tenders. Further, 62 out of the above 99 tenders were accepted and agreements drawn with delays ranging from 61 to 534 days from the last dates for acceptance of tenders.



The Government accepted the factual position and stated (September 2017) that 90 days provided in the Code was not sufficient. The delays were caused in verification of documents of bidders, allegations and court cases. Moreover, consent of bidders for extension of bid validity was also obtained before acceptance. However, the proposal would be submitted to Codes Revision Committee for revision of OPWD code.

The fact remained that the period of three months were prescribed by OPWD Code after considering the above factors.

### 2.1.10 Delay in drawal of agreements

Para 3.5.18 (vii) of OPWD Code stipulated that order to commence work should be given to contractor within 15 days from the date of receipt of tender duly accepted in the Divisional Office, provided the contract agreement

**29 out of 936 contracts were signed with a delay of 86 to 250 days against prescribed period of 15 days.**

complete in all respects has been duly executed. Signing of contract is a pre-requisite for commencement of work.

Audit observed that in 15 test checked divisions, for 29 out of 936 works with contract value of ₹ 125.63 crore, there were delays in signing of agreements ranging from 86 to 250 days. Reasons for delay in drawal of agreements were not on record.

The Government accepted the factual position and stated (September 2017) that the observations were noted for future guidance.

### **2.1.11 Delay in refund of earnest money deposit**

**In five divisions, EMD for ₹ 1.08 crore was refunded to the unsuccessful bidders with delay ranging from 116 to 711 days against prescribed period.**

Detailed Tender Call Notice stipulated that earnest money deposit (EMD) shall be in shape of National Saving Certificate/KissanVikas Patra/Post Office time Deposit Account, with the deposit receipt of scheduled bank duly pledged in favour of concerned Executive Engineer. Further, Para 3.5.20 of OPWD Code stipulated that earnest money deposited by the bidders except the three lowest tenders should be returned within a week from the date of receipt of tenders. The earnest money deposited by the other two parties except the one whose tender is accepted should be refunded within 15 days of acceptance of tender.

Audit, however, observed that register for receipt and refund of EMD was not maintained properly in five<sup>6</sup> out of 15 divisions test checked. As of March 2017, in five divisions, EMD amounting to ₹ 1.08 crore received in respect of 36 works had not been refunded to the unsuccessful bidders. The delay ranged from 116 to 711 days. Further in three<sup>7</sup> divisions, the EMD amount was refunded after delay ranging from 137 to 319 days. Reasons for delay in refund of EMD to unsuccessful bidders were not on record.

The Government accepted the factual position and stated (September 2017) that the unsuccessful bidders had not applied for refund of earnest money deposit. Quick action was however being taken to refund the EMD to the contractors and the audit observation was noted for future guidance.

### **2.1.12 Relaxation of conditions in favour of defaulting bidders**

**EMD of ₹ 98.97 lakh was not forfeited in respect of 94 bidders who did not turn up to sign the agreements.**

Para 3.5.14 of OPWD Code stipulated that if the lowest bidder does not turn up for agreement after finalisation of tender, he shall be debarred from participation in bidding for three years and action will be taken to blacklist the contractor. Further, Detailed Tender Call Notice (DTCN) stipulated that EMD deposit of the bidder will also be forfeited. In 15 divisions, it was observed that in 94 out of 936 bids (10 per cent), the bidders who quoted the lowest rates did not turn up to sign agreements. Agreements were signed with the second lowest bidders at the L1 rate. Further, the EMD of ₹ 98.97 lakh in respect of 94 bidders remaining with the divisions were not forfeited and credited to government account. The defaulting bidders had also not been blacklisted.

Check of records showed that in 10 tenders, bid documents furnished by four bidders in support of past experience in execution of works were forged. The

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<sup>6</sup>Mahanadi South, Mahanadi North, Berhampur Irrigation, Sambalpur Irrigation and Baitarani Irrigation Division.

<sup>7</sup>Jajpur Irrigation, Berhampur Irrigation and Baitarani Irrigation Division.

CE & BM, Lower Mahanadi Basin had moved Government in December 2016 to forfeit the EMD and to blacklist a bidder. The EE, Jaraka Irrigation Division stated that he would initiate action to blacklist three contractors.

The Government accepted the factual position and stated that it had forfeited EMD for ₹ 2.06 lakh and credited the amount to Government account. The Government further stated that action would be taken to blacklist them.

The reply was, however, silent on the delay in blacklisting the contractors and forfeiture of remaining amount of EMD.

### **2.1.13 Shortcomings in estimation of works**

Para 3.2.7 of OPWD Code stipulated that for obtaining technical sanction of competent authority, detailed estimates should be accurately calculated based on adequate data. Further Para 3.4.10 provides that the estimate should be prepared using sanctioned Schedule of Rates and providing for the most economical and safe way of executing the work. Instances of deviations from the above conditions in preparation of estimates and their impact are discussed below:

#### **2.1.13.1 Adoption of manual instead of mechanical excavation led to undue payment to contractors**

**In five divisions, 20 works were executed with estimates providing manual excavation instead of mechanical excavation which led to undue benefit of ₹ 18.13 crore**

Para 3.4.10 of OPWD Code stipulated that Divisional Officer should certify that he has personally visited the spot and prepared the estimate providing for the most economical and safe way of executing the work. Further State Analysis of Rates (AoR) 2006 provides for excavation, by mechanical means as well as loading and transportation. AoR does not provide for manual excavation.

Audit observed that in five<sup>8</sup> divisions, 20 embankments/canal works were executed providing for manual excavation though mechanical excavation was cheaper. Thus adoption of manual excavation rates inflated the estimated cost between ₹ 18.00 and ₹ 41.87 per cubic meter (cum). For excavation of 40.72 lakh cum of earth, the estimated cost was inflated by ₹ 15.62 crore. Against above, amount payable to contractors was ₹ 18.13 crore considering the rates quoted by bidders. As of August 2017, ₹ 15.29 crore had already been passed on to the contractors as detailed in *Appendix 2.1.1*.

The Government stated (September 2017) that in the absence of Government burrow area, the contractors took earth from private land and land owners did not permit the use of excavators on the plea that the excavators might cut deeper trenches.

The reply was not tenable since the DTCN forming part of contract stipulated that the contractor has to arrange burrow earth at his own cost and responsibility. In exit conference Principal Secretary, DoWR accepted the observation and agreed to adopt only mechanical excavation in respect of earthwork. The reply was, however, silent as regards undue payment of ₹ 18.13 crore to contractors.

<sup>8</sup>Mahanadi South, Mahanadi North, Kendrapara Irrigation, Jagatsinghpur Irrigation and Jaraka Irrigation Division.

**Adoption of hire charges of dozer with reduced outturn by seven EEs resulted in undue payment of ₹ 11.40 crore to contractors.**

### **2.1.13.2 Adoption of excessive hire charges**

As per Schedule of Rates 2013, hire charges of a dozer (D-80-A-12) was ₹ 2463.54 per hour excluding supervision charges for compaction of 300 cum of earth. The EE Baitarani Irrigation division, in a work of Anandapur Main Canal, adopted the rate reducing it to one third of rate for compaction of 100 cum. However, EEs of seven divisions adopted full hire charges of dozer. The outturn was reduced from 300 cum to 100 cum for compaction of earth, the rate was not reduced accordingly. Thus, adoption of items rate with reduced outturn of dozer inflated estimated cost between ₹ 19.60 and ₹ 20.30 per cum.

Audit observed that in 38 works, for compaction of 63.31 lakh cum of earth, the estimates were inflated by ₹ 12.41 crore. Against above, amount payable to contractors was ₹ 11.40 crore considering the rates quoted by the bidders. As of August 2017 ₹ 9.09 crore had already been paid to contractors as detailed in *Appendix 2.1.2*.

In the exit conference, the Principal Secretary, DoWR accepted (September 2017) the audit observation and stated that instructions would be issued to follow the Analysis of Rate.

### **2.1.13.3 Use of higher capacity crane resulting in inflation of estimates**

**The EEs of three divisions adopted hire charges of 80 tonne capacity crane against 35 tonne resulting in extra cost of ₹ 4.06 crore.**

The Schedule of Rate provided rate for hire charges of crane for three tonnes (₹ 230), 35 tonnes (₹ 550) and 80 tonnes (₹ 825) to be utilised in packing of stones in rip rap<sup>9</sup>, launching apron<sup>10</sup> and nose of spurs<sup>11</sup>. In contracts for restoration and protection of river embankments in flood prone areas of three Divisions<sup>12</sup>, the cranes were required for collecting, supplying, providing stone in launching apron using stones of one ton and above weight.

Audit observed that there was a requirement of a crane for handling stones weighing one to four tones. This could have been easily accomplished by use of a crane of 35 tonnes or lower capacity. However, EE adopted higher rate of hire charges of ₹ 825 per hour applicable to crane of 80 tonnes capacity despite availability of rate in the SoR for crane of 35 tonnes capacity at ₹ 550 per hour. In addition, charges of oil, lubricants and food charges, which were not admissible, were also included in the item rate. Adoption of rate of ₹ 825 per hour, which was applicable to higher capacity crane inflated the estimates. Inclusion of other charges further increased the estimated cost. This led to avoidable extra cost of ₹ 4.06 crore. As of August 2017 ₹ 3.37 crore had already been paid to the contractor as detailed in *Appendix 2.1.3*.

The Government stated (September 2017) that the item of dumping armory stone boulder weighing up to four metric tonnes in rip-raps, spurs and slope protection work was not in Analysis of Rate published by Works Department, Odisha. Hence analysis of this item approved by the Paradeep Port Trust was adopted by the Division.

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<sup>9</sup>Large stone used to form a foundation for break water and other structures.

<sup>10</sup>A ground covering of concrete or other materials used to protect underlying earth from water erosion.

<sup>11</sup>Structure protecting river bank from flood

<sup>12</sup>Balasore Irrigation Division, Nimapara Irrigation Division and Prachi Irrigation Division

The reply was not acceptable since higher hire charges applicable to crane of 80 tonnes capacity was adopted although the work could have been done using 35-tonnes capacity. Also, Schedule of Rates had already prescribed hire charges for crane of 35-tonnes. Further inclusion of charges of oil, lubricants and food charges was also not admissible.

### 2.1.14 Shortcomings in execution of works

Technical sanction accorded to estimates indicates that the proposal is structurally sound and is based on adequate data. After award of works, the Executive Engineer is expected to get the works executed by the contractor as per the terms and conditions of contract. Deficiencies observed in execution of works are given below:

#### 2.1.14.1 Delays in commencement of works

DTCN stipulated that execution of works shall commence from 15<sup>th</sup> day or such time period as mentioned in letter of award or from the date of handing over of the site whichever is later.

Audit observed that in seven divisions, 85 works for ₹ 45.24 crore were awarded between April 2013 and December 2016 for completion between August 2013 and November 2017. The works were not taken up for execution within the stipulated time. As a result, the commencement of works was delayed.

The Government accepted the factual position and stated (September 2017) that in some cases delays in commencement was due to unauthorised encroachment of site and inclement weather condition. The Government further stated that action would be taken against the contractors as per the clauses of the contract.

The Government reply was not acceptable since Divisional Officer had inspected the site before preparation of estimates and encroachment if any and seasonal factors should have been considered before award of works.

#### 2.1.14.2 Variations in quantities during execution

Para 3.2.7 of OPWD Code stipulated that detailed estimate is to be prepared based on adequate data. For this purpose, the Divisional Officer is required to visit the work spot. Further, as per Para 6.3.18 of the Code, no payment can be made for works where excess was more than 10 *per cent* of approved cost until a revised administrative approval is accorded. Check of records showed that in eight<sup>13</sup> divisions, there were wide variations between the agreed quantities and quantities executed. 11 contracts were identified with variations. In execution of 32 items viz. earth work, stone work, cement concrete work, use of steel materials, such variations ranged from 30.11 to 743.38 *per cent*. Value of excess items executed worked out to ₹ 8.80 crore. The above variations indicated inaccuracy in preparation of estimates.

Expenditure exceeded estimates by more than 10 *per cent* of approved cost in three out of 11 contracts. It was, however, observed that in anticipation of

**In seven divisions 85 works for ₹45.24 crore were not commenced within 15 days as required under DTCN.**

**In 11 contracts, ₹ 8.80 crore was paid towards variations in quantities in different items without approval.**

<sup>13</sup> Mahanadi South, Jagatsinghpur Irrigation, Aul Embankment, Prachi Irrigation, Puri Irrigation, Kendrapara Irrigation, Jaraka Irrigation and Jajpur Irrigation Division.

revised approval, ₹ 5.69 crore had already been paid violating the provisions of OPWD Code.

The Government stated (September 2017) that quantity variations were due to site condition, change of design and drawing during execution. The above variations were approved by the competent authorities.

The reply was not acceptable since Divisional Officers had visited the work sites before preparation of estimates. These are wide variations from the agreements which indicate inadequate survey/investigation of site.

**2.1.14.3 Delays in execution of works contracts**

Detailed Tender Call Notice stipulated that time allowed for carrying out a contract shall be strictly observed by the contractor. The contractor shall pay, as compensation, an amount equal to half *per cent* of the estimated cost for every day that the work remains un-commenced, or un-finished. The above compensation to be paid shall not exceed 10 *per cent* of the estimated cost of work.

During test check of 15 divisions, it was observed that 618 contracts awarded for execution during 2012-17, were not completed within the stipulated period. Out of 618 contracts, the reasons for delay in respect of 310 contracts were not given by the Department. Of the remaining 308 contracts, in 61 contracts the works were delayed due to general election, land not being available and for want of approved design. The above constraints were beyond the control of the contractors. Reasons for the delay in respect of remaining 247 contracts are shown in the table below:

**In 15 divisions 618 contracts out of 2767 contracts were not completed within the stipulated date.**

**Table No.2.4: Details of delay in execution of works attributable to contractors**

Sl. No.	Reasons for the delay	Number of contracts
1	Rainy season	204
2	Materials were not available	19
3	Reasons attributable to contractors	24
	<b>Total</b>	<b>247</b>

*Source: As per information collected from field units*

Audit noted that contractors were responsible for above delay assigned by the department. The period of contract had been fixed considering the rainy season. As per the contract condition, ₹ 39.79 crore being 10 *per cent* of estimated cost (₹ 397.92 crore) of the work should be recovered as compensation for delay. However, no recovery was made from the contractors for the above compensation.

The Government stated (September 2017) that execution of irrigation works depends upon rainy season, extreme heat wave condition, problems in land acquisitions, shifting of utilities, etc. The Government further stated that cases where reasons for delays were attributable to the contractors, the compensation would be imposed and recovered.

The reply was not acceptable as the department should have ensured encumbrance free land and shifting of utilities before award of works to contractors. The period of contract had been fixed considering the rainy

season. Further, no action had been taken for levy of compensation during the last five years.

#### 2.1.14.4 *Refund of security deposits before expiry of defect liability period*

Para 3.5.20 of OPWD Code stipulated that contractors shall be required to deposit one *per cent* of estimated cost of work as initial security at the time of acceptance of tender. The DTCN states that contractor shall be responsible to make good the defects which may develop or may be noticed before expiry of one year from the date of completion.

Security deposit of ₹ 1.21 crore in 80 contracts were refunded before expiry of one year of completion.

Audit observed that in six<sup>14</sup> out of 15 test checked divisions, security deposits of ₹ 1.21 crore in respect of 80 contracts had been refunded before expiry of one year. The period of early release ranged from 44 to 361 days.

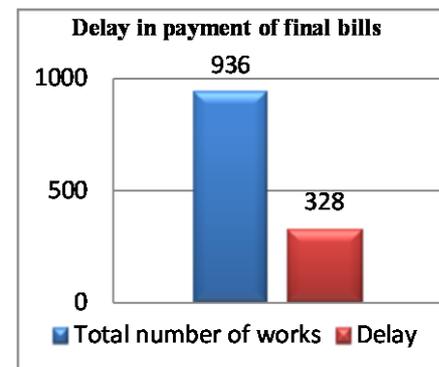
The Government accepted the factual position and stated (September 2017) that in some cases security deposits had been refunded inadvertently. Action would be taken against the contractors, if defects were noticed.

The Government reply was silent as regards action against officials for undue refund of security deposit.

#### 2.1.14.5 *Delay in payment of final bills*

In 328 works there was delay between the date of actual completion of work and payment of final bill.

DTCN forming part of a contract stipulated that intermediate payments to contractors shall be regarded as advance payment against final payment. The final payment is to be made against final bill. The final bill is generally prepared taking into account deviations in execution, if any as approved by competent authority. Para 3.5.29 of OPWD Code also stipulated that all payments due to the contractors for works done/services rendered should be settled not later than 60 days after completion of work. Audit observed that in 14 out of 15 test checked divisions, there were delays in payment of final bills in respect of 328 works. The reasons were want of approval for extension of time, deviations in scope of works and measurement of works not being found acceptable to contractors.



The Government accepted the factual position. It was stated (September 2017) that for want of final level section measurement and delay in grant of extension of time, the final bills had not been paid. This practice has been removed after introduction of e-payment/e-billing through Works Accounts Management Information System (WAMIS).

The Government accepted the factual position. It was stated (September 2017) that for want of final level section measurement and delay in grant of extension of time, the final bills had not been paid. This practice has been removed after introduction of e-payment/e-billing through Works Accounts Management Information System (WAMIS).

The reply was not acceptable since in the absence of preparation and payment of the final bills, the fact of completion of works in all respects was not assured. The reply was silent on the action taken against the officials responsible for not taking final level section measurement of work done and

<sup>14</sup>Berhampur Irrigation, Jajpur Irrigation, Baitarani Irrigation, Jagatsinghpur Irrigation, Boudh Irrigation and Puri Irrigation Division.

processing of extension of time. Further, the above practice unnecessarily kept the contracts alive.

#### **2.1.14.6 Completion certificate not prepared and submitted**

**In 515 works the completion certificates was not issued.**

DTCN stipulated that on completion of works, the contractor shall be furnished with a certificate that the work has been completed as per drawing and design. Audit observed that no completion certificates had been issued for 515 works with contract value of ₹ 192.81 crore. Reasons for not preparing completion certificates were not on record.

The Government stated (September 2017) that in respect of major works completion certificates had been issued on successful completion of works. It was to help the contractors to participate in future tenders. Efforts will be made for issue of completion certificates to each and every contractor in future.

The reply was not acceptable since in the absence of completion certificates, the fact of completion of works as per approved drawings and designs was not assured.

#### **2.1.14.7 Absence of check measurement**

**In 10 divisions, EEs had not check measured the works as required under OPWD Code.**

Appendix-II of OPWD Code Vol-II stipulated that Divisional Officer must check measure 10 *per cent* of the measurements of important and costly items. The object of check measurement is to detect errors in measurement, to prevent fraudulent entries and also to see that the works were executed as per specifications.

Audit observed that in 10<sup>15</sup> divisions, the EEs had not done check measurements. Reasons for the above lapse were not on record.

The Government stated (September 2017) that all work bills were presently generated through billing module and check measurement percentage was also entered in the bill.

The reply was silent as regards action against the persons responsible for not conducting check measurement.

#### **2.1.15 Idle investment as the bridge and embankment works were not completed**

**Work on two bridges and three flood protection embankments commenced without acquisition of land. As a result the works remained incomplete resulting in idle investment.**

As per Para 3.7.4 of OPWD Code, no work should be commenced on land which had not been duly made over by a responsible civil officer.

Audit noted that bridge works were commenced on the river bed before acquisition of land for approach roads to the bridges. Similarly embankment works for protection from flood were commenced before acquisition of required lands. As a result, the projects could not be completed. Status of these projects when last audited and their impact are summarised below:

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<sup>15</sup> Puri irrigation, Sambalpur irrigation, Jaraka irrigation, Salandi canal, Jagatsinghpur irrigation, Kendrapara irrigation, Mahanadi North, Mahanadi South, Prachi irrigation and Baitarani irrigation division.

Table No- 2.5 Details of projects remained incomplete for want of land

Sl No	Name of the work	Observation in brief	Impact
1	Construction of bridge across river "Salandi"	Construction of Bridge across river Salandi was awarded (September 2013) for ₹ 2.15 crore to provide all-weather road for the people of Balibarei Gram Panchayat. The work was due for completion by August 2014. As of September 2016, the bridge work was completed with an expenditure of ₹ 1.89 crore. The approach road remained incomplete since the required land was not acquired.	The bridge work completed at a cost of ₹1.89 crore remained idle. As a result communication facility could not be provided to people in Balibarei Gram Panchayat.
2	Construction of high level bridge across Ganda nallah near Jokadia	Construction of High Level Bridge across Ganda Nallah near Jokadia was awarded (March 2009) for ₹ 4.94 crore for completion by September 2010. This would provide communication facility with Jajpur Road for 20,000 people of four Gram Panchayats. The contractor stopped the work from January 2014 as land was not acquired. So far, the contractor executed work valued at ₹ 5.02 crore for bridge and portion of left approach road. The right approach road was, however, not commenced.	The bridge and left approach road completed at a cost of ₹5.02 crore remained idle. As a result communication facility with Jajpur Road for four Gram Panchayat not provided.
3	Construction of flood protection embankments on right side of Baitarani river near Ghasipura Block	Construction of flood protection embankment on right side of the river Baitarani was awarded (January 2014) to OCC for ₹ 14.58 crore. The work was scheduled for completion in July 2015. As of August 2016, embankment measuring 9.450 km against the total length of 10.300 km was completed with an expenditure of ₹ 9.40 crore. The remaining 850 meter could not be completed as land was not acquired and design of sluice and road crossing was not finalised.	The embankments completed partially with investment of ₹9.40 crore did not serve the purpose of flood protection.
4	Flood protection embankment for Brahmani Kelua Birupa Doab	The work of flood protection of Brahmani Kelua Birupa Doab was approved for ₹ 62.32 crore. The work was taken up to protect the lives and property of 160 villages and Kharif Crop of 18000 ha. The project was split into seven packages. Out of seven packages, five packages were completed with expenditure of ₹ 46.87 crore. As of May 2017, the remaining two packages (Package V and I) for 4.735 km remained incomplete for want of required land. The work involved acquisition of private land. An expenditure of ₹ 7.36 crore was incurred on two packages.	Construction of flood protection embankment leaving a gap of 4.735 km resulted in idle investment of ₹ 54.23 crore.

<b>Sl No</b>	<b>Name of the work</b>	<b>Observation in brief</b>	<b>Impact</b>
5	Restoration to Banamalipur Gherry from RD 00 to 4320 meter	The work Restoration to Banamalipur Gherry <sup>16</sup> from RD 00 to 4320 meter was awarded to OCC in January 2013 for ₹ 4.24 crore. This would protect Banamalipur village from flood. As of August 2016, raising and strengthening of existing embankment had been completed at a cost of ₹ 2.56 crore. The work of new embankment could not be taken up as the land owners did not spare their land.	Construction of new embankment was not completed as a result flood protection was not assured. Investment of ₹ 2.56 crore on completed work did not serve the intended purpose.

The Government stated (September 2017) that in respect of in Sl. No.1, 2 and 5 the works were taken up in anticipation of completion of land acquisition process. However, land owners demanded higher compensation and persuasion with land owners failed. The Government further stated that the alignment of approach road was changed to provide communication in respect of work at Sl. No 1. In respect of works at Sl No. 3 and 4 even when a portion of embankment was not constructed, the villages were protected from floods.

The replies were not acceptable since the bridges and embankments were commenced without acquisition of land as a result the works remained idle. The work was not over as land acquisition process was not completed for work at Sl. No. 1. There was a gap of 850 meter and 4.375 km respectively in respect of work of embankments at Sl. No. 3 and 4. Also the protection of life and property of the villages from floods was not assured as other portions of embankment remained incomplete.

**2.1.16 *Inordinate delay in completion of projects due to lack of proper design***

**Completion of two bridge works was delayed due to lack of proper design.**

As per Para 3.4.17 of OPWD Code, before detailed estimates for bridges are made, as many trial pits or borings as are considered necessary should be taken for each pier and abutment. It is necessary to make a careful preliminary investigation of the sub-soil in order to ascertain exact nature of strata. It was observed that due to faulty design, the following two bridges remained incomplete and their impacts are given below:

<sup>16</sup>Gherry means an embankment to protect from flood

**Table No.2.6 Details of projects remaining incomplete due to lack of proper design**

Sl No	Name of the work	Observation in brief	Impact
1	Construction of bridge across river Bhargavi near Malisahi	The estimate for construction of a bridge across the river Bhargavi near Malisahi was sanctioned in May 2008. This would reduce the distance of eight villages including Malisahi to district headquarter Puri. The work was awarded (November 2008) to a contractor for ₹ 1.56 crore for completion by October 2009. During execution, the department observed heavy seepage after excavation requiring change of design. The department could not supply drawings in time. As a result, the contractor could not complete the work. The designs of the six out of eight piers were supplied in November 2010 only after one year of stipulated date of completion. The bridge work remained incomplete as of September 2017.	The inadequate investigation of soil strata of river bed led to faulty design. As a result, the pier work could not be completed. Thus, the objective of reducing distance of eight villages to District headquarters Puri remained unachieved.
2	Construction of high level bridge over Pandra Nallah	Construction of high level bridge over Pandara Nallah <sup>17</sup> at village Atta estimated to cost ₹ 6.58 crore was sanctioned in December 2008. This would provide communication facility to the people of eight villages. The work was awarded for ₹ 6.57 crore in March 2009 for completion by September 2010. The project could not be completed due to delay in acquisition of land and for finalisation of drawings of right embankment. As of March 2017, an expenditure of ₹ 10.24 crore had been incurred including the payment of price escalation of ₹ 2.13 crore.	The award of work without adequate investigation and proper design resulted in time overrun of three years and eight months besides cost overrun of ₹ 3.67 crore.

The Government in reply accepted the factual position and stated (September 2017) that the works would be started after rainy season. The Government further stated that change in drawing and design was due to change of sub-soil strata and the price escalation was paid as per contract conditions.

The fact, however, remained that the bridge remained incomplete for eight years due to faulty design. Further, the reply indicated that the survey and investigation was inadequate resulting in time and cost overrun.

### **2.1.17 Award of works without budget provision**

Para 3.7.1 of Odisha Public Works Department Code stipulated that no work shall be commenced or liability created unless allotment of funds has been made. Further Rule 126 of Odisha Budget Manual stipulated that a sanction

<sup>17</sup> Watercourse

**In five divisions, 213 works were awarded in anticipation of allocation violating OPWD Code and Budget Manual.**

becomes operative only when funds are appropriated to meet it. The EEs of five<sup>18</sup> divisions, on the direction of Principal Secretary to Government, awarded 213 works for execution from September to December 2016 in anticipation of allotment during 2017-18. This had violated the provisions of OPWD Code and Budget Manual.

The Government accepted the factual position and stated (September 2017) that the projects were undertaken in order to address the emergent situation and for timely execution of works.

The reply was not acceptable since there is no provision in OPWD Code and Budget Manual exempting execution of work without budget provision.

### **2.1.18 Availability and sustainable management of water**

Sustainable Development Goal formulated by the United Nations Open working group stipulates that access to safe water, sanitation and sound management of fresh water, ecosystem are essential to human health, environmental sustainability and economic prosperity.

Audit noted that two projects were taken up with objective of providing irrigation to 4850 ha of land. Further, one project was taken up to provide 75 MLD<sup>19</sup> of drinking water to Puri town. The above objectives were not achieved due to delay in acquisition of land as discussed below.

#### **2.1.18.1 Construction of canal before ensuring water resulting in blockage of funds**

To provide irrigation to Cultivable Command Area (CCA) of 2350 ha of land, construction of Nuagaon distributary<sup>20</sup> under Rushikulya Irrigation System was approved (November 2010) for ₹ 24.49 crore. Detailed Project Report envisaged construction of 13.00 km Nuagaon distributary, construction of 11.00 km sub- minors<sup>21</sup>, Head Regulator<sup>22</sup>, Cross Drainage<sup>23</sup> works etc. An expenditure of ₹ 14.37 crore was incurred on construction of Head Regulator, sub-minor, and shifting of utility services including acquisition of land, as of February 2017.

Audit noted that one package<sup>24</sup> of the work for construction of Nuagaon distributary was awarded to a contractor for ₹ 2.42 crore for completion by December 2014. The required land was not handed over by the Department and existing KV line was not shifted from the site. The contractor abandoned the work after execution of work for a value of ₹ 48.88 lakh. The agency requested to close the contract. The closure proposal was submitted (July 2015) to Superintending Engineer, Southern Irrigation Circle, Berhampur. This was not approved till the date of audit.

**Nuagaon distributary remained incomplete with an expenditure of ₹ 14.37 crore as the required land was not acquired. As a result the objective of providing irrigation to 2350 hectare of land was not achieved.**

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<sup>18</sup>Kendrapara Irrigation, Jaraka Irrigation, Aul Embankment, Puri Irrigation and Mahanadi North Division.

<sup>19</sup>Million Litres per day

<sup>20</sup> Distributary: - A stream that flows away from a main stream channel.

<sup>21</sup> Sub-minor: -Small canal provided water to field for irrigation purpose.

<sup>22</sup> Head Regulator: -Structure at the head of canal taking off from a reservoir may consist of number of spans separated by piers and operated by gates.

<sup>23</sup> Cross Drainage: -When a natural drain crosses or intercepts an irrigation canal it becomes necessary to construct some suitable structure to carry forward the canal safely. As these works are constructed for crossing the drainage, they are termed as cross drainage work.

<sup>24</sup> Package III from RD 3810 meter to 4860 meter

Further, it was observed that another package<sup>25</sup> was awarded to a contractor for ₹ 2.66 crore for completion by January 2015. The contractor could not take up the work for want of required land and requested to close the contract without imposition of penalty. The Superintending Engineer, Southern Irrigation Circle, Berhampur approved (Aug 2016) the closure proposal without penalty. The work remained incomplete as of May 2017. Thus, the objective of providing irrigation to 2350 ha of land was not achieved.

The Government stated (September 2017) that, notifications for acquisition of land were issued by Government between April 2011 and March 2013. The required land could not be acquired due to implementation of new Land Acquisition Act with effect from 1 January 2014.

The reply was not acceptable as the decision to award the work before completion of land acquisition process led to idle investment. It defeated the very purpose of providing irrigation facilities to 2350 ha of land.

### **2.1.18.2 Idle investment on construction of pond, embankment and structures**

Construction of Pond, Embankment and other structures at Samanga area was taken up to provide 75MLD of drinking water for Puri town. The work comprised construction of storage pond of 1.41 lakh square metre, structure across Dhaudia Nalla, inlet and outlet structures with bridges. Two contracts<sup>26</sup> were awarded for ₹ 111.57 crore in March 2010/August 2013 to OCC for construction of control structure on Bhargavi river for completion in March 2012/July 2015.

Odisha Construction Corporation was paid ₹ 46.60 crore as of May 2017 for both the contracts. The works remained incomplete as the land was not acquired. It was observed that for acquisition of 195.07 out of 417.72 acres of private land, the villagers demanded higher compensation. Hence cost of land had been deposited in the High Court by the Land Acquisition Officer, Puri.

The Government stated (September 2017) that land owners demanded higher compensation. The matter was taken up with Collector, Puri to settle the issue.

The fact remained that awarded works could not be completed for want of land. It defeated the very purpose of providing drinking water besides rendering the investment idle.

**Construction of pond, embankment and structures remained incomplete resulting in idle investment of ₹ 46.60 crore.**

<sup>25</sup> Package I from RD 210 meter to 2100 meter

<sup>26</sup> (i) Construction of control structure of Gobkund Cut near RD 37.500 km of Bhargavi river-Agreement value ₹ 19.97 crore and (ii) Construction of Pond embankment and other structures at Samanga area – Agreement value ₹ 91.60 crore.

**2.1.18.3 Delay in project completion due to design errors resulting in the objectives being unfulfilled**

**A Creek Irrigation Project remained incomplete as the design was not proper. As a result the objective of providing Creek Irrigation to 2500 hectares of land was not achieved.**

Akhadasahi Creek Irrigation project in Mahakalpada Block of Kendrapada District with an estimated cost of ₹ 5.65 crore was sanctioned in March 2013. It was for providing creek irrigation to 2500 ha of land and checking the saline ingress<sup>27</sup> of 5500 ha land. The work was awarded to OCC in October 2013. Their negotiated offer amount was for ₹ 6.99 crore which was 27.71 per cent above estimated cost for completion by April 2015.

During execution of work, OCC requested for change in drawing and design anticipating heavy seepage during open excavation. This was due to flow of river Mahanadi along its side. The revised drawing for drainage sluice was approved (October 2014) by Chief Engineer, Designs, Water Resources, Bhubaneswar. Due to change of drawing and design of drainage sluice, the estimate was revised (April 2016) to ₹ 10.30 crore. This exceeded original estimated cost by ₹ 4.65 crore. As of August 2017, against the advance of ₹ 6.80 crore to the contractor, ₹ 5.26 crore was adjusted. Thus, the award of work without adequate site investigation and proper design delayed the project completion and availability of water over two years (March 2017). As a result, the objective of providing creek irrigation to 2500 ha of land could not be fulfilled.

The Government stated (September 2017), that the delay was mainly due to revision of sluice drawing as per technical requirement and demand of site condition.

The reply was not acceptable since revision of drawing was due to inadequate survey and investigation which led to change of design during execution.

**2.1.19 Quality Control and Monitoring**

**2.1.19.1 Quality check by Quality Control Divisions**

**Compliances to defects noticed in 2996 samples by the Quality Control Divisions were not submitted.**

Twenty one Quality Control Divisions have been functioning in the State to ensure execution of work as per specifications and for checking quality of materials to be used in works. Records in three Quality Control Divisions at Berhampur, Cuttack and Bhubaneswar were reviewed. During 2012-17 the above divisions had received 18915 samples of materials to be used in the work from 11 Divisions<sup>28</sup>. Out of 18915, 17099 samples were tested. Defects were observed in 2996 cases. The test reports pointing out the defects were sent to the divisions concerned for compliance. It was, however, observed that the divisions had not submitted compliances to the observations.

The Government accepted the facts and stated (September 2017) that materials of unsuitable samples as pointed out in the test reports were not used in the work. The Government further stated that a digital Management Information System would be introduced soon to ensure effective control.

The fact remained that the existing control mechanism did not ensure the

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<sup>27</sup>Protecting crops from saline water

<sup>28</sup>Puri Irrigation, Prachi Irrigation, Mahanadi South, Mahanadi North, Kendrapara Irrigation, Aul Embankment, Jajpur Irrigation, Jagatsinghpur Irrigation, Jaraka Irrigation, Berhampur Irrigation and Bhanjanagar Irrigation Division.

required quality of materials used.

### **2.1.19.2 Quality checks by State Quality Monitoring Cell (SQMC)**

**Action Taken Reports in respect of 562 cases of defective execution were not submitted.**

To strengthen the existing quality control and assurance arrangement, one State Quality Monitoring Cell (SQMC) was constituted in March 2008.

Engineer-in-Chief, Planning & Designs was the chairman of the SQMC. The SQMC performed quality tests through State Quality Monitors. In 15 test checked divisions, SQMC received details of 1921 works for quality checks and tests were done in 1733 works. During 2012-17 after the quality tests, in 690 cases defective execution of works was observed. SQMC called for Action Taken Reports (ATR) from the implementing divisions. ATRs, however, were received only in respect of 128 out of 690 cases. For the remaining 562 cases ATRs were not received.

The Government stated (September 2017) that to ensure specification and quality of work, the Quality Monitoring Cell received compliance reports. The SQMC verified those reports to ascertain the rectifications/corrections made. The field EEs had also been requested time and again to provide compliances.

The reply was, however, silent regarding failure of implementing divisions to submit compliances for 562 ATRs where the defects may have continued to persist.

### **2.1.20 Lack of management meetings**

**Management Meetings as required under OPWD Code was not held at divisions to review bottlenecks in implementation of works.**

Para 2.5 of OPWD Code and DTCN stipulated that either the Engineer or the Contractor may require the other to attend a management meeting. The business of this meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with early warnings. Audit observed that no management meeting had been held to find solution to hurdles or bottlenecks in implementation of contracts.

The Government stated (September 2017) that the discussions were held frequently with contractors at work sites on progress of works and other issues. But documentations were not done.

The reply was not acceptable since documentation of proceedings and decisions taken in those meetings were vital for ensuring progress of works as per specifications. Documentations were required for fixing responsibility and avoiding disputes with the contractors in future.

### **2.1.21 Conclusion**

Audit examination showed that there were delays at every stage of the contract process i.e. issue of letter of acceptance, signing of agreements and execution of works.

E-tendering introduced (January 2009) is yet to be fully utilised as all the required details were not uploaded on the portal.

Contracts were awarded to Odisha Construction Corporation on nomination basis. It was observed that only 34 *per cent* of works awarded to OCC were completed in time. The department had not imposed penalty for failure to complete the work in stipulated time.

Many projects remained incomplete due to award of work before acquisition of land and finalisation of design. This indicated poor contract management.

The shortcomings in preparation of estimates inflated the unit rate and it resulted in extra expenditure.

The Quality Control Divisions and State Quality Monitoring Cell pointed out defects in quality of materials for use. Action taken reports were not, however, submitted and no follow up action was taken.

The required lands were not acquired for three water management projects i.e. Nuagaon distributary, Akhadasahi Creek and Construction of pond at Samanga. As a result, the objective of providing irrigation to 4850 ha of land and drinking water to Puri town was not achieved.

#### **2.1.22            *Recommendations***

- Department of Water Resource needs to ensure that adequate action for acquisition of the required land is initiated well before award of contracts.
- To ensure transparent and effective contract management, details of activities from technical bid opening to award of work may be uploaded on the portal.
- Award of work on nomination basis to Odisha Construction Corporation needs review.
- Without exception, estimate of work should be prepared adopting Schedule of Rates and Analysis of Rates to avoid extra expenditure.
- To strengthen the Quality Control and Assurance arrangement, a digital management information system may be introduced.