

CHAPTER-III

Project Implementation

This chapter discusses issues related to financial management, execution of works including contract management and commissioning of the selected irrigation projects.

Audit objective 2: Whether project works were executed in an economic, efficient and effective manner.

Brief snapshot of the Chapter:

- Short release of fund *vis-à-vis* yearly demand affected the progress of works in Bansagar Canal Project (BCP). Expenditure management was not proper as financial liability amounting to ₹ 141.64 crore (BCP: ₹ 126.30 crore and Pahari Dam Project: ₹ 15.34 crore) was pending for want of funds even after completion of the projects.
- The contracts executed for the works of BCP was rescinded midway and the balance works were awarded to the new contractor. However, the quantum of work of old rescinded contracts was enhanced while carrying over these quantities in new Bill of Quantities.
- The tendering was not transparent and provision of allowing price adjustment was incorporated in bid documents belatedly, after the technical bid evaluation, resulting in favour to few bidders. Further, Department fixed share of Labour and Petrol Oil and Lubricant (POL) for price adjustment on *ad hoc* basis without ascertaining estimated/actual proportion of these components in entire work.
- In Lahchura and Pahari Dam Projects, contracts were awarded to bidders who did not fulfil the eligibility criteria to participate in the bidding process.
- Large variations in the quantity of the contracts occurred and the Chief Engineers (CE) approved such variations exceeding the delegated financial powers.
- In BCP, CE granted time extensions of 52 months to the contractor to complete all 94 works without analysing case to case justification for such extension. As a result, 34 works not affected with the hindrances were also granted time extension.
- The structures of the canal networks were not properly maintained due to insufficient funding.

3.1 Introduction

Subsequent to formulation and approval of the project, the process of implementation of projects should be started by allocation and availability of funds, acquiring required land, concluding contracts, *etc.* The execution of projects' works should be monitored rigorously to ensure completion of

project within the stipulated cost and time so that project deliverables could be made available timely and desired benefits delivered.

3.2 Financial management

Audit observations related to financial management of selected projects have been discussed in the succeeding paragraphs:

3.2.1 Financial Management: Bansagar Canal Project (Uttar Pradesh)

3.2.1.1 Allotment and expenditure thereagainst

The project received funds from the State budget during 1996-21. The Government of India (GoI) also provided financial assistance in the form of loan during 1997-98 to 2004-05 and grants-in-aid during 2004-19 under Accelerated Irrigation Benefit Programme (AIBP). The central assistance including loan was released for the project by making budgetary provisions in the Annual State budget. Year-wise details of allotment and expenditure during 1996-21 have been given in *Appendix-3.1* and summarised in **Table 3.1**.

Table 3.1: Year-wise position of funds

Year	Central Loan Assistance / Central Assistance			State share	Grand Total	Expenditure
	Loan	Grant-in-aid	Total			
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)=(4)+(5)	(7)
1996-1997 to 2013-14	219.80	544.81	764.61	1715.13	2479.74	2479.74
2014-2015	0.00	47.92	47.92	117.27	165.19	165.19
2015-2016	0.00	55.04	55.04	54.96	110.00	110.00
2016-2017	0.00	64.64	64.64	132.36	197.00	197.00
2017-2018	0.00	63.36	63.36	133.62	196.98	196.98
2018-2019	0.00	15.51	15.51	166.49	182.00	180.76
2019-2020	0.00	0.00	0.00	50.5	50.50	50.50
2020-2021	0.00	0.00	0.00	39.2	39.20	39.20
Total	219.80	791.28	1011.08	2409.53	3420.61	3419.37

(Source: CE, BCP, Prayagraj)

The expenditure of ₹ 3,419.37 crore includes ₹ 517.56 crore paid to Madhya Pradesh Government on account of cost sharing of three structures, viz., Bansagar dam (₹ 459.66 crore), common water carrier (₹ 40.04 crore) and common water feeder (₹ 17.86 crore) under Bansagar Project. Apart from the expenditure incurred on the project as depicted in **Table 3.1**, a financial liability of ₹ 12.61 crore on account of pending payments related to works (₹ 12.15 crore) and purchase of land (₹ 0.46 crore) was outstanding in the three Divisions as of March 2021. Further, ₹ 45 crore deposited with Forest Department on account of rehabilitation work was yet to be recovered (March 2021), as the said rehabilitation of villages was not required.

The I&WRD, GoUP replied (July 2022) that liability of ₹ 46.38 lakh on account of payment for land purchase and ₹ 3.33 crore for the works remained pending which would be cleared on receipt of budget. Government further

added that correspondence was being made to get ₹ 45 crore from Forest Department.

The fact remained that even after commissioning of the project in July 2018 the financial liability under BCP remained unresolved (July 2022).

3.2.1.2 Short release of funds

Audit observed that release of funds for the project's work remained erratic during the course of implementation of BCP as the State Government released only 40 to 73 per cent funds against the yearly demands during 2014-20 by CE, BCP as detailed in **Table 3.2**.

Table 3.2: Release of funds against demand in BCP

Year	Requirement of funds	₹ in crore)	
		Demand of fund by CE, BCP (in per cent of assessed requirement)	Release of fund by the State Government (in per cent of fund demanded)
2014-15	363.09	234.59 (65)	165.19 (70)
2015-16	197.90	277.90 (140)	110.00 (40)
2016-17	300.00	322.00 (107)	197.00 (61)
2017-18	290.59	270.59 (93)	196.98 (73)
2018-19	271.33	265.54 (98)	180.76 (68)
2019-20	90.57	79.20 (87)	50.50 (64)
2020-21	47.93	39.20 (82)	39.20 (100)

(Source: CE, BCP, Prayagraj)

Audit noticed that CE, BCP was preparing annual work plan indicating requirement of fund and targeted physical progress. However, as detailed in **Table 3.2**, fund released by the State Government for the project remained less than the projected requirement which had consequential impact on physical progress of work. The yearly shortfall against the physical targets of various components of the project under annual work plan remained in the range of 27 to 89 per cent during 2014-21. In the variation statement of revised DPR, CE, BCP had also attributed short release of funds as one of the reasons for slow progress of work.

3.2.1.3 Irregular diversion of centage charges

As per State Government order of 2011, 2014 and 2017, provision of establishment charges (termed as centage charges) at the rate of 6.875 per cent was to be made in the estimates for subsequent remittance into the revenue head of the State Government.

According to the assessment made by the Department, the revised cost of the project ₹ 3,420.24 crore included centage charges amounting to ₹ 177.72 crore¹. Audit, however, observed that centage charges amounting to ₹ 45.61 crore only was deposited (March 2021) into the revenue head of the State Government, whereas the remaining amount of centage charges (₹ 132.11 crore) was irregularly diverted on the project works.

The State Government in its reply stated (July 2022) that during the year 2014-15 to 2021-22, a total amount of ₹ 886.33 crore had been spent on the

¹ At the rate of 6.875 per cent on the work cost of ₹ 2,585.08 crore.

works. Accordingly, total centage charge due was ₹ 57.02 crore against which ₹ 55.21 crore had been deducted till 2021-22 and the remaining amount of centage charges would be paid after allotment of budget.

The reply is not acceptable, as State Government had already released ₹ 177.72 crore towards centage charges on the project out of which only ₹ 55.21 crore was deposited (March 2022) under revenue head of Government account. Hence, there remained irregular diversion of ₹ 122.51 crore towards other expenditure on the project, viz., payment of price escalation, land cost, etc.

3.2.2 Financial Management - Lahchura and Pahari Dam Projects

3.2.2.1 Allotment and expenditure thereagainst

Lahchura Dam Project received funds from the State budget. Apart from this, project also received Central Financial Assistance (CFA) amounting to ₹ 72.48 crore under AIBP from the GoI during 2005-2011 and loan assistance amounting to ₹ 157.28 crore from NABARD during 2009-10 to 2014-15. Year-wise details are given in **Table 3.3**.

Table 3.3: Allotment and expenditure of funds to Lahchura Dam Project

(₹ in crore)

Year	Central Loan Assistance/Central Assistance			State Share	Grand Total	Expenditure
	NABARD Loan	Grant	Total			
(1)	(2)	(3)	(4)=(2)+(3)	(5)	(6)=(4)+(5)	(7)
Up to 2010	46.66	47.23	93.89	87.27	181.16	181.16
2010-11	40.50	25.25	65.75	2.14	67.89	67.89
2011-12	22.48	0.00	22.48	1.18	23.66	23.66
2012-13	12.61	0.00	12.61	0.66	13.27	13.27
2013-14	9.50	0.00	9.50	0.50	10.00	10.00
2014-15	25.53	0.00	25.53	6.79	32.32	32.32
Total	157.28	72.48	229.76	98.53	328.30	328.30

(Source: Maudha Dam Construction Division-I, Mahoba)

Further, Pahari Dam Project was provided funds from State budget (₹ 131.88 crore) and loan from NABARD (₹ 222.32 crore) during 2009-10² to 2017-18. Year wise cumulative position of allotment and expenditure is given in **Table 3.4**.

Table 3.4: Allotment and expenditure of funds to Pahari Dam Project

(₹ in crore)

Year	Allotment	Expenditure
2009-10	20.00	20.00
2010-11	31.28	31.28
2011-12	25.40	25.40
2012-13	20.28	20.28
2013-14	0.00	0.00

² Project was started in 2009-10.

Year	Allotment	Expenditure
2014-15	134.75	134.75
2015-16	80.00	80.00
2016-17	20.00	20.00
2017-18	22.49	22.49
Total	354.20	354.20

(Source: Irrigation Construction Circle, Mahoba)

Audit observed following irregularities in the expenditure management as discussed below:

3.2.2.2 Irregular diversion of stock and inflated expenditure

Audit observed that Executive Engineer Irrigation Construction Division, Mauranipur (EE) transferred stock material (cement and steel etc.) aggregating to ₹ 16.28 crore procured out of budget allotment of the Pahari Dam Project to the two Divisions of another project, viz., Arjun Shayak Pariyojna (Irrigation Construction Division 3rd Lalitpur and Maudaha Dam Construction Division 1st Mahoba) during 2014-16 for utilisation on the project other than Pahari Dam Project. However, concerned Divisions neither returned the stock material nor made payment in lieu of the stock material as of October 2021.

Further, EE made advance payment amounting to ₹ 2.07 crore to Pariyojana Bhandar, Kanpur in spells during October 2014 to October 2017 for supply of cement. However, the supply of cement was not received as of October 2021, despite correspondence in this respect by the EE to the Pariyojana Bhandar.

Therefore, the expenditure charged on the Modernisation of Pahari Dam Project was inflated by ₹ 18.35 crore.

The State Government stated (July 2022) that correspondence was being made with the concerned Divisions regarding refund/payment of stock material.

3.2.2.3 Pending liabilities

Audit observed that payment of ₹ 10.35 crore in both the agreements³ for Pahari Dam Project was pending as of October 2021 for want of funds. Further, ₹ 4.99 crore related to centage charges, which was required to be deposited in the Government account, was diverted for the project work unauthorisedly. This had also resulted into creation of financial liability of ₹ 4.99 crore on account of payment of centage charges in the Government account.

The State Government stated (July 2022) that pending liabilities of ₹ 15.34 crore on account of contractual payments and centage charges would be cleared on availability of budget.

³ Agreement no.: 01/SE/2009-10 for construction of spill way of Pahari Dam and Agreement no. 01/SE/2014-15 for construction of gates of spillway of Pahari Dam

Execution of works

3.3 Contract Management in Bansagar Canal Project (Uttar Pradesh)

As discussed in Chapter I, Government of Uttar Pradesh executed construction work of Bansagar Feeder Canal, Adwa Barrage, Adwa Meja Link channel, Meja Jirgo link channel and remodeling of existing canals under BCP. Major components of BCP were as follows:

Table 3.5: Major components of Bansagar Canal Project (Uttar Pradesh)

Sl. No.	Name of structure	Brief about the structure
1	Bansagar Feeder Channel (BSFC) (in MP)	A lined feeder channel having a length of 71.494 km and 46.46 cumec capacity has been constructed by the Government of Uttar Pradesh to supply water to 35.90 km long Aad Nala through which water flows to Adwa Barrage, as depicted in Figure 1.1 .
2	Adwa Barrage (in UP)	Adwa Barrage is constructed across river Adwa in UP at about 5.0 km downstream of MP and UP boundary to divert 46.46 cumec of water from Adwa barrage to Meja Dam.
3	Adwa-Meja Link Channel (in UP)	25.6 km long link channel having 46.46 cumec capacity is made to transfer water from Adwa Barrage to existing Meja reservoir.
4	Meja-Jirgo Link Channel (MJLC) (in UP)	74.13 km long MJLC was to be made for transferring 16.43 cumec of water from Meja reservoir to the existing Jirgo reservoir. MJLC was to feed Baraundha Distributary, Harrai Canal System, Lower Khajuri Canal System before its outfall in Jirgo reservoir.
5	Meja-Kota Feeder Channel (MKFC) (in UP)	3.577 km long MKFC having 9.21 cumec capacity was made to augment existing Kota Distributary (Dy), Upraudh Dy, Belwania Minor canal, etc.
6	Remodeling of old canals (in UP)	Remodeling works of Main canal / Branch canal / Dys and minors of canal systems were to be undertaken to carry additional water under BCP.

The work of BCP was taken up from 1997-98 at the cost of ₹ 330.19 crore with scheduled completion by 2004. Subsequently, due to slow progress of work by the contractors, the Department had taken a decision (July 2012) to rescind the ongoing contracts and to execute the balance work through a high value single contract to ensure early completion of the project works. Accordingly, 45 ongoing contracts were rescinded⁴ and balance quantity of works were calculated. The balance works were grouped in the form of 94 Bill of Quantities (BoQs). Notice for Inviting Tender (NIT) was issued in September 2012 for execution of the balance works of these 94 BoQs. The contract was concluded with M/s Ritwik Projects Private Limited (RPPL) in January 2013 at an agreed cost of ₹ 402.52 crore with the stipulated date of completion in January 2015.

⁴ The SE did not provide the details of old contract which were not rescinded and continued even beyond January 2013.

3.3.1 Determination of balance works

As discussed above, the Department arrived at the balance works of BCP and grouped these works in 94 BoQs of aggregated estimated cost of ₹ 403.46 crore (contract cost ₹ 402.52 crore). Scrutiny of records revealed that these 94 BoQs included balance works of 45 rescinded contracts as well as other such works which were not taken up then. It also came to the notice that the quantities of balance work of the rescinded contracts were changed while adding these to the new BoQs and in most of the items, the quantities taken in the new BoQs were much more than the balance quantities of the rescinded contracts. In this regard, audit test checked the related records and observed that in seven out of 10 contracts test checked, two to 10 items of balance works were included in the new BoQs by enhancing these balance works from 11 to 838 *per cent* (cost: ₹ 5.28 crore). This included one BoQ⁵ in which the quantity of excavation of other rocks was exceeded to more than 57 times. Details are given in *Appendix-3.2*

It was also noticed in audit that the records relating to the new BoQs did not give any details of the circumstances or reasons under which the quantum of balance works of the old rescinded contracts were enhanced while carrying over these quantities in the new BoQs. Therefore, the abnormal changes in the quantities of works were not verifiable in audit.

The State Government stated (July 2022) that after rescinding 45 old contracts, 94 new BoQs were prepared by including balance works of the old 45 contracts including fresh work of Adwa Meja Link Canal and some more new works sanctioned subsequently as per the requirement of the site.

The Government, however, did not provide reason for enhancing the balance quantities of the old rescinded contracts in the new BoQs. The fact remained that the balance quantities worked out by the Department were enhanced without any justification in the new contract which was also fraught with the risk of manipulation and over payments to the contractors.

3.3.1.1 Security deposit not forfeited

Audit further observed that out of 45 contracts rescinded by SE, in 11 contracts, which were rescinded on the ground of not adhering to the work programme of the contracts, the security deposit amounting to ₹ 1.74 crore was not forfeited as of March 2021 (*Appendix-3.3*) as was provided under the terms and conditions of the contract. Thus, the contractors were extended undue favour to this extent.

In reply, the State Government stated (July 2022) that action was being taken to finalise the 11 contracts and accordingly to forfeit the security deposit of the contractors.

3.3.2 Belated insertion of contract conditions

As per provisions of para 360 of Financial Handbook (FHB) Volume VI, tender should invariably be invited in the most open and public manner

⁵ BoQ no. 59018/MJ/11/DRX

possible, whether by advertisements in the Government gazette or newspapers so that all the prospective bidders may take cognizance of the work going to be executed by the Government and participate in the bidding process to make the process transparent and cost of work competitive and economic.

Audit observed that SE, Circle-2, BCP, Mirzapur (SE), invited (6 September 2012) pre-qualification bid for executing the balance works of BCP through a tender notice. Bids from the prospective bidders were to be obtained by 24 September 2012 and the same were to be opened on 25 September 2012⁶.

Further examination of records in this respect disclosed that four bidders were found eligible in the pre-qualification bid evaluation by the tender committee to take part in the financial bidding. The tender committee forwarded the offer to the four successful bidders on 17 October 2012 to submit the financial bids by 26 October 2012 which was further extended to 05 November 2012. In response, the four bidders submitted the financial bids which were evaluated by the tender committee on 05 November 2012. The tender committee found M/s Rithwik Projects Pvt. Ltd. (RPPL) as the lowest tendered bidder and the contract was accordingly executed in January 2013 with RPPL.

Meanwhile, in another development, the State Government decided (18 October 2012) to include price escalation clause in contracts for irrigation works to adjust the cost of items, such as steel, labour, petrol oil and lubricant (POL) and cement, according to market price index. Accordingly, SE submitted (20 October 2012) a proposal to include this clause in the contract and issued (31 October 2012) addendum to contract's special condition of contract by e-mail to four bidders. Simultaneously, an errata was also e-mailed providing for a new paragraph on price adjustment in the rate of aggregates. This changes in the condition of contract had fundamentally changed the bid and it was now remunerative for contractors to bid for the project who got protection against any price escalation. Therefore, the SE should have called for fresh bids in order to make it transparent. However, SE did not take any action except notifying the four bidders shortlisted after pre-qualification bids. Thus, the special condition of the contract was introduced in the middle of the tender process which restricted the competition only among the four bidders which were shortlisted after technical bid evaluation. Had the condition of price adjustment been promulgated at the time of NIT, other prospective bidders could participate in the bidding process.

Thus, the belated insertion of price adjustment clause lacked transparency, since only four bidders were informed about the change in payment conditions and one of them (RPPL) got the contract. It was observed that RPPL was paid ₹ 89.22 crore by March 2019 on account of price escalation on material (cement and steel), labour, POL and aggregates.

The State Government replied (July 2022) that contract conditions with regard to adjust the fluctuations in the prices of labour, cement and steel and POL due to the changes in the market price index were communicated to the four

⁶ Date of submission and opening of bids were revised on 27 September and 28 September 2012 respectively.

bidders shortlisted after technical bid evaluation before the date of submission of the financial bids.

The fact remained that the fundamental assumptions of NIT was changed due to introduction of price adjustment clause. However, instead of publishing it in open and public manner to attract more bidders for getting competitive bid, it was communicated to only four bidders shortlisted in the technical bid evaluation. Due to lack of transparency in the contract process as mentioned above, there was no assurance that the selection of bidder was fair and the contract was awarded at the lowest possible cost.

3.3.2.1 Unjustified payment of price adjustment

As discussed above, Special Condition of Contract (Addendum) envisaged payment of price adjustment to the contractor during the course of execution of work on account of change in the prices of labour, cement and POL. However, the contract did not specify the weightage of each component in percentage terms that would be applied for payment of price adjustments as per prescribed formula. Subsequently, a committee headed by SE, BCP decided (March 2015) that the applicable percentage on labour, POL, material (only steel and cement) for price adjustment formula in the contract would be 80 per cent, 15 per cent and 5 per cent respectively. The matter of undue benefit to contractor due to erroneous fixation of percentage weightage was raised by Audit (January 2019), as the Department had also allowed price adjustment on aggregates which was beyond the already provided 100 per cent weightage on price adjustments on labour, POL, material (only steel and cement). On being pointed out in Audit, another committee headed by SE, BCP revisited (January 2020) the earlier decision and reallocated the percentage share of the labour, POL and steel & cement at 51.85 per cent, 15 per cent and 17.76 per cent respectively in the same work.

Audit examined the related records and found that the percentage share of labour, POL and cement & steel determined in 2015 was based on the rates allowed in some of the old agreements executed way back in 1997-98 for execution of BCP works. The basis on which the percentage share of these components were determined in the agreements of 1997-98 was not available on record. The subsequent committee while revisiting the percentage share, retained the share of POL at 15 per cent and revised the percentage share of material (cement and steel) at 17.76 per cent, which was said to be determined on the actual basis.

For determining the percentage share of labour component, the committee kept cost of other material (7.14 per cent) and aggregates (8.25 per cent) out of the scope of price adjustment and considered the remaining share of cost of works ($100 \text{ per cent} - 48.15 \text{ per cent}^7 = 51.85 \text{ per cent}$) as labour component. Considering the entire remaining share of 51.85 per cent as labour component was incorrect, as the cost of work also involved contractor's profit (10 per cent) and Tools and Plant (2.5 per cent) over which price adjustment was not admissible and thus, should not be included in the labour component.

⁷ POL: 15 per cent + other material: 7.14 per cent + aggregates: 8.25 per cent + cement and steel: 17.76 per cent.

The inclusion of some other components in the cost of labour component could not be ruled out as the committee did not analyse the components comprehensively.

Pertinently, the Department in another irrigation project work, Saryu Canal Project (SCP), which was underway during same period to develop irrigation facilities in the eastern parts of the State determined the percentage share of labor and POL as 13.10 *per cent* and 11.47 *per cent* respectively⁸ for application in the price adjustment formula. SCP and BCP are both major irrigation projects in which concrete infrastructure along with digging deep canals were executed. Therefore, the Department could have adopted the same modalities and procedures for determining the percentage share of components in BCP for allowing price adjustment. Payment of price adjustment on labour and POL at uniform rates (13.10 *per cent* for labour and 11.47 *per cent* for POL), as adopted in SCP, payment on these components could have been only ₹ 23.21 crore as against actual payment of ₹ 63.14 crore to the contractor.

Substantial difference in the percentage share of labour and POL components (38.75 *per cent* in labour component and 3.53 *per cent* in POL component) between the two canal projects reflects lack of standardisation and too much discretion at the hands of the CE. The department was, therefore, required to examine the entire process of determination of percentage share of components of work cost in BCP.

In reply, the State Government stated (July 2022) that all the three components of price adjustment, *viz.*, Labour, POL, material (Cement and Steel) were determined by a committee constituted by Chief Engineer, Bansagar in March 2015 and re-fixed in January, 2020. The Government further added that BCP and SCP projects were not comparable as the work of BCP was carried out in hills of *Kaimur Range* and *Lower Vindhya Range* while the work of SCP was executed in the plain area between *Ghaghra* and *Rapti Rivers*.

Even if Government's argument that BCP and SCP had difference of terrain, the excavation of canals and creation of other pucca structures in the hilly areas were done mainly by breaking of rocks through blasting. In the work of canal construction in such types of difficult and mountain trenches, use of manual labour remains limited as works are executed using machines. Therefore, the use of labour and price adjustment on this component should have been less in BCP as compared to SCP. Moreover, the Government did not elaborate the basis for determination of percentage of labour and POL components in price adjustment. As such, the percentage of labour and POL taken and accordingly payment of price adjustment on these items to the contractor was not verifiable in audit.

3.3.3 Irregular grant of mobilisation advance

As per special conditions of the contract, mobilisation advance not exceeding five *per cent* of the contract value was to be paid to the contractor, if requested by the contractor. It was an interest free advance to contractor recoverable from the contractor's bills.

⁸ In SCP, price adjustment was provided to the contractor on two items *viz.*, labour and POL.

Scrutiny of records revealed that the project authorities paid (March, 2013 to March, 2015) mobilisation advance of ₹ 23.83 crore⁹ to RPPL against the maximum permissible advance of ₹ 20.13 crore. Thus, the contractor was extended undue benefit of ₹ 3.70 crore as an interest free mobilisation advance which was recoverable from its subsequent bills.

The State Government replied (July 2022) that mobilisation of ₹ 3.70 crore was allowed on extra item of work valuing ₹ 74.00 crore against the bank guarantee provided by the contractor in advance and the same had been adjusted against the bills of the contractor.

The reply of the Government was not acceptable, as the contract provided for granting of mobilisation advance to the contractor at the contracted cost and there was no provision for sanctioning mobilisation advance on the extra item of work allotted to contractor subsequently. It is noteworthy that in a similar situation of increase in the scope of work due to extra items of work, there was no provision to obtain additional performance security from the contractor in lieu of such increase.

3.4 Contract Management in Lahchura Dam Project

Lahchura Dam Project and connected Pahari Dam Project envisaged replacement of the existing weirs having falling shutters arrangement with a gated barrage. The construction work of Lahchura Dam Project was awarded to Engineering Projects (India) Limited (EPI) at the agreed cost of ₹ 61.84 crore in 2005 which was completed at an expenditure of ₹ 328.30 crore in March 2015 with a time overrun of seven years¹⁰. Subsequently, CE, Pariyozna Betwa, Jhansi made a proposal (2015-16) for execution of appurtenant works of Lahchura Dam Project (estimated cost: ₹ 21.69 crore) for some works¹¹ which could not be included in the original project and inevitably required to be done. Contract for executing the appurtenant work was awarded to M/s Hari Construction Co. Jhansi at an agreed cost of ₹ 13.69 crore in January 2016 which was completed in March 2017 at an expenditure of ₹ 19.30 crore.

For execution of works of Pahari Dam Project, SE executed two contracts with M/s Ghanaram (Engineers and contractors) in February 2009 at the agreed cost of ₹ 90.89 crore for construction of spillway and earthen embankment and with M/s Ghanaram Infra Engineers Pvt. Ltd. at the agreed cost of ₹ 90.40 crore in October 2014 for gates of spillway. The works under the two contracts were completed in November 2017 (and October 2017 at an expenditure of ₹ 200.19 crore and ₹ 101.62 crore respectively. The work of spillway was completed with delay of more than five years whereas the work of erection of gates in the dam was completed with a delay of one year from the schedule date of completion.

⁹ ₹ 10.06 crore by EE, BCCD-5, Mirzapur and ₹ 13.76 crore by EE, BCCD-8, Mirzapur.

¹⁰ Original schedule date of completion was in 2008.

¹¹ Construction of retaining wall on the left flank in the downstream of spill way (protection work), automation of flood gates (SCADA system), construction of approach road on the marginal bund, land scaping and development of part in the upstream of Lahchura Dam.

Significant audit observations have been discussed in the succeeding paragraphs:

3.4.1 NIT issued before sanction of work

Paragraph 370 of Financial Handbook, Volume VI prescribes that no authority may accept any contract for a work until an assurance has been received from the authority competent to provide funds for the same that such funds will be allotted before the liability matures. Paragraph 375 FHB Vol. VI further envisages that no work shall be commenced unless a properly detailed design and estimate have been sanctioned, allotment of funds made and orders for its commencement issued by the competent authority.

Audit scrutiny revealed that after completion of Lahchura Dam Project, the technical sanction for 'Construction of Appurtenant Works of Lahchura Dam' costing ₹ 21.69 crore was accorded (August 2015) by CE, Pariyojna Betwa, SE, Construction circle, Mahoba invited NIT in September 2015 and an agreement costing ₹ 13.69 crore for the work was executed by SE with the contractor in January 2016. However, the State Government accorded Administrative and Financial sanction of ₹ 19.30 crore for the project in July 2016. Thus, SE irregularly invited NIT, ten months before Administrative and Financial sanction for the project. Even agreement with the contractor was executed five month prior to receiving State Government's sanction for the project, which was irregular.

The State Government stated (July 2022) that the construction work under the agreement had been completed. However, the reply was not specific to the issue raised in the audit observation. The State Government may fix the responsibility of the erring officers responsible for irregular publication of NIT before administrative and financial sanction for the work.

3.4.2 Award of work to ineligible contractors

Government's order (2001) envisages that evaluation of technical and financial bids of the prospective bidders should scrupulously be done in an efficient and transparent manner during tendering process. The standards fixed for evaluation of technical bids should not be relaxed and changes in respect of the conditions of the bid evaluation would also not be allowed which should also be mentioned in the NIT. Financial bids of those bidders, who failed to qualify technical evaluation, would not be further entertained.

Audit observed that the conditions of NIT issued in September 2015 for the execution of work of appurtenant works required that contractor should be registered under 'AA category' having experience of execution of works of similar nature and value of work for construction of canal and have executed works valuing ₹ 15.00 crore in any one year during last five years. Two bidders, viz., M/s Ghanaram Infra Engineers Private Limited and M/s Hari Construction Jhansi participated in the bid for appurtenant work of Lahchura Dam Project and submitted their technical and financial bids. Audit found that M/s Hari Construction Jhansi was declared qualified in technical bid evaluation despite producing the documents of experience of works of lesser value at ₹ 8.13 crore which did not fulfil the NIT conditions. Moreover, being

the lowest bidder after opening of financial bid, the work was awarded to M/s Hari Construction Jhansi for appurtenant works of Lahchura Dam Project in January 2016. Thus, the work was awarded to an ineligible contractor. Pertinently, the work was completed with a delay of 11 months from the schedule date of completion.

Further, according to the guidelines issued in 1986 by the Irrigation Department, enlistment of contractors would be made separately for civil works and electrical/mechanical works. Contractors enlisted in a particular class would be entitled to tender in that category.

SE, Irrigation Construction Circle, Mahoba awarded works of construction of gates on the dam in the work of Pahari Dam Project to M/s Ghanaram Infra Engineers Pvt. Ltd. in October 2014 at the agreed cost ₹ 90.40 crore. Audit observed that in the tender document inviting bids from the prospective bidders, the Executive Engineer did not mention that the contractors registered under mechanical category would only be eligible for participating in the bid process for design, fabrication and erection of steel gates of Pahari Dam spillway. It was further observed in Audit that M/s Ghanaram Infra Engineers Private Limited was registered with I&WRD as 'AA' category contractor for executing the civil works and was not eligible for participating in the bidding for mechanical/electrical works. However, the contractor was allowed to take part in the bidding and subsequently was awarded the work. Pertinently, the contractor did not adhere to the completion schedule and could complete the work with a delay of one year from the schedule date of completion.

The State Government replied (July 2022) that the construction work under the agreement had been completed. However, the reply was not specific to the issue raised in the audit observations. Responsibility needs to be fixed on erring officers.

3.4.3 Short deposit of Performance Security

As per paragraphs 614 & 615 of the Financial Handbook, Volume VI, the contractor shall deposit securities (10 *per cent* of the face value of contract) within one week after his tender has been accepted.

Contrary to the provisions of the financial rules as well as conditions of NIT, in the work of 'construction of Pahari Dam spillway and its appurtenant works' out of ₹ 9.08 crore required to be deposited by the contractor on account of performance security, only ₹ 4.54 crore was obtained (February 2009) from the contractor at the time of executing the contract. CE had accepted (April 2009) the request of contractor that the remaining performance security amounting to ₹ 4.54 crore would be recovered from contractor's bill. However, the recovery of ₹ 4.54 crore was not made from the bills. Thus, the contractor was extended undue advantage of the same amount.

The State Government stated (July 2022) that the construction work under the agreement had been completed. However, the reply was not specific to the issue raised in the audit observations. State Government may fix the

responsibility of erring officers responsible for not recovering the performance security from the contractor.

3.4.4 Irregular grant of secured advance

In ‘construction of Pahari Dam spillway and its appurtenant works’ project (agreement no. 01/SE/2008-09), the Division paid ₹ 20.89 crore to the contractor as Secured Advance against the measured quantity of material brought to site. Similarly, in the work of BCP, secured advance amounting to ₹ 15.28 crore was paid to the contractor against the measured quantity of material brought to site during 2013-18 (*Appendix-3.4*). Audit scrutiny of both agreements revealed that there was no clause for payment of secured advance to the contractors. The payment of secured advance to contractors was beyond the contractual obligations of the Government and thus, irregular which resulted undue favour to both contractors.

The State Government stated (July 2022) that the secured advance was given to the contractors as per the provision of the Financial Handbook Volume VI.

The reply was not tenable, as there was no provision in the terms and conditions of the agreements for granting secured advance to the contractor.

3.4.5 Cost of granite stones excavated from Lahchura Dam Project not recovered

The scope of work of Lahchura Dam Project *inter alia* included excavation of earth for construction of various structures. The terms and conditions of MoU executed (December 2005) with the contractor (M/S EPI) provided that all suitable materials from excavation of dam and appurtenant works would be used in the construction of various structures of project as per requirement by preparing disposal area plan and the materials not included in the disposal plan would be duly stacked in an area of 500 meters from the site of excavation.

Audit observed that in the excavation of earth during March 2006 to March 2015, 2.78 lakh cum granite stones were obtained, which were stacked in the vicinity to the work site and accounted for in the stock account. However, contrary to the provisions of the MoU, the entire quantity of the granite stones was issued to the contractor from the stock during March 2006 to March 2015. Audit examination of records further revealed that execution of four items of works, *viz.*, Random rubble (RR) stone masonry, launching apron, rock toe filter and stone pitching (part of the modernisation work) required use of granite stones. The contractor, therefore, utilised 1.50 lakh cum granite stones on these works and the Division while making payment to the contractor for these four works made deductions amounting to ₹ 4.28 crore (including royalty)¹² in lieu of utilisation of granite stones. Remaining 1.28 lakh cum granite stones costing ₹ 5.67 crore¹³, were in the possession of the contractor as of October 2022. This issue was earlier highlighted in Paragraph 4.9.6, Annexure 4.16 of the Report of Comptroller and Auditor General of India on

¹² At the applicable rates.

¹³ Arrived at by Audit at the rate of ₹ 445 per cum (including cost of royalty of ₹ 75 per cum) prescribed in the SoR of 2015.

Accelerated Irrigation Benefit Programme (Report no. 22 of 2018 of Union Government).

However, the Division neither made any correspondence with the contractor for returning the balance quantity of granite stones possessed by it even after a lapse of more than six years from the date of completion of work nor it initiated the process for levying and recovering the cost of the granite stones from the contractor.

The State Government in its reply (July 2022) mentioned that according to MoU, the excavated materials not fit for use shall be waste for which no compensation would be taken from contractor.

The State Government reply that the remaining granite (1.28 lakh cum) with the contractor was waste is not acceptable because all the granite stones were stacked, taken on stock account and then issued to the contractor. Besides, the Division stated (October 2022) that the cost of the remaining granite stones which was in the possession of the contractor, would be recovered. Thus, there was a wide difference between the replies of the State Government and the concerned Construction Division. Therefore, it is necessary to conduct an enquiry in the matter by the State Government to conclude the issue and for fixing of accountability of the erring officers for the irregularity in issuing the granite to contractor and non-recovery of cost of granite.

3.4.6 Labour Cess not deducted/deposited

According to 'The Building and Other Construction Workers' Welfare Cess Act, 1996' and 'Uttar Pradesh Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Rules 2009, a labour cess at the rate of one *per cent* of construction cost was to be recovered from the employer and the same was to be deposited into labour welfare board.

Scrutiny of records revealed that the estimates for construction of 'Lahchura Dam Project' and construction of 'Appurtenant Works of Lahchura Dam Project' was sanctioned for ₹ 328.30 crore and ₹ 19.30 crore respectively which included the cost of works, contingency and labour cess. The amount for labour cess of ₹ 90.87 lakh was provisioned in the cost estimates of Lahchura Dam Project though the burden of the labour cess was to be borne by the contractor. Therefore, separate provision in the cost estimate was not warranted. Audit in this regard further observed that the Division subsequently utilised the funds allotted in lieu of payment of labour cess on other item of project works. Besides, labour cess amounting to ₹ 80 lakh (one *per cent* of value of works: ₹ 79.97 crore¹⁴) was not deducted from the contractor's bills as a result of which the same amount could not be deposited in the labour welfare board as was required in the Government order of December, 2010.

Similarly, in Pahari Dam Project, ₹ 2.54 crore was provisioned in the cost estimates of ₹ 354.20 crore. The Division deposited ₹ 22.31 lakh out of ₹ 2.54 crore with the Labour Board on account of payment of labour cess and the remaining amount of ₹ 2.32 crore was diverted on the project works. Audit

¹⁴ In respect of 13 bills paid after the promulgation of Government order (December, 2010).

further observed that out of due payment of ₹ 3.02 crore (one *per cent* of ₹ 301.81 crore), ₹ 2.64 crore was deposited with the Labour Board as of October 2021 and the remaining amount of labour cess amounting to ₹ 0.37 crore was not deposited in the respective head of account.

The State Government replied (July 2022) that a provision of ₹ 90.87 lakh in the project cost of Lahchura Dam Project was made for Labour cess which was utilised for other essential works of the project. Government further stated that remaining recovery on account of labour cess would be made from the contractor's bill on allotment of funds.

In respect of Pahari Dam Project, the Government stated (July 2022) that discrepancies regarding labour cess would be incorporated in the proposed revision of the Project. The Government further stated that the balance recovery of ₹ 0.37 crore on account of labour cess would be made from the contractor's bill.

3.5 Unauthorised sanction of cost variations under BCP and Lahchura Dam Project

The State Government issued (June 1995) order¹⁵ defining delegation of financial power of the authorities. The Government order of June 1995 *inter alia* provided that the Chief Engineer (CE) would be empowered to sanction the increase in the cost of work, up to maximum 15 *per cent* of original estimated cost¹⁶ and the increase beyond the limit of 15 *per cent* would be sanctioned by the Administrative Department.

Bansagar Canal Project (Uttar Pradesh)

Audit observed that in 43 out of 94 BoQs in BCP, the cost of work increased by 11 to 892 *per cent* of the estimated cost (total estimated cost: ₹ 215.03 crore; increase in cost: ₹ 228.04 crore). The increase was in the range of 100 to 892 *per cent* in 12 works, 50 to 99 *per cent* in 12 works and 11 to 49 *per cent* in the balance 19 works (**Appendix-3.5**). The CE sanctioned these cost variations and the amount was paid to the contractor, though it should have been forwarded to the Administrative Department in terms of State Government's Order of June 1995.

Further scrutiny revealed that the increase in the cost of work included ₹ 84.70 crore due to variation in the quantities agreed under the contract and ₹ 143.34 crore due to including the extra items of work. However, neither the Divisions while submitting the proposals for approval of variations to CE nor the CE while granting approval on the proposals of the Divisions provided clear justification/circumstances for such large variation in the quantities and the extra items. In 39 (91 *per cent*) out of 43 above mentioned works, it was merely mentioned that the variations occurred due to the conditions of the work site and in respect of remaining four works, CE stated that the variation in the cost occurred due to reasons, such as, change in design, addition of new items, *etc.*

¹⁵ GO. No. A-2-1602 / 10-95-24 (14) – 95 dated 01.06.1995.

¹⁶ Limited to the power of the authority for granting the technical sanction of the work estimate.

In reply, the State Government stated (July 2022) that the variations in the cost of work was within the last revised administrative and financial sanction of ₹ 3,420.24 crore for the project approved by the State Government in July 2018.

Lahchura Dam Project

In respect of appurtenant work of Lahchura Dam Project, there were significant variations ranging between 26 *per cent* and 125 *per cent* (cost: ₹ 3.74 crore) (***Appendix-3.6***) as compared to the quantities for which contract was awarded to the contractor. In this case also, CE approved the variations saying that the variations occurred as per the need of the work sites without explaining the circumstances under which such large variations took place after technical sanction of work accorded by the same CE.

In reply, the State Government stated (July 2022) that though CE had approved variations ranging from 26 *per cent* to 125 *per cent* in some items of works, it did not increase the total cost of the project.

The reply of the State Government in case of BCP as well as Lahchura Dam Project was not tenable, as the State Government's order of 1995 refers to the estimated cost of the work and not the cost of DPR of the project to which the work is a part. Further, the contention of the State Government that the total cost of the project was not affected despite approval of variations by CE was also not tenable, as in the last revision of BCP, six items of works (service road, earth work, communication, environment and ecology, plantation and miscellaneous items as detailed in **Paragraph 2.2.1**) costing ₹ 110.47 crores were partly excluded from the scope of the project. However, the effect of such exclusion on the project was not examined by the Expenditure Finance Committee. Furthermore, the CE who determined the original quantity of work items, had approved the large excesses in the quantities and the execution of new items of work without giving justification. Thus, there is a strong case for further investigation in the matter as the CE clearly exceeded the delegated powers defined by the State Government in June 2015 and being the sole sanctioning authority misused his position to pass on undue benefit to the contractors. Therefore, the State Government should investigate the matter through on-site verification of execution of works and also formulate such a system to ensure the compliance of the existing instructions/orders strictly so that situations of arbitrariness in the decisions by the CEs could be avoided.

Case study 3.5.1

Test check of records related to the agreements executed before January 2013 disclosed that the work of construction of Adwa barrage was awarded in August 2005 by SE, BCP. The terms and conditions of the contract *inter alia* stipulated that in case of variation in quantities occurring beyond 20 *per cent* of the agreed cost, a recovery from the contractor's bill at the rates ranging between 1.25 *per cent* and 5 *per cent* (***Appendix-3.7***) would be made. Besides, in case of minus variation, the contractor would be paid incentive at the rates ranging between 2.50 *per cent* and 10 *per cent* of the

contracted value.

Audit observed that against the agreement cost of ₹ 15.06 crore, works valuing ₹ 38.44 crore (155 *per cent*) was executed by the contractor during August 2005 to January 2018. This variation of ₹ 23.38 crore included variation in quantities (₹ 9.85 crore) and extra items (₹ 13.53 crore) which was approved by CE in contravention of the State Government order of June 1995 by stating that the variations were as per need of site.

Audit in this respect further observed that out of 46 items of works, in 40 items, the contractor executed works over and above the contracted quantities (35 *per cent* to 630 *per cent*) and thereby was liable for recovery of ₹ 98.66 lakh as per the contract. Further, in five items of works, there were minus variations in the quantities, hence incentive amounting to ₹ 38.70 lakh was due to the contractor. However, the Division neither imposed the recovery on the contractor nor paid incentive to the contractor as of October 2021.

Audit observed that the terms and conditions of the contract for providing incentive for minus variation and recovery for excess execution of work was itself not justified on the two grounds. Firstly, the rate of the incentive (2.5 to 10 *per cent*) for minus variation was much more than the rate of recovery (1.25 to 5 *per cent*) on account of execution of works in excess quantities making the term of the contract favourable to the contractor. Secondly, the work should be executed up to the quantum agreed between the Department and the Contractor and any liberty should not be given to the contractor to execute the work either in lesser or more quantity. Besides, the execution of the work must be done as per the need of site which should, in any case, be determined by the engineer-in-charge. Therefore, the term of the contract for providing incentive and recovery for variations in the quantity of the work was unwarranted.

The State Government did not furnish replies to the Audit observation.

3.6 Irregular grant of time extension to the contractor under BCP

Article III of the contract bond with RPPL for the balance work of BCP envisaged that the work to be performed under the contract shall be commenced within 15 days from the date of notice to start the work and shall be diligently executed and completed, ready for handing over to the Engineer-in-Charge before due date of completion. Clause 5 of Conditions of contract envisaged that extension of time for completion of the work may be granted on the ground of any unavoidable hindrance to its execution having arisen which shall be on reasonable grounds. Clause 2(B) of the contract bond prescribes that the contractor shall be liable to pay compensation for the work falling in arrears of the progress statement, not exceeding 10 *per cent* of the estimated cost of the work.

Audit scrutiny revealed that the stipulated date of completion of BCP work under contract with RPPL was January 2015. However, the contractor could not complete the contracted works up to the scheduled date of completion, *i.e.*, January 2015. The contractor, for the first time, applied for extension of time

for 12 months in November 2014. The contractor attributed the delay in completion of works due to delays in availability of forest land for construction work falling under the *Kaimur* range and drawings in respect of several works to be provided by the Department.

Further scrutiny revealed that the contractor did not complete the work even up to the extended time limit and applied for extension of time limit on five more occasions, one after the other, during July 2015 to June 2018 on the grounds of delayed availability of forest land for construction work falling under *Kaimur* range; delayed availability of drawings in respect of several works; hindrances caused due to rains, bad weather, strike of Junior engineers; and release of water into MJLC from the Sirsi Dam disrupting continuity in the related construction work. It was observed that every time, CE, BCP acceded to the requests of the contractor and granted time extensions without imposing any liquidated damage.

Audit analysis in this respect revealed that though the said forest land of the *Kaimur* range was made available to the contractor with delay but the same had been made available to the contractor in August 2015. Despite this, the contractor did not complete the works on these land and sought time extension during the subsequent occasions thereafter. As regard to the justification of rains and bad weather, these situations were anticipated while deciding the stipulated date of completion (January 2015) at the time of entering into agreement, therefore, could not have been considered as a valid justification. Regarding delayed availability of drawing to the contractor, it was revealed that works under 22 BoQs were stated to have been affected due to this reason. Audit, however, could not analyse the circumstances under which the drawing could not be made available to the contractors for want of related records.

Out of 94 BoQs, at the maximum, 60 BoQs remained affected during the limited time period because of several obstacles/hindrances, as discussed above. However, the contractor sought time extension in respect of all 94 BoQs, generally on almost the same grounds. In such a situation, it was imperative for CE to do work-wise analysis in relation to the applications of the contractor for time extension and to take decision to extend the timelines in the cases where there was a delay on the part of the Department in unavoidable circumstances by passing speaking order in this regard. On the contrary, CE granted the time extensions in respect of all 94 BoQs including those, which did not have any hindrances/obstacles mentioned by the Contractor in the applications.

It is also worth mentioning that the contract conditions included the provision of extra payment to the contractor on account of increase in the prices of labour, POL, cement, steel and aggregates. Thus, time extension for the work also resulted in undue favour to the contractor in terms of price adjustment. As per records, the contractor was paid ₹ 89.22 crore on account of price adjustment. Thus, due to a deliberately casual attitude on the part of the CE, price adjustments were paid to the contractor over and above his legitimate dues whereas the contractor was liable for penalty for delay in work in terms of Clause 2(B) of the contract.

The State Government stated (July 2022) that under some of the 94 BoQs, land was to be acquired and in some other BoQs the work site was located in the forest land on which permission was not granted by the forest department to get the work done. The Government also informed that the land acquisition process continued till June 2018 due to which the progress of the work was affected. The Government further stated that M/s Ritwik Projects Pvt Ltd was granted price adjustments as per the terms of the agreement. The BoQs which had no hindrances were completed as per timeline and price adjustment was paid accordingly.

Facts remains that CE, BCP granted time extensions to contractor without any analysis of the grounds for delays in work on case to case basis. Due to lack of analysis in cases of extension of time and unavailability of sufficient evidence in the records, the legitimate grounds on which CE granted time extensions to the contractor was not verifiable in Audit. However, the audit analysis in this regard definitely indicates that the CE was liberal in granting extension of time to the contractor without giving relevant justification for the same.

3.7 Quality Control

Quality control involves testing of materials and workmanship in a project to ensure that the works are executed as per the approved standards and quality specifications.

In the contract bond with RPPL, technical specifications *inter alia* provided specification in respect of material¹⁷ and workmanship. As per contract bond all works shall be carried out in accordance with the detailed specifications mentioned in the contract bond. In case specification of any work was not given, the same shall be carried out in accordance with relevant Indian Standard/ Indian Roads Congress specification.

Scrutiny of records revealed that Quality Control Division carried out 5,603 cube tests, 202 sieve tests, five cement tests, 62 soil tests and six brick tests during 2013-14 to 2019-20, out of which, samples of 337 cube tests, 28 sieve tests and four brick tests were declared failed (**Appendix-3.8 A**). Corrective measures in respect of failed samples were to be taken by the Divisions, but no records in respect of corrective measures taken by the Divisions were made available to audit, though asked for. Audit in this respect further observed that sampling for quality testing was not carried out even once in 33 BoQs¹⁸. Thus, quality assurance in respect of works carried out under these 33 BoQs was not ascertainable in Audit.

Audit test checked the quality test reports in respect of 38 BoQs. In 24 BoQs, number of samples for cube tests taken was below the prescribed norms¹⁹. Shortfalls in taking samples ranged from 75 to 99 *per cent* in 15 BoQs, 50 to 75 *per cent* in six BoQs and from 25 to 50 *per cent* in three BoQs. Details are

¹⁷ Cement, fine and coarse aggregate, steel reinforcement, earthwork (compaction), cement concrete, stone, cement pointing, form work, construction joints, copper water stops, P.V.C water seal, wearing course, drainage of roadways, copper seals, joint filler board, G.P. sheet seal.

¹⁸ Out of 94 BoQs awarded to RPPL in January 2013.

¹⁹ Quantity of concrete work of one to five cubic meter (cum):one sample; six to 15 cum: two samples, 16 to 30 cum: three samples, 31 to 50 cum: four samples, 51 and above: four plus one additional samples for each additional 50 cum or part thereof.

given in **Appendix-3.8 B**. Thus, cube testing for determining the strength of CC work with sufficient number of samples was not carried out as per norms.

The State Government did not furnish specific replies to audit observations and stated (July 2022) that quality checks were conducted from time to time and test reports were sent to the concerned Divisions.

The fact remained that adequate assurance on the quality of works executed could not be drawn in Audit.

3.8 Maintenance of the canals

The key components of an effective canal maintenance system include setting the norms for periodic maintenance, conducting regular surveys of canal structures to assess the actual need for maintenance work. Apart from this, accurate estimation of the requirement of funds for maintenance work, placing timely demand for funds and allocation of adequate funds by the Department were equally important so that the maintenance work could be performed in a systematic manner.

The Department did not prescribe any criteria specifying the norms and criteria regarding periodicity/cycle for taking up the canals for maintenance. State Government, however, prescribed (December 2000) norms for budgeting funds for maintenance of canals based on size of the command area. The norms prescribed²⁰ by the State Government *inter alia* envisaged fund requirement at the rate of ₹ 978.80 per ha for main, branch and distributary canals whereas ₹ 908.85 per ha for the minor canals for performing yearly maintenance of these canals.

Audit did not find any evidence in the records of the test checked Divisions regarding conduct of surveys to ascertain physical status of canals. Further, none of the test checked Divisions prepared canal wise estimates elaborating the plan for annual maintenance of canals. Considering the size of the command area of the nine canal systems of BCP and DCS under Lahchura Dam project, Audit worked out yearly requirement of ₹ 20.00 crore and ₹ 3.28 crore respectively for maintenance of BCP and DCS canals (**Appendix-3.9**). In respect of seven canal systems of BCP, the details of allotment of fund on maintenance work was not available distinctly as the respective Divisions were operating other canals systems too and the allotment was received in lump sum. Against the requirement of ₹ 4.50 crore²¹, in remaining two canal systems (Tons Pump Canal and Yamuna Pump Canal) of BCP, the allotment was ₹ 1.04 crore to ₹ 1.71 crore during 2014-21, which was fully utilised. Further, in respect of DCS, ₹ 1.04 crore to ₹ 1.82 crore was allotted during 2014-21, except ₹ 3.34 crore in 2019-20.

As regards to conduct of annual maintenance of canals, despite repeated requests, the Divisions did not provide the details of canals taken up for maintenance during 2014-21. Audit analysed the records of maintenance in

²⁰ The norm prescribed by the State Government (₹ 210 per ha. for main, branch and distributary canals and ₹ 195 per ha. for minor canals) was provided annual increment by Audit at the rate of 8 per cent for 20 year *i.e.*, from 2000 to 2020 in order to update the rates.

²¹ Worked out by audit as per norm.

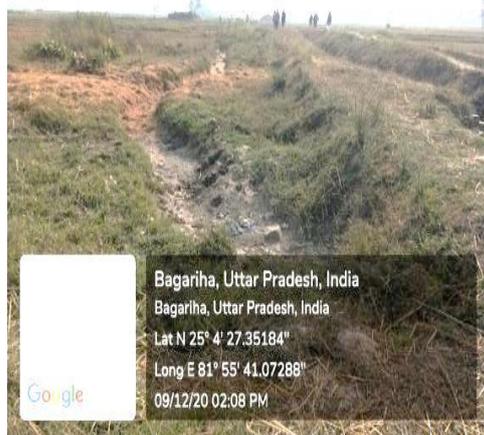
respect of 29 test checked canals, which revealed that two canals were not taken up for yearly maintenance even once in seven years, six canals were taken up only one year and four canals were taken up for maintenance in two years out of the seven years. Details are given in *Appendix-3.10*. Further, the joint physical verification of selected canals also revealed their poor condition which were found full of shrubs/vegetation and damaged banks as depicted in photographs below:



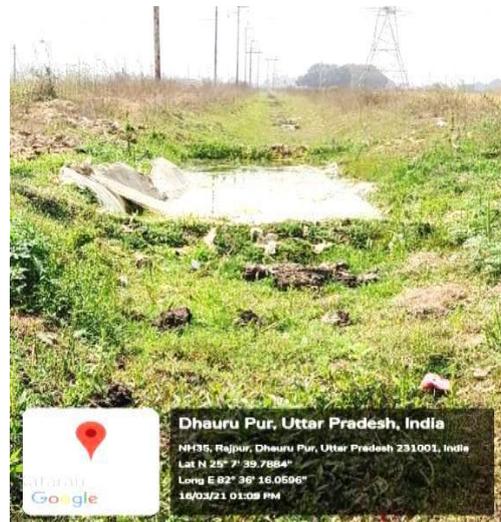
*Silted Banwa minor of BCP
(Last maintained; 2020-21)*



*Silted Bilgaon minor in DCS
(Last maintained; 2019-20)*



*Poor condition of Dasauti minor of BCP (Last
maintained; 2020-21)*



*Bharuhana minor of BCP in poor state (Last
maintained; 2019-20)*

The State Government did not furnish reply in respect of audit observation related to BCP. Regarding Lahchura Dam Project, the Government replied that the budget provision was increased in the year 2020-21 from ₹ 148.03 lakh to ₹ 400.00 lakh per year for DCS.

Facts remained that effective system for performing proper upkeep of canal structures was not put in place due to which the canal structures were in poor conditions. Audit further analysed the performance of 12 canals having inadequate maintenance (nil to two times during last seven years) which

revealed that in the command area of eight of these canals, irrigation was not provided as per targets and shortfalls ranged between 68 and 99 per cent in seven canals and in one canal, no irrigation was provided during 2014-21.

To sum up, BCP witnessed delays in release of fund which led to slow progress in works. The contract management under the selected irrigation projects was deficient. The tendering process was not transparent and provision of allowing price adjustment was incorporated in contracts belatedly allowing undue benefit to only few bidders. Similarly, in the works of Lahchura Dam Project, NIT was issued before sanction of works and works were awarded to ineligible bidders. Monitoring of the execution of the projects was very poor leading to frequent time extensions and variations in quantities. There was arbitrariness in fixation of price adjustment for various components, allowing time extension to contractors, besides extending undue favour to contractor in terms of irregular release of interest free advances and non-recovery of cost of granites and labour cess. Quality control of work was an area of concern.

Recommendation 5: *The State Government should improve competitiveness of the tendering process through fair and transparent contract conditions and wide publication of tender notices and remove deficiencies in preparation of detailed estimates.*

Recommendation 6: *The State Government may review the basis for providing percentage weightage for price adjustment of labour and petrol, oil and lubricants in Bansagar Canal Project and take appropriate action against erring officers for arbitrary fixation of the percentage weightage without ascertaining their actual usages.*

Recommendation 7: *The State Government should ensure strict adherence to the Government orders and instructions regarding grant of time extension, approval of cost variations and extra items. Department may take appropriate action against the officials who flouted the provisions of Government instructions.*