

Chapter-III

Project Implementation

This chapter deals with the financial management and execution of works of the Saryu Nahar Pariyojana to get the envisaged benefits.

Audit Objectives: *Whether funds were adequate, available timely and utilised properly; project was executed in an economic, efficient and effective manner; and was monitored effectively?*

Brief snapshot of the Chapter:

- Saryu Nahar Pariyojana received funds from the State Government, Government of India under Accelerated Irrigation Benefit Programme, National Project, Pradhan Mantri Krishi Sinchayee Yojana, and also from National Bank for Agriculture and Rural Development for the implementation of project during 1977-2022. Against the allotment of ₹ 10,346.70 crore from all sources during 1977-78 to 2021-22, ₹ 10,003.11 crore was spent as of March 2022.
- Funds for the implementation of the project was not made timely and adequately due to which requirement of funds as per the Annual Action Plans during 2012-22 (except 2015-16 and 2020-21) was not met, remaining short by 17 to 85 per cent.
- Due to not purchasing of land in time, the work of the project got delayed and with the passage of time, the cost of the land also increased, which put a burden on the Government exchequer.
- The contract for construction of Rapti Main Canal and its distribution system was awarded to the contractors without approving design and drawing of the canals. Significant changes in the works' scope of the contracts had taken place subsequently and the works were completed late.
- The estimates for the works of Rapti Main Canal and its distribution system were prepared at rates higher than the norms, as a result of which the estimates got inflated.
- The quality of the construction works was not assured as their quality checking was not done as per prescribed norms and criteria.
- Internal control was weak.

3.1 Introduction

Implementation of canal project primarily requires adequate and timely availability of funds, timely acquisition and purchase of land, preparation of detailed estimates for works and award of contracts for execution of works.

Audit observations related to financial management, procurement of land and execution of works have been discussed in the succeeding paragraphs:

3.2 Financial Management

3.2.1 Allotment and expenditure

Saryu Nahar Pariyojana (SNP) received ₹ 10,346.70 crore during 1977-78¹ to 2021-22 against which ₹ 10,003.11 crore was spent as of March 2022. This included expenditure of ₹ 4,817.68 crore during 2017-22, *i.e.*, the period covered under this Performance Audit (PA). Year-wise details are given in **Table 3.1**.

Table 3.1: Allotment and Expenditure thereagainst during 1977-2022

(₹ in crore)

Year	Allotment	Expenditure	Savings/ Surrender
(1)	(2)	(3)	(4)
1977-1978 to 2016-17	5,285.93	5,185.43	100.50
2017-2018	994.83	767.81	227.02
2018-2019	1,060.00	1,060.00	0.00
2019-2020	1,510.25	1,494.18	16.07
2020-2021	1,055.25	1,055.25	0.00
2021-2022	440.44	440.44	0.00
Total	10,346.70	10,003.11	343.59

(Source: CE, Saryu Pariyojana-I, Ayodhya)

As against estimated project cost of ₹ 9,802.68 crore, the allotment of ₹ 10,346.70 crore on SNP included central loan assistance/grant under Accelerated Irrigation Benefits Programme (AIBP - ₹ 828.62 crore during 1996-2012), National Project/Pradhan Mantri Krishi Sinchayee Yojana (PMKSY - ₹ 2,243.18 crore during 2012-22) and loan from National Bank for Agriculture and Rural Development² (NABARD - ₹ 238.39 crore during 1996 to 2005). Year-wise details of funding from different sources are given in **Appendix-3.1**.

The Irrigation and Water Resources Department (I&WRD) proposed another revision of the project cost to ₹ 10,198.04 crore to the Expenditure Finance Committee (EFC) of the State Government for meeting outstanding payments. In April 2024, the EFC directed that the proposal be submitted to the cabinet for approval. However, as of October 2024, the process of obtaining cabinet approval was in progress. Thus, the financial closure of the project was yet to be done.

3.2.2 Tardy allocation of funds

SNP was included under the National Project (NP) during 2012-13 to complete the balance work of the project by March 2016. The annual requirement of funds assessed in the work programme prepared by Chief Engineers (CEs) and allotment to the project by the State Government during 2012-13 to 2021-22 was as detailed in **Table 3.2** and **Chart 3.1**.

¹ Including funds received during 1977-82 for erstwhile Left Bank Ghaghara Canal project (subsequently renamed as Saryu Nahar Pariyojana in March 1982).

² State Government did not make available (November 2024) the term and condition of loan received from NABARD.

Table 3.2: Allotment of funds vis-a-vis annual work programme

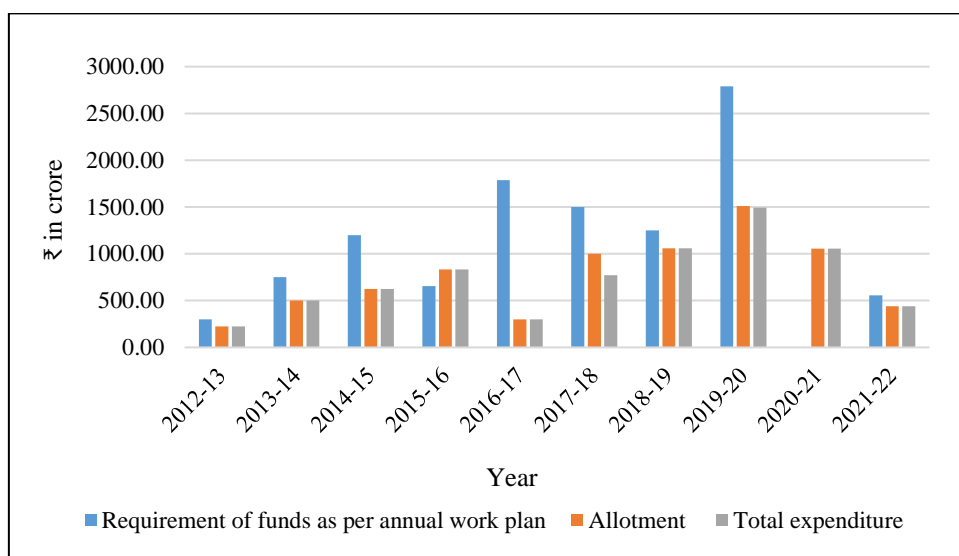
(₹ in crore)

Year	Requirement of funds as per annual work programme	Allotment against column 2 (per cent to col. 2)	Total expenditure (per cent to col 3)
(1)	(2)	(3)	(4)
2012-13	300.00	224.47 (75)	224.47 (100)
2013-14	750.00	499.70 (67)	499.70 (100)
2014-15	1,200.00	623.00 (52)	623.00 (100)
2015-16	654.00	834.00 (128)	834.00 (100)
2016-17	1,787.63	300.00 (17)	300.00 (100)
2017-18	1,500.00	994.83 (66)	767.81 (77)
2018-19	1,251.87	1,060.00 (85)	1,060.00 (100)
2019-20	2,789.55	1,510.25 (54)	1,494.18 (99)
2020-21	Not provided to Audit	1,055.25	1,055.25 (100)
2021-22	555.00	440.44 (79)	440.44 (100)
Total		7,541.94	7,298.85

(Source: Information provided by CE, Saryu Pariyojana-I, Ayodhya and Utilisation Certificates submitted by the State Government)

Chart 3.1: Allotment of funds vis-a-vis annual work programme

Fund was not provided for the project as per requirement assessed in the Annual Work Plan



It can be observed from **Table 3.2** that availability of funds was limited to 17 to 85 *per cent* of the funds required as per the annual work programmes prepared by CEs during 2012-22 (except in the years 2015-16 and 2020-21).

Audit further noticed that as per Memorandum of Understanding (MoU) signed (December 2012) between the Ministry of Water Resources, GoI and Government of Uttar Pradesh under the National Project programme, GoI was to release ₹ 2,710.38 crore (90 *per cent* of the balance cost of work, *i.e.*, ₹ 3,011.53 crore) to the State Government for creation of 4.73 lakh hectare CCA under the SNP upto March 2016. Central Assistance (CA) was to be provided on year-to-year basis on production of utilisation certificates of 80 *per cent* amount released in previous instalment. GoI further directed the State Government in the release orders of CA to put in place a monitoring system to achieve the scheduled milestones and envisaged outcomes of the project.

The GoI released CA of ₹ 659.58 crore during 2012-13 to 2014-15. Thereafter, the project was taken up under PMKSY with revised funding share of 60:40 between GoI and the State Government. CA of ₹ 1,583.60 crore was released for the project during 2015-16 to 2021-22 against the assessed requirement of balance CA as on April 2015 as ₹ 1,728.58 crore.

The annual physical targets were also not achieved as per projected targets and shortfall in this respect ranged between 14 *per cent*³ and 100 *per cent* during 2012-13 and 2019-20 as detailed in **Appendix 3.2**. As per Detailed Project Report (DPR) 2017, the progress of work as per target could not be achieved due to less release of fund for the project.

In reply, the State Government stated (January 2024) that the State Government had demanded the necessary funds from GoI from time to time for carrying out works under the project. The State Government further stated that central assistance could not be received during 2012-13 to 2014-15 as per budget provisions due to which works could not be progressed as per timelines. The State Government further added that the progress of works also suffered due to delay in land acquisition in view of disputes.

The fact remains that the allocation of funds was not made for the project according to the projected requirement. Further, as observed from Utilisation Certificate for 2015-16 in respect of CA received under National Project programme, the State Government created CCA of only 1.27 lakh hectare up to March 2016 against the target of 4.73 lakh hectare envisaged in the MoU. Moreover, no reason for short release of central assistance was in records of CE, SNP. No reference to milestones or not reaching them thereto as reason for short receipt of funds was made in the reply of the department.

3.2.2.1 Delay in release of fund for completion of gaps in AIBP portion

The project was included under AIBP in the year 1996-97 to create Irrigation Potential (IP) of 9.31 lakh hectare initially till 2003-04. However, works of AIBP portion (phase I and II works) could not be completed even up to March 2010. As per the DPR revised in March 2010, works costing ₹ 1,575.33 crore was yet to be completed under phase I and II. These balance works included construction of canals in gaps, measuring about 540.03 Km, which were affecting the utilisation of about 3.10 lakh hectare (blocked potential) out of 9.31 lakh hectare created IP.

In 2012-13, when the balance works of the project were taken up under NP, the balance works of Phases I and II (AIBP portion) were not included in the scope of works of NP. Thus, the State Government was required to provide funds to complete the balance work of these Phases. However, as per DPR 2017, the State Government did not provide funds to complete these gaps in the canals constructed under Phase I and Phase II. The State

³ Shortfall upto ten *per cent* excluded.

Government, however provided ₹ 1,279.16 crore during 2016-22 for completing the gaps in the canals of Phase I and II. Thus, the construction works to complete the works of Phase I and Phase II were delayed as the State Government did not provide funds to complete the gaps in canals during 2012-16.

In reply, the State Government stated (November 2023) that the funds were allocated as per the then existing policies and available resources of the Central Government and the State Government. The State Government further stated that the progress of works also suffered due to delay in land acquisition in view of disputes.

Fact remains that required funds could not be provided to the project during 2012-16 for completion of gap works of Phase I and Phase II.

3.3 Undischarged liabilities

Audit observed that in 14 test checked divisions, financial liabilities amounting to ₹ 108.46 crore were created and lying unadjusted as of March 2022 for want of funds (*Appendix 3.3*). Creation of liabilities mainly included payment to the contractors for work done and measured.

Audit further observed that 14 test checked divisions had a liability of ₹ 29.51 crore (*Appendix 3.4*) towards land owners wherein land had been utilised for construction of canals but registry of land was yet to be made to the State Government.

The State Government did not furnish reason for creation of liabilities amounting to ₹ 108.46 crore in 14 test checked divisions. In respect of pending payment amounting of ₹ 29.51 crore to land owners in 14 test checked divisions, the State Government stated (November 2023) that the canals over the land were constructed with the consent of farmers but registry of the land could not be done due to disputes among farmers, inheritance issues, unavailability of landowners, *etc.*

Execution of works

3.4 Land acquisition

3.4.1 Purchase of land *vis-a-vis* requirement

According to DPR 2017 of the project, the project required 31,290.35 hectare land against which 23,128.40 hectare land was acquired/purchased till 2016. The Department, thereafter, reassessed (2017) the quantum of land required to complete the project and decided to purchase only 1,868.10 hectare land beyond the existing purchase of 23,128.40 hectare land.

As per information provided by CEs, SNP, 1487.36 hectare land was purchased upto March 2022 against the requirement of land reassessed in 2017. However, Audit noticed that 18 canals involving CCA of 0.24 lakh hectare proposed to be constructed under Rapti Main Canal (RMC), Campianganj Branch Canal (CBC) and their distribution system were not constructed as of March 2022 as detailed in Paragraph 4.3.2.

In reply, the State Government stated (November 2023) that land acquisition was done continuously, and the project was commissioned. The State Government further stated that the canals pointed out in the audit observation are covered under pressure irrigation and the work of forming the project for creation of pressure irrigation system through underground pipeline was in progress.

The reply was not tenable, because Department could not purchase even the reassessed requirement of land of 24,996.50 hectare leaving a shortfall of 380.74 hectare upto March 2022 and the CCA of canals which were intended to be covered under this project are now proposed to be covered under another project.

3.4.1.1 Slow pace of acquisition/purchase of land

Land for public purpose is acquired under the provisions of the Land Acquisition Act, 1894 (LAA). The Government of India (GoI) enacted the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (2013 Act) which came into force from January 2014. The process of acquisition of land under LAA involves publication of notifications in the Gazette of the State Government and the collector of the concerned district awards the compensation to the land owners in lieu of purchase/acquisition of land.

Purchase/ acquisition of land was slow which affected the pace of canal work

Uttar Pradesh Land Acquisition (Determination of Compensation and Declaration of Award) Rules, 1997 (*Karar Niyamawali*) also came in force with effect from September 1997. According to *Karar Niyamawali*, 1997, the body or department for which the land is being acquired may, at any stage of the proceedings, fix the terms, conditions and rates of the land under acquisition with the owners of the land. Thereafter, in June 2011, the State Government implemented a new policy of land acquisition, in which, along with the fixed amount of compensation in lieu of sale of land, provision for payment of a lump sum amount on account of rehabilitation was made for the landowners.

Audit observed slow pace of acquisition/purchase of land which adversely affected the pace of works of canal constructions. Audit analysed the records related to purchase of land during 2012-13 to 2021-22⁴ and noticed that out of total purchase of 24,615.76 hectare land for the project, 2,899.24 hectare land was purchased during 2012-22. The yearly targets set by the Department for purchase of land during 2012-22 was not met every year except during 2018-19 and 2019-20. Year-wise details of purchase of land *vis-a-vis* targets during 2012-13 to 2021-22 are given in **Table 3.3**.

⁴ During this period, land was purchased for the balance works of Phase I and II and construction of canals under Phase III.

Table 3.3: Year-wise details of purchase of land

(Area in hectare)				
Year	Target for the year	Land acquired/ purchased during the year	Shortfall (-) / Excess (+) vis-a-vis target	Percentage shortfall vis-a-vis annual targets
(1)	(2)	(3)	(4) = (2-3)	(5)
2012-13	500.30	110.03	(-) 390.27	(-) 78
2013-14	1,800.00	540.25	(-) 1,259.75	(-) 70
2014-15	1,550.00	412.45	(-) 1,137.55	(-) 73
2015-16	500.00	229.76	(-) 270.24	(-) 54
2016-17	696.44	116.39	(-) 580.05	(-) 83
2017-18	550.00	267.93	(-) 282.07	(-) 51
2018-19	489.70	584.62	(+) 94.92	(+) 19
2019-20	401.69	507.86	(+) 106.17	(+) 26
2020-21	132.02	103.44	(-) 28.58	(-) 22
2021-22	41.34	23.51	(-) 17.83	(-) 43
Total		2,896.24		

(Source: Information provided by CEs, SNP)

It can be observed from **Table 3.3** that land could not be purchased according to the annual targets during 2012-22 (except during 2018-20). Slow pace of purchase of land not only disrupted the project completion schedules but also the cost of the project increased due to increase in the rates of land manifold with the passage of time.

In reply, the State Government stated (November 2023) that for smooth acquisition/purchase of land to develop infrastructure speedily, rules and provisions had to be changed time to time. The State Government also stated that due to personal disputes among the farmers in respect of distribution of land, delay takes place even after purchasing the land through mutual negotiations with the farmers. The Government further stated that the process adopted by the Department to purchase the land through the special land acquisition officers and through mutual negotiation with the farmers proved fruitful.

The fact remains that the SNP was started in 1982 after reformulation of its scope, but Department continued purchasing the land for project till 2022. During the period, the circle rate of land kept increasing as a result of which expenditure on the procurement of land also increased manifold. Audit in this respect analysed the records of purchase of land during 1999-2022 and observed sharp increase in the cost of land as discussed in succeeding paragraph.

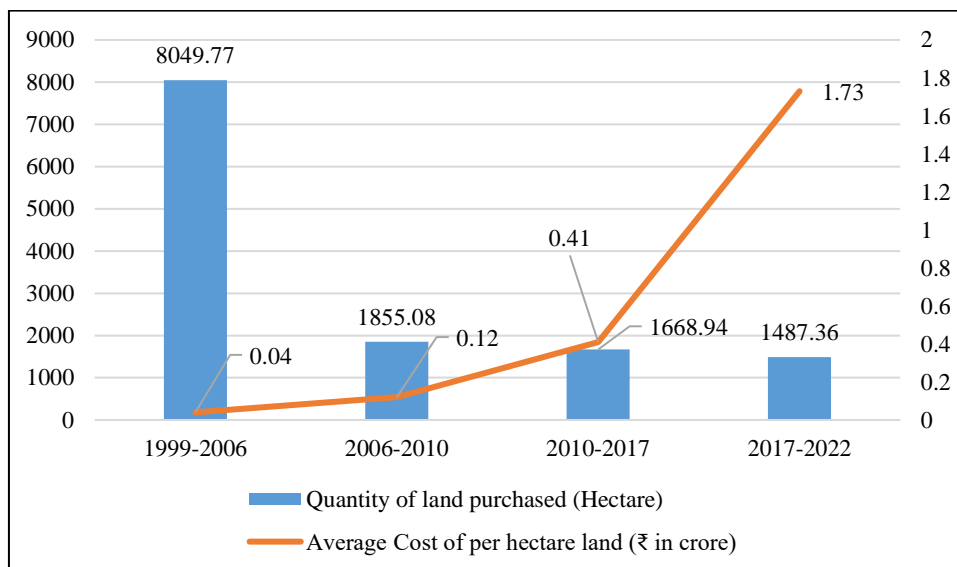
3.4.1.2 Avoidable financial burden on purchase of land

The average per hectare cost of land was ₹ four lakh during 1999 to 2006⁵ which had increased to ₹ 1.73 crore per hectare during 2017 to 2022. Year-wise hike in land cost during 1999-2022 has been detailed in

⁵ During 1999-2022, the project cost was revised in year 1999, 2006, 2010 and 2017, therefore, the cost of land has been examined in respect of purchases made during 1999-2006, 2006-10, 2010-17 and 2017-22.

Appendix 3.5 and a summarised graphical representation is given in the **Chart 3.2**.

Chart 3.2: Increase in average cost of land



During 2017-18 to 2021-22, the increase in the cost of land was significant (increased from ₹ 1.79 crore per hectare to ₹ 2.30 crore per hectare) mainly due to payment of land compensation to land owners at the four times to the circle rate, as was mandated in the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, promulgated with effect from 2015-16.

The State Government stated (November 2023) that frequent increase in circle rates led to excess expenditure on purchase of land.

The fact remains that delays in implementation of the project led to avoidable financial burden on purchase of land.

3.4.1.3 Non-transfer of ownership of land

Transfer of ownership of land in the name of the Department in the land records after acquisition/purchase of land from the land owners was required.

Overall status of transfer of ownership in respect of land purchased for the project was not available in the records. Audit however observed that nine⁶ out of 17 selected divisions purchased 1,228.36 hectare land during 2012-13 to 2021-22. In the nine test checked divisions, ownership of land was transferred only in respect of 826.20 hectare (67 per cent) of land as of March 2022 (**Appendix 3.6**).

In reply, the State Government stated (November 2023) that mutation of most of the land purchased for SNP had been completed. The State Government added that in respect of remaining land purchased by the

⁶ Remaining eight divisions did not furnish information in respect of purchase and mutation of land.

Department, the concerned divisions had taken action for the mutation of the ownership by making personal contacts with the officers of the Revenue Department and through the District Consolidation Officers in respect of land falling under *chakbandi*. The State Government further stated that the process of mutation is monitored at the level of the State Government.

The fact remains that mutation of about 33 *per cent* land purchased by the Department during 2012-22 was not completed in the name of the State Government as of March 2022 in the nine test checked divisions. As a result, misuse of land title could not be ruled out by the land owners.

3.5 Contract Management

During the period covered in the PA (2017-22), works under 293 contracts (Agreed cost: ₹ 2,946.99 crore) and 1,557 contracts (₹ 142.83 crore) were executed by eight Superintendent Engineers (SEs) and 17 selected divisions respectively⁷ (**Appendix 3.7**). This included the six major contracts entered into during March-April 2013 for construction of RMC and its distribution system between Km. 0.000 to 125.682 (**Appendix 3.8**).

Apart from general scrutiny of records of all ongoing contracts, 15 *per cent* of contract bonds of SEs and 10 *per cent* contract bonds of Executive Engineers (EEs) were selected⁸ for detailed examination of records. Accordingly, 77 contracts (agreed cost: ₹ 2,366.06 crore) and 184 contracts (agreed cost: ₹ 33.40 crore) of SEs and EEs respectively (**Appendix 3.9**) were selected for detailed examination of records in the PA.

3.5.1 Delayed accord of technical sanctions

As per the State Government order (August 2011), tenders for the execution of the contracts should be issued after obtaining the Administrative/ Technical/ Financial approvals by the competent authority adhering to the procedures prescribed in the financial rules.

Notice for Inviting Tenders were issued before Technical Sanctions of the respective works

Audit however observed that Notice for Inviting Tenders (NITs) in respect of 25 contracts (Cost: ₹ 804.92 crore) out of 48 test checked contracts⁹, executed by the SEs, were issued before accord of Technical Sanction (TS) by CEs and SEs. It was further observed that TS for these works were accorded after lapse of upto 395 days from the date of these NITs (**Appendix 3.10**).

Similarly, out of 76 test checked contracts¹⁰ executed by EEs, in 11 contracts, (Cost: ₹ 1.72 crore) NITs were issued before TS. TS on the detailed estimates of these 11 works were given after a lapse of periods

⁷ Including the contracts which were though entered into before 2017-18 but work on these contracts continued during 2017-22.

⁸ The selection of contract included contracts executed during 2017-22 and contracts executed before 2017 but works on these contracts continued during 2017-22.

⁹ Out of 77 selected contracts of SEs, the details of TS and NIT of only 48 contracts were made available to Audit.

¹⁰ Out of 184 selected contracts of EEs the details of TS and NIT of only 76 contracts were made available to Audit.

ranged up to 324 days from the date of NITs. Details of these cases have been given in (*Appendix 3.11*).

Further, the above mentioned 36 NITs included 15 those NITs in respect of which even the financial bids were opened without obtaining TS from the competent authorities (*Appendix 3.12*).

The Bill of Quantities (BoQs) included in tenders have to be based on TS, thus, issue of NITs before TS was against the tenets of transparency in the tendering for award of works.

In reply, the State Government stated (November 2023) that the administrative and financial approval of ₹ 9,802.68 crore was accorded for SNP by the State Government in December 2017. The State Government further stated that the administrative, financial and technical sanctions for all works under SNP were already received before commencement of works under the project in accordance with Para 318 of Financial Hand Book (FHB), Volume-VI which states that “For every work proposed to be carried out, a properly detailed estimate must be prepared for sanction by the competent authority. This sanction is known as Technical Sanction to the estimate and it must be obtained before the work is commenced”.

The reply of the State Government was not acceptable, as the State Government had in its order (August 2011) clearly directed the I&WRD to issue NITs after obtaining the TS from the competent authority. This direction of the State Government had already taken into account the codal provisions under Para 318 of FHB. Further, the BoQs for tender cannot be reasonably determined without sanction of detailed estimates, *i.e.*, TS. TS guarantees that the proposals are structurally sound and estimates are reasonable and accurately computed based on adequate data. Thus, TS should be accorded before commencement of works and before tender documents are issued in case the work is executed through contractor.

3.5.2 Overestimation due to incorrect rate analysis

According to Para 523 of FHB, Volume-VI, the rates entered in estimates should generally agree with the Schedule of Rates (SoR). Audit noticed that the DPR of SNP included analysis of rates in respect of various items of works. Thus, it was imperative for the CEs, SNP to prepare analysis of rates for detailed estimates adhering to the norms provided in the DPR and by applying the rates given in SoR.

Estimated costs of earthwork and RCC/CC works were inflated due to application of unjustified rates

3.5.2.1 Earthworks in canals

The SoR of I&WRD in respect of earth works prescribes per cubic meter rates for various components, *vis.*, constructing channels manually or by tractor, lead and lift, compaction, dressing, *etc.* The SoR also provides hiring charges for hydraulic excavator.

Audit observed that in the detailed estimates approved (March 2013) for RMC and its distribution system, rates for digging of earth through manual

means or by tractor was adopted in the analysis of rates for earth works. The applicable SoRs of the respective Circles also provided approved rates for use of hydraulic excavators. Audit determined the cost of earth works in these canals applying the rates of digging of earth using hydraulic excavators (Poclain) and by providing the rates for other components included in earth work, *vis.*, lead, lift, dressing, *etc.*, same as were provided in the rate analysis of the approved detailed estimates. Comparison of per cubic meter rate for earth work by manual means and by hydraulic excavators disclosed that per cubic meter cost of earth work was cheaper in audit analysis by ₹ 6.65 to ₹ 29.17 per cubic meter. As a result, the cost of earth works in canal in the six contracts of construction of RMC and its distribution system was overestimated by ₹ 18.95 crore (**Appendix 3.13**).

The use of hydraulic excavator in the construction of RMC at Laxminagar, Balrampur can be viewed from the photographs-3.1, provided by Rapti Canal Construction Division-2, Shohratgarh, Siddharthnagar.



Photograph-3.1: Digging of RMC at Laxminagar, Balrampur using hydraulic excavators (Poclain machines)

In reply, the State Government stated (November 2023) that the rate of earthwork was assessed by Audit without incorporating other technical issues. The State Government further stated that the rate analysis for earth work in the estimate involved excavation of earth, calculation of lead and lift in shifting of excavated earth on both banks of canal for formation of canal section, rates for construction of *daula*, *etc.* The State Government added in the reply that it was not appropriate to calculate the rate of earth work on the basis of earth excavation by Poclain machine only.

The reply was not acceptable as the rate analysis determined by Audit included excavation of earth by hydraulic excavators (Poclain machine) and all other components such as lead, lift, compaction, dressing, *etc.* as same as provided by the department in the rate analysis. Rates for construction of *daula* was not included in the rate analysis for earth work taken in approved detailed estimates. Pertinently, the Department carried out the rate analysis for restoration work of Saryu Link Channel and Saryu Main Canal during 2016-17 using earth excavators (Poclain) and, therefore, rate analysis for the works of RMC and distribution system through manual means and on different lines was not justified.

3.5.2.2 RCC/CC works in canals

The cumulative cost of Reinforced Cement Concrete (RCC)/Cement Concrete (CC) work included cost of material (stone grit, coarse sand and cement) and cost of laying of RCC/CC. Rate analysis of procurement of material included cost of material and transportation charges, from quarry to work site.

In the two out of six works¹¹ of construction of RMC and its distribution system, ₹ 151.20 per cum was provided in the rate analysis of RCC/CC works in the detailed estimates on account of re-handling of material/carriage ranging from one to three Km. Audit further observed that transportation charges for carrying material to work site and re-handling of material had already been provided in the rate analysis of procurement of material for RCC/CC works. Thus, inclusion of re-handling charges again in the estimates of laying RCC/CC works was unjustified and inflated the estimated cost of works by ₹ 4.71 crore, as detailed in **Table 3.4**.

Table 3.4: Re-handling charges in RCC/CC works

Construction of RMC and its distribution system	Executed quantity of RCC/ CC work upto March 2022 (cum)	Re-handling charge on RCC/CC works taken in estimate (per cum)	Amount for re-handling (col. 2*3) (₹ in lakh)
(1)	(2)	(3)	(4)
Km 80.000 to 114.00	1,92,165.88	151.20	290.55
Km 114.000 to 125.682	1,19,263.80	151.20	180.33
Total	3,11,429.68		470.88 Say ₹ 4.71 crore

(Source: Information provided by test checked divisions)

It is worth mentioning that in other four works of RMC and its distribution system, charge for re-handling of material was provided only once, at the time of bringing the material at work sites.

In reply, the State Government stated (November 2023) that re-handling charges were included in the estimates owing to constraint in carriage/transport of construction material at work sites which were situated at distant hilly locations and mostly approachable through un-metalled roads.

The State Government reply was not tenable as the carriage of material to worksite and re-handling was already provided in the cost of material used for RCC/CC work.

3.5.3 Approval of designs and drawings of the canals

According to Para 356 of the FHB, Volume-VI, before a work is given on contract, a contract document must be prepared which *inter alia* included a complete set of drawings showing the general dimensions of the proposed work. Besides, in the contract document of the six works of RMC and its distribution system, it was mentioned that the drawings of the proposed

¹¹ Construction of RMC and its distribution system between Km 80.000 to 114.000 and Km 114.000 to 125.682.

structures were to be made a part of agreements, thereby, the drawings of the structures were to be made available to the contractors at the time of award of contract.

According to the Irrigation Manual of Orders, Longitudinal sections (L-section) of the canals should have been approved by CE. In May 1990, the Engineer-in-Chief (E-in-C), I&WRD had delegated the powers of CE for sanctioning of the L-section to SE in respect of canals having discharge upto three cumec. In respect of the approval of drawings of the masonry structures also, E-in-C had delegated (May 1990) the powers of CE for approval of drawings of the masonry structures to SE (upto 15 cumec canal discharge) and to EE (for the canal discharge upto 1.50 cumec).

Audit examination of records related to the construction of RMC and its distribution system disclosed that in all the six works, the contracts were awarded without approval of the Longitudinal section (L-section) of the canals and drawings of the masonry structures by the competent authorities, as discussed in the succeeding paragraphs:

3.5.3.1 Award of contract without approving the design of canals

Audit observed that the scope of the six contracts executed in respect of construction of RMC and its distribution system, involved construction of 13 distributaries and 38 minor canals. CE, SNP accorded TS on the six detailed estimates in March 2013 without finalising the L-sections of 13 distributaries and 38 minor canals. The contracts for these works were awarded during March and April 2013. Audit observed that out of these 51 canals, L-section of only one canal¹² was approved before the award of contract. The details are given in **Table 3.5**.

Table 3.5: Delayed sanction of L-sections

Construction of RMC and its distribution system	Category of canal	Total number of canals constructed	Date of Technical Sanction	Date of award of contract	No. of canals, L-section of which was approved before the date of award of contract
(1)	(2)	(3)	(4)	(5)	(6)
Km 00.000 to 35.000	Dy.	01	02.03.2013	30.03.2013	01
	Minor	14			00
Km 35.000 to 50.000	Dy.	02	02.03.2013	15.04.2013	00
	Minor	08			00
Km 50.000 to 60.000	Dy.	04	04.03.2013	08.04.2013	00
	Minor	02			00
Km 60.000 to 80.000	Dy.	03	04.03.2013	08.04.2013	00
	Minor	02			00
Km 80.000 to 114.000	Dy.	01	04.03.2013	19.04.2013	00
	Minor	07			00
Km 114.000 to 125.682	Dy.	02	04.03.2013	12.04.2013	00
	Minor	05			00
Total		51			01

*Note: Dy.- Distributary canals and Minor- Minor canals
(Source: Information provided by test checked divisions)*

¹² L-section of Bahadurpur distributary canal was approved before the date of award of contract.

Audit further observed that the L-section of these canals were approved after a lapse of 06 to 79 months (12 distributary canals) and 03 to 73 months (38 minor canals) from the date of award of contracts (*Appendix 3.14*).

In reply, the State Government stated (November 2023) that it was appropriate to get the work of distributary and minor canals done after the construction of RMC. The State Government further stated that after completion of construction of /identification of levels of RMC, the works of distributaries and minor canals were carried out by preparing/revising the longitudinal sections of these distributary and minor canals.

The reply of the State Government was not acceptable because the detailed estimates approved by CE in 2013 included the works of both RMC and its distribution system. Thus, provisions in respect of distribution system was made in the detailed estimates without preparation of L-section of distributary and minor canals. This led to major deviations in the BoQs executable under the contract as discussed in Paragraph 3.5.3.2.

3.5.3.2 Award of work without approving drawings of masonry structures

The six contracts executed by SEs for construction of RMC and its distribution system involved construction of 874 masonry structures. The details of approval of drawings of these masonry structures were provided (*Appendix 3.15*) to Audit in respect of 859 cases of these six contracts. Audit noticed that contracts of RMC and its distribution system were awarded without approval of drawings of these 859 structures. Summary of these cases have been depicted in **Table 3.6**.

Table 3.6: Details of approval of drawings of masonry structures

Construction of RMC and its distribution system	Number of Pucca works	Date of award of contract	Number of pucca structures drawing of which was approved before the date of award of contract	Delay in sanctioning of drawing from the date of award of contract (in months)
(1)	(2)	(3)	(4)	(5)
Km 0.000 to 35.000	166	30.03.2013	00	04 to 97
Km 35.000 to 50.000	149	15.04.2013	00	06 to 90
Km 50.000 to 60.000	173	08.04.2013	00	10 to 71
Km 60.000 to 80.000	106	08.04.2013	00	10 to 94
Km 80.000 to 114.000	141	19.04.2013	00	09 to 102
Km 114.000 to 125.682	124	12.04.2013	00	09 to 92
Total	859			

(Source: Information provided by test checked divisions)

The detailed estimate prepared without finalising the L-sections of distributary and minor canals and without finalising the drawings of the structures led to incorrect assessment of quantities of work items. Audit in this respect noticed that not only number of variations in the quantities of work had taken place during actual execution but many items of works remained completely unexecuted. Details in this respect are given in the **Table 3.7**.

Table 3.7: Variations in the quantities of works in the estimates

(₹ in crore)

Construction of RMC and its distribution system	Estimated cost of work	Number of item of works as per BoQ	Item of works not taken up		Item of works partially executed	
			No. of works	Cost of work	No. of works	Cost of work
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Km 0.000 to 35.000	375.77	90	35	10.61	44	162.09
Km 35.000 to 50.000	305.49	90	07	5.53	45	103.05
Km 50.000 to 60.000	153.93	69	18	3.73	23	45.85
Km 60.000 to 80.000	308.06	69	33	48.87	18	65.50
Km 80.000 to 114.000	365.41	77	33	31.70	27	119.31
Km 114.000 to 125.682	317.48	77	35	28.96	19	197.30
Total	1,826.14	472	161	129.40	176	693.10

(Source: Information provided by test checked divisions)

In reply, the State Government stated (November 2023) that detailed estimates were prepared on the basis of approved L-section of RMC and typical drawings of different structures such as bridges, drainage syphons, canal crossings, falls, head regulators, cross regulators, *etc.* The State Government further stated that due to non-acquisition of land for the construction of distribution system, estimates for construction of different structures in the distribution system were prepared on the basis of discharge capacity of the canals and typical drawings of the structures.

Fact remains that estimates of the works were prepared without finalising the designs and drawings and these were approved after a lapse of significant time period from the date of award of the contracts. Further, the delays in finalisation of drawings also led to delays in the execution of works and were one of the grounds for providing time extension to the contractors in all the six contracts. Besides, many works included in BoQs were either not done or partially done.

3.5.4 Inadequate time for submission of bids

Para 360 (2) of the FHB, Volume-VI stipulates that the time for submission of tenders should be at least one month after the date of first advertisement.

Audit examination of records disclosed that in 103 contracts¹³ (39 per cent) out of 261 test checked contracts, only five to 28 days' time were given for submission of bids as against the minimum prescribed time of one month. This included 16 contracts in which only eight to 18 days' time was given to the prospective bidders to submit the bids. Details are given in **Appendix 3.16**. However, no reason for giving lesser time for submission of bids and permission of the higher authorities for the same was available in the records.

Thus, the prospective bidders remained deprived of adequate time to make

Prospective bidders were given inadequate time for submission of bids in 39 per cent test checked contracts

¹³ 103 contracts include 87 EE level contracts and 16 SE level contracts.

their assessments and prepare their technical and financial bids for submission.

In reply, the State Government stated (November 2023) that the decision to invite short term tenders was taken owing to urgency to complete the works and in most of the cases, three-four bidders participated. It further stated that the period of 30 days for submission of bid was required at the time when tender notices are published in the newspapers for publicity. Now-a-days the bids get publicised on electronic media instantly.

The reply of the State Government was not acceptable because procedures prescribed in the financial rules with regard to tendering and contracting was to be adhered to mandatorily, irrespective of mode of publication of tender notices.

3.6 Excess and irregular expenditure

3.6.1 Excess expenditure on RCC/CC works

The mix of RCC/CC comprises of stone grit, cement, sand and water. The ratio of these materials is determined as per the design mix for the RCC/CC mix. The terms of contracts of the works of RMC and its distribution system stipulated that variation in consumption of cement on either side due to change in design mix shall be accordingly adjusted at the issue rate of cement specified in the contract.

Audit examination of the estimates of masonry structures using RCC/CC mix¹⁴ of the six works of construction of RMC and its distribution system disclosed that cost of RCC/CC works was estimated on the basis of use of 4.30 to 11.90 bags cement for per cum of RCC/CC mix. However, during the execution of works, the design mix prepared for structures prescribed use of 4.20 to 9.52 bags per cum of mix. Audit further observed that the variation in consumption of cement due to change in design mix was not adjusted¹⁵ by the concerned divisions in four works. This led to execution of 3,18,987.24 cum RCC/CC works at the excess cost of ₹ 14.08 crore. Details are given in *Appendix 3.17*.

In reply, the State Government stated (November 2023 and January 2024) that in terms of the contracts of RMC and its distribution system executed in 2012-13, deductions amounting to ₹ 26.33 crore have been made in aforesaid four contracts based on lesser consumption of cement as per the design mix.

Audit subsequently verified (June 2024) the status of actual deductions from the records of concerned divisions and noticed that out of the said recovery of ₹ 26.33 crore, recovery of ₹ 12.26 crore was not entered into the Measurement Books (MBs) of the Divisions in respect of canal work between Km 50.000 to Km 60.000 (₹ 11.18 crore¹⁶) and between Km 60.000

¹⁴ Stone grit, cement, coarse sand and water

¹⁵ RCCD 1, Tulsipur, Balrampur partially adjusted the variation.

¹⁶ As against State Government reply that ₹ 12.78 crore was recovered for variation due to less consumption of cement, only ₹ 1.60 crore was entered into the MB for adjustment and the final bill was yet to be paid.

to Km 80.000 (₹ 1.08 crore). Besides, recoveries related to other works/other item of works amounting to ₹ 1.17 crore were also found included in the aforesaid recovery of ₹ 26.33 crore. Further recovery of ₹ 14.08 crore, as mentioned in **Appendix 3.17**, was not made as of June 2024 though recovery of ₹ 12.90 crore was entered into MBs but yet to be adjusted in the final bill to be paid to contractor.

3.6.2 Excess payment of royalty to contractors

As per the State Government order (November 2012), royalty at the rate of ₹ 14.00 per cubic meter was to be levied on the earthworks. Subsequently, the said royalty was withdrawn vide the State Government order of March 2018.

Audit observed that in the six estimates of construction of RMC and its distribution system, the estimated cost of the earthworks included royalty at the rate of ₹14.00 per cubic meter and accordingly contracts were executed with the contractors. Therefore, the amount of royalty included in the estimated cost of earthwork was required to be recovered in cases of payments made to contractors after March 2018 order of the State Government.

Scrutiny of records however disclosed that in four out the six works, the divisions paid the contractors for the earthworks at the contracted rate even after withdrawal of royalty on earthworks from March 2018 but did not recover the excess payment of the royalty from the contractors. This had resulted in excess payment amounting to ₹ 5.98 crore to the contractors as detailed in **Appendix 3.18**.

In reply, the State Government stated (January 2024) that provision of royalty was made in the estimates as per the rates prevailed at that time and deductions of royalty were made accordingly. The State Government further stated that royalty on earthworks was abolished from 2018 and royalty at the rate of ₹ 14.00 per cum had been recovered on the basis of final measured quantity of earthworks. The State Government also provided work-wise details of the recovery of royalty amounting to ₹ 21.67 crore in respect of total executed quantity of earthworks upto March 2022 in respect of four works.

Audit subsequently verified (June 2024) the status of recovery of royalty on earthworks executed, after withdrawal of royalty in March 2018 and observed that the recovery of ₹ 5.98 crore as mentioned in **Appendix 3.18** was pending as of June 2024 though recorded in the MBs.

3.6.3 Excess payment to the contractor

According to condition no. 27 of Special Conditions of the contract, executed for construction of RMC and its distribution system (between Km 0.00 and Km 35.000 excluding Km 0.485 to Km 6.740 and Km 23.340 to Km 23.880) in March 2013, all expenses in connection with the compliance of provision of labour laws enforced in the State of Uttar Pradesh shall be borne by the contractor.

Audit observed that Labour Cess amounting to ₹ three crore was first added and then deducted from running bills up to June 2019¹⁷ of the contractor. Thus, despite deduction of Labour Cess from the contractor's bills, the financial burden of payment of Labour Cess was borne by the Department. This resulted in undue advantage of ₹ three crore to the contractor.

In reply, the State Government stated (November 2023) that recovery of ₹ 3.00 crore paid to contractors on account of Labour Cess was subsequently entered into MBs. However, subsequent verification in Audit (June 2024) of the status of recovery of Labour Cess from contractor's bill revealed that no such recovery was made as of June 2024.

3.6.4 Undue advantage to contractors

The term (clause no. 31) of contract executed for construction of RMC and its distribution system *inter alia* stipulates that if the contractor neglects or fails to proceed with the work with due diligence or violates any of the provisions of the contract and if contractor fails to take satisfactory corrective action, the Engineer-in-charge will terminate the contract in whole or in part. In case the entire contract is terminated, the amount of security deposit together with the value of the work done but not paid for, shall stand forfeited by the Government. The term of contract further says that on completion of such works, if the expenses incurred for carrying out such works, exceeds the value of the work credited to the contractor, the difference shall be paid by the contractor. The contractor shall also be liable for the liquidated damages under the contract.

Audit observed that M/s SEW Infrastructure Ltd. was awarded (March 2013) contract for construction of RMC and its distribution system between Km. 0.000 to 35.000 with the stipulated date of completion of works on 29 September 2015. However, M/s SEW Infrastructure Ltd. did not complete the works even upto February 2020. Due to slow progress in work, CE decided (February 2020) to execute fresh contracts to complete the work. Subsequently, SE and EE executed 100 contracts during 2019-20 to 2021-22 to complete the balance works of the contract awarded to M/s SEW Infrastructure Ltd. Of these 100 contracts, in five contracts, 17 items of works were executed at the higher rates (four to 89 *per cent*) as compared to the rates agreed upon with M/s SEW in the original contract. As a result, these 17 items of works were executed at the extra cost of ₹ 12.60 crore (**Appendix 3.19**). As per the terms of contract, the excess expenditure of ₹ 12.60 crore was recoverable from M/s SEW Infrastructure Ltd along with the appropriate liquidated damages. However, no such recovery was either imposed or recovered from the contractor as of December 2022.

In reply, the State Government stated (November 2023) that the works of agreement no. 21/SE/2012-13 was completed through debitable agencies¹⁸ under the terms of contract. The State Government further stated that to

¹⁷ ₹ 1.61 crore by SNK-3, Bahraich: up to 57th running bill (June 2019) and ₹ 1.39 crore by SNK-4, Bahraich: up to 46th running bill (June 2019).

¹⁸ Contractors to whom balance work of agreement number 21/SE/2012-13 was awarded.

complete the work of an agreement, engagement of debitale agencies does not warrant cancellation of original agreement. If works through debitale agencies are executed at the rates higher to the original agreement, provision exists for recovery of excess amount from the bill of original agreement. In respect of agreement number 21/SE/2012-13, the State Government replied that required recovery of excess payment along with all other legal recoveries have been proposed from the final bills of M/s SEW Infrastructure Ltd.

The State Government, however, did not state the reasons for not taking up action against the original contractor (M/s SEW Infrastructure Ltd.) earlier. Moreover, the proposed recovery from the contractor was yet to be made.

3.7 Quality Assurance

In the construction work, it is imperative to control the quality and standards of material and conformation to the required shape, dimension, strength, *etc.* The terms of contracts (technical specification number 20) for construction of RMC and its distribution system envisaged that quality tests, shall be carried out as per relevant Indian Standard Codes at the prescribed frequency (**Appendix 3.20**). The Memorandum of Understanding (MoU) executed in December 2012 between GoI and the State Government in respect of National Project also envisaged that the State Government shall establish independent quality control organisation and adequate number of quality control laboratories in the project area to maintain quality of works. The sampling and testing will be carried out in accordance with the relevant Bureau of Indian Standards codes.

Audit observed that two Quality Control Divisions, one at Gonda and other at Basti were established for conducting quality tests of works. Audit however noticed deficiencies in the quality testing as discussed in the succeeding paragraphs:

3.7.1 Quality testing of earth works

Quality of the earth work is tested through four laboratory tests, *vis.*, grain size analysis; field density; standard proctor test; and moisture content in the earth. Frequency and purpose of these four tests have been described in **Table 3.8**.

Quality testing of earth works was not done

Table 3.8: Requirement of quality testing for earth work

Name of Test (1)	Frequency of Test (2)	Purpose of test (3)
Grains size analysis and Atterberg limits	Every 3000 cum	To know the classifications of soil actually used
Field density ¹⁹	One test for every 1500 cum and at least one test in each layer laid on embankment	To determine the placement density and moisture content.
Standard Proctor test	Every 10000 cum of compacted earth or where there is change in the borrow area or change in soil texture, limited to minimum three samples and maximum 10 samples	To determine maximum dry density and optimum moisture content of the soil
Moisture content	One test in each sample	To know the moisture content of the sample

(Source: Terms of contracts)

Test check of records of construction of RMC and its distribution system revealed that 161.87 lakh cum earth works at the cost of ₹ 184.23 crore were executed during 2012-2022. However, Audit did not find evidence in the records of the test checked divisions of having carried out quality test of earth works against the four indicators mentioned above.

When Audit specifically asked about not conducting the prescribed quality test for earth works, three out of 12 test checked divisions involved in the construction of RMC and its distribution system stated that the chainage of RMC in their command falls under cutting reach therefore no quality test was required and also said that manual compaction²⁰ was provisioned in the rate analysis of estimate and the works were carried out accordingly. The five other divisions did not furnish reasons for not conducting the required four quality tests related to earthwork. These five divisions²¹ majorly stated about use of machines, layer-wise compaction, tests conducted as per requirement, *etc.* The remaining four divisions did not furnish replies. SE, Quality Control Circle, Ayodhya also confirmed that quality tests of the works were limited to only RCC/CC works.

The State Government did not provide specific reply to audit observation and merely stated (November 2023) that the earth work for construction of RMC was carried out without controlled compaction in which compaction is carried out by manual means. The State Government further added that by natural weathering the earth gets compacted up to 90 *per cent* in first year, 95 *per cent* in 2nd year and 97.5 *per cent* in 3rd year, therefore, compaction test was not required.

Thus, the quality and ultimately the sustainability of the earth works were compromised as was evident from the fact that left bank of RMC was damaged due to sheet flow of water from hills, as discussed in Chapter II.

¹⁹ In place density test governed by proctor density and in place density test of cohesion less soils governed by Relative Density test.

²⁰ Compaction of earth using vibro compactor is known as mechanical compaction whereas compaction done manually is known as manual compaction.

²¹ Remaining five out of 12 construction divisions did not furnish replies to the audit queries related to quality test of earthwork.

3.7.2 Quality testing of masonry works

Quality tests of RCC/CC works should have been carried out on the representative samples to ascertain the desired quality of the structures. Type, quantum of samples and purpose of tests for conformity of the desired quality have been prescribed in various IS Codes as given in **Table 3.9**.

Table 3.9: Details of quality tests for masonry works

Name of Test	Frequency of Test	Purpose of test
(1)	(2)	(3)
1. Cement Chemical and Physical analysis	For each consignment	To know Alkalies, Oxides, Chloride, Fineness, Soundness, Consistency, Setting time, Compressive strength <i>etc.</i>
2. Fine Aggregate Screen analysis, Bulkage, Impurities, Soundness, Specific Gravity, Moisture Content <i>etc.</i>	One test for every 150 cum	To know grain size and the fineness modulus of sand, quality of sand
3. Coarse Aggregate Sieve analysis, Soundness, Impurities, Petrographic Examination <i>etc.</i>	One test for every 150 cum or less and twice in one working season (Petrographic examination)	To know gradation and percentage of various size of aggregate, quality, deleterious constituents and silt in coarse aggregate
4. Water PH value of water	Two samples for each source	To know PH value of water (Organic and Inorganic)
5. Reinforcement	For each consignment	To know weight, diameter, ultimate test, strength, yield stress and elongation <i>etc.</i>
6. Cement Mortar in Masonry and Concrete Cube test for concrete and cement mortar	3 tests specimens per 50 cum of concrete subject to a minimum of three samples per day for each grade of concrete	Compressive strength

(Source: Terms of contracts)

Quality testing of masonry work was inadequate

Test check of records of construction of RMC and its distribution system revealed that 8.74 lakh cum RCC/CC works were executed at an expenditure of ₹ 709.91 crore during 2012-2022. Quality tests in respect of these works should have been carried out as per the prescribed criteria. Audit, however, observed shortcomings in the quality testing as below:

- (i) Out of the 15 types of quality tests²², only two types of quality tests (Concrete Cube test and Sieve analysis tests) were carried out in respect of masonry structures. No reason for not conducting the remaining 13 types of quality tests was on records of the SE, Quality Control Circle, Ayodhya and in the test checked divisions. Incomplete quality testing indicated that assurance over the quality of the masonry works was not adequately ensured.
- (ii) Quality tests should have been carried out on the representative samples as prescribed in the respective IS codes. The sample size for any quality test is based on the quantum of material and mix of RCC/CC. It was imperative for the divisions to maintain records detailing the sampling for quality tests *vis-a-vis* quantum of material/mix used in the work, details of

²² Cement: two; fine aggregate: five; coarse aggregate: four; water: one; reinforcement: one; cement mortar, masonry and concrete: two tests.

test performed and result of the quality tests. In case of any deficiency/shortcoming reported through the quality test reports, corrective action should have been taken. Audit however observed that in the 17 test checked divisions, all the 2,759 quality test reports, submitted to Audit related to 176 masonry structures, were found satisfactory. However, adequacy of samples for these 2,759 test reports could not be ascertained in Audit for want of mention of quantities of RCC/CC works sampled and tested.

In reply, the State Government stated (November 2023) that most of the prescribed quality tests, required for testing of concrete at work site such as sieve analysis, silt content, *etc.* for quality of sand and slump test, cube test, and material test for concrete works were carried out by the related agencies. The State Government further stated that the cube tests for the concrete work done by the divisions, related to construction works, were carried out as per norms records of which were available with the respective divisions.

The reply of the State Government was not acceptable because out of 15 types of prescribed quality tests, the test checked divisions provided details of quality test of Concrete Cube test and Sieve analysis test. Also, the State Government, did not explain the reason for non-maintenance of records of sampling of concrete mix for quality testing.

3.8 Internal control

3.8.1 Internal Audit

With a view to make the organisation responsive and thus accountable to the people, it was imperative that a system to detect error signals was put in place and adhered to. It was observed that internal audit of the divisions under various organisations of Irrigation and Water Resources Department (I&WRD) was carried out by the Auditors working under the Finance Controller of the I&WRD after getting the action plan approved from Directorate of Internal Accounts and Audit, Uttar Pradesh.

Audit examination of records revealed that during the period from 2017-18 to 2021-22, out of 31 divisions of SNP, internal audit was planned and conducted in four (13 *per cent*) to 17 (55 *per cent*) divisions only. It was further observed that the compliance by the concerned divisions on the internal audit reports was lax because out of 51 reports issued during 2017-22, no compliance was made in respect of 22 reports (43 *per cent*) and in 20 internal audit reports (39 *per cent*), partial compliance was made by the concerned divisions.

Thus, internal audit was inadequate as well as ineffective due to non-compliance on the issues highlighted by it.

In reply, the State Government stated (November 2023) that internal audit of the divisions were carried out by the departmental audit teams time to time.

Reply of the State Government was not tenable because internal audits in all the test checked divisions were not carried out during 2017-22 as discussed above.

3.8.2 Site inspections

Technical inspection is a vital element to ensure adherence to the drawings, designs, specification, quality of material, workmanship, *etc.*, in the execution of works. Central Vigilance Commission (CVC) also emphasised over the site inspections and stated that site inspection is basically to assess the quality of work being carried out and any compromise in the quality will not only defeat the very purpose of stipulating such elaborate quality standard but also causes irreversible loss to the public exchequer.

All the Technical inspections of the works are carried out by the Technical Audit Cell, established at the State level through visits of the work site periodically. Besides, zonal CEs and SEs were also to carry out site inspections of works' sites from the technical point of view to recourse mid-course rectifications/corrections, if needed.

3.8.2.1 Technical inspection by Technical Audit Cell

Technical inspections by Technical Audit Cell was not carried out during 2017-22

As per contracts for SNP, all the works during the progress and after the completion shall be subject to inspection by the Technical Audit Cell (TAC)²³ I&WRD Uttar Pradesh/Quality Control wing of the project. Any defect of material or workmanship pointed out by the technical examiner and established as such shall be rectified by the contractor at his own cost. Any recovery for the reduction in rates considered necessary by the technical examiner/officer of the quality control wing shall be realised from the contractors' subsequent bills or from the security of the contractors or contractors' dues available with the I&WRD in other divisions, even if the work has been accepted by the Engineer in charge.

Audit however, observed that in none of the 17 test checked divisions TAC inspections were carried out during 2017-22. Thus, the quality of works through the technical inspections by TAC was not ensured despite the fact that during 2017-22, large number of construction works had taken place.

In reply, the State Government stated (November 2023) that the TAC of the State Government had carried out inspections during 2022-23. It, however, did not provide reason due to which TAC inspections were not carried out during 2017-22 in the test checked divisions.

Thus, the mechanism in place for technical inspections of the works was not utilised to ensure the execution of work adhering to the prescribed specification and quality.

²³ TAC constituted at the Government level is responsible for inspection of the works from time to time.

3.8.2.2 Site inspections by CEs and SEs

According to Para 4.3 of Irrigation Manual of Orders (IMO) of Uttar Pradesh, CE was required to visit the construction sites time and again. In respect of inspection of works by SE, Para 6.5 of IMO envisages that SE would inspect different works of the circle.

Audit examination of records disclosed that CEs, SNP during 2019-22 carried out 43 visits of the sites of works carried out by 11 out of 17 test checked divisions. Apart from this, four out of eight SEs of SNP carried out 34 site inspections during 2019-22. Details are given in **Appendices 3.21(a)** and **3.21(b)**. The construction works carried out during 2017-22 mainly included construction of Rapti Main Canal (RMC) and its distribution system. Construction of RMC and its distribution system included construction of 874 masonry works. Against this, 43 site inspections by CEs involving 115 structures and 34 site inspections by SEs involving 233 structures seems inadequate.

The State Government did not furnish specific replies to the audit observations and stated (November 2023) that the site inspections were carried out which enabled the department to complete the works with quality. Audit, however, could not draw assurance over the adequacy of the site visits by the CEs and SEs.

3.9 Documentation and evidencing

3.9.1 Improper maintenance of stock accounts

As per the provisions of the Financial Rules, Volume-VI, all stock items should be taken in the stock account as and when it is received in the store. The receipt of stock in the store and issue of stock from the store should be recorded in the sub-divisional stock accounts. On the basis of receipt, issue and balances recorded in the sub-divisional stock accounts, the divisional stock accounts should be prepared on six monthly basis and closing balances of the stock alongwith cost thereof should be arrived at. Para 237 of FHB, Volume-VI also states for physical verification of store periodically. Similarly, as per Para 768 of the FHB, Volume-VI, Tools and Plant (T&P) register should be closed once in a year to ascertain the balances of T&Ps in the divisions.

Audit examination of records in 17 test checked divisions revealed that closing of divisional stock accounts was not done for the last six months to 108 months (on six monthly basis). Due to non-updation of stock accounts, the position of stock material received in the stores and balances of the same after issue/utilisation of stock on works, was not verifiable.

Similarly, yearly closing of the T&P accounts was also not done for the last one to 14 years in 17 test checked divisions. Due to the pending closing of T&P accounts, the status of T&Ps in these test checked divisions was not ascertainable. The concerned test checked divisions stated that action would be taken to update and close the accounts of stock and T&P.

In reply, the State Government stated (January 2024) that the records have been prepared and copies of records in respect of some of the divisions have been attached for reference.

The reply of the State Government was not acceptable, as the test checked divisions were not maintained the stock and T&P accounts. The State Government also did not attach the copies of stock accounts stated to have been prepared by the divisions.

3.9.2 Non-maintenance of records of plant for mixing of concrete

In the terms of contracts executed for construction of RMC and its distribution system, it was mentioned that the contractor shall maintain a record of the number of the batches mixed and all other details required for checking the correctness of mix as per the directions of the Engineer-in-Charge.

Audit noticed that in the estimates of six works of RMC and its distribution system, mixing of RCC/CC was provisioned through batch mix plant. The cost of mixing through batch mix plant was higher than that of through mechanical mixing. In these six works, 6.07 lakh cum of RCC/CC, amounting to ₹ 532.76 crore, was executed using batch mix plant. However, the concerned divisions did not maintain records such as Batch Mix Plant Register in support of use of batch mix plant. SE, Rapti Canal Construction Circle 2, Basti²⁴ did not provide the reasons for not maintaining the plant records and stated that batch mix plant was established at the work site by the contractors and the work was monitored by the concerned divisions.

In reply, the State Government stated (November 2023) that keeping in view the huge quantum of concrete mix and to maintain quality in the RCC/CC works rate of batching plant was taken. The State Government also stated that IS codes prescribes for taking ingredients of concrete mix by weight which was possible through use of batching plant. However, the State Government did not provide any reply regarding non-maintenance of record of the number of the batches mixed and all other details required for checking the correctness of mix as per the directions of the Engineer-in-Charge, as desired in the terms of contract.

3.9.3 Non-submission of documents of technical bids

The work of construction of RMC and its distribution system was distributed in six lots with estimated cost ranging between ₹ 153.93 crore to ₹ 375.77 crore. SE, Rapti Canal Construction Circle-2, Basti issued (October 2012) NIT for submission of technical bids in respect of all the six lots. In response to the NITs, four to ten bidders submitted their technical bids in respect of each of six lots of which one to five bidders were declared disqualified on the ground of not submitting documents, vis., IDT-1 (character certificate), IDT-2 (financial capacity), registration in I&WRD and certified copy of bid document within time. The tender documents

²⁴ Construction of RMC and its distribution system between Km. 80.000 to 114.000 and Km. 114.000 to 125.682.

prescribed submission of these document as pre-qualification criteria for the prospective bidders in respect of each of the six lots.

Audit requisitioned (January 2023 and June 2024) documents submitted by all the bidders participated in the technical bid evaluation. However, SE, Rapti Canal Construction Circle-2, Basti²⁵ provided documents/records only in respect of the bidders who were declared qualified in the financial bid evaluation and got the contracts²⁶. SE, IXth Circle Irrigation Works, Bahraich and SE, Rapti Canal Construction Circle-1, Balrampur who awarded the contracts to the successful bidders after financial bid evaluation also did not provide these documents to Audit despite requisition. Due to this, Audit could not verify the documents submitted by the bidders who were declared qualified in technical bid evaluation but could not get contracts after financial bid evaluation and the bidders who were declared disqualified in technical bid evaluation.

3.10 Other points of interest

3.10.1 Irregular provision in the cost estimates

According to ‘The Building and Other Construction Workers’ Welfare (BOCW) Cess Act, 1996’, 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 remitted to Uttar Pradesh BOCW Board.

Audit noticed that the estimated cost of ₹ 9,802.68 crore for SNP as per DPR 2017 included ₹ 42.75 crore on account of payment of Labour Cess. Since contractor was responsible for payment of Labour Cess, its inclusion in the estimates inflated the estimates by ₹ 42.75 crore.

During the exit conference, the State Government stated (November 2023) that Labour Cess was deducted from contractor’s bills and deposited to the Uttar Pradesh BOCW Board. It was further stated that allocation of ₹ 42.75 crore for labour cess in the estimated cost of the project was utilised on works of the project.

The fact remains that the provision of ₹ 42.75 crore in the estimated cost of the project on account of Labour Cess was unnecessary and utilisation of the same on other works of the project constituted irregular diversion of funds.

3.10.2 Forest clearance not obtained for use of forest land

Construction of RMC involved transfer of 60.15 hectare of forest land for construction of RMC between Km 0.450 and Km 6.600.

Audit observed that the Forest Department accorded in principal permission in June 2016 for use of these 60.15 hectare of forest land on the condition that the State Government would pay ₹ 12.86 crore to the Forest Department on account of compensation for non-forest use of forest land and falling of

²⁵ SE, Rapti Canal Construction Circle-2, Basti published and examined technical bids of all the six works.

²⁶ Except bid document in respect of L&T Construction Ltd. Chennai which was disqualified in all the six works.

trees over it. However, the State Government deposited only ₹ 9.32 crore to the Forest Department leaving balance payment of ₹ 3.54 crore. As a result of this, final clearance of use of forest land was not accorded by the Forest Department as of November 2022.

Pertinently, the canal had been constructed on the said forest land. Construction of canal without final concurrence from the Forest Department was irregular.

In reply, the State Government stated (November 2023) that against the due payment of ₹ 12.86 crore to the Forest Department, ₹ 9.32 crore was paid. E-payment system was started in October 2017 after which Forest Department was repeatedly requested for providing DDO code, treasury code and details of account of CCL/DCL, to transfer the remaining funds. However, the same was not provided by the Forest Department due to which the funds could not be transferred. The remaining payment of ₹ 3.54 crore is proposed to be made.

3.10.3 Advances to contractors

3.10.3.1 Mobilisation Advances

As per the terms of contract, Mobilisation Advance (MA), not exceeding to five *per cent*²⁷ of the contract amount shall be given, if requested by the contractor in writing within three months of the date of notice to proceed with the work. In respect of recovery of MA, it was envisaged that the entire advance would be recovered by the time 80 *per cent* of the value of contract is completed.

Audit observed that interest free MA amounting to ₹ 88.71 crore was granted (during April 2013 to December 2013) to the six contractors in respect of six contracts related to execution of works of RMC and its distribution system.

Audit further observed that contrary to the term of contracts, MA amounting to ₹ 17.23 crore (53 *per cent*) in two contracts (Total MA: ₹ 32.54 crore) was with the contractors for the period, ranging between 14 to 38 months even after payment of 80 *per cent* of contracts' value. Details are given in **Appendix 3.22**. Thus, the contractors were extended undue advantage.

The State Government did not furnish specific reply and stated (November 2023) that the MA against six major contracts was provided in accordance with the conditions of the contract which had been recovered from their bills. However, the State Government did not elaborate the circumstances under which the contractors were allowed to retain the MA beyond the prescribed period for recovery.

*Mobilisation
Advances were not
recovered from
contractors as per
terms and
conditions of the
contracts*

²⁷ Based on the requirement, assessed by the Engineer-in-charge on the basis of work program submitted by the contractor.

3.10.3.2 Machinery Advances

As per terms of contract (Clause 4 of General Conditions of Contract) for construction of RMC and its distribution system, an advance for new plant and machinery, *i.e.*, Machinery Advance (McA), required for work and brought to site by the contractor was to be given if requested by the contractors. The advance was to be limited to ninety *per cent* of the price of such new plant and equipment paid by the contractor for which the contractor would produce satisfactory evidence. It was, however, made clear that ninety *per cent* of the price of new plant and equipment or 10 *per cent* of the contract amount, whichever was less, was further subject to condition that both plant and equipment are (a) considered by the engineer in charge to be necessary for the work (b) in working order, and (c) hypothecated to the Government.

Audit observed that in two²⁸ out of six agreements for construction of RMC and its distribution system, the contractors were granted interest-free McA amounting to ₹ 27.00 crore . The irregularities in grant of McA to the contractors are discussed below:

➤ McA amounting to ₹ 12 crore was granted (December 2013) to M/s Patel Apco Joint Venture (agreement number 02/SE/2013-14) on account of purchase of 63 machines. Audit, however, observed that out of these 63 machines, 60 machines were purchased by the contractor before the date of contract (date of contract: April 2013; date of purchase of machines: February 2012 to March 2013). Thus, grant of McA on the machines purchased (cost: ₹ 11.47 crore) before the date of agreement was irregular being in violation of clause 4 (a) of General Conditions of Contract.

➤ In respect of McA amounting to ₹ 27 crore granted to M/s Valecha Engineering Ltd. (agreement number 01/SE/2013-14) and M/s Patel Apco Joint Venture (agreement number 02/SE/2013-14) on account of purchase of 137 machines²⁹, the required hypothecations to the Government were not made available to Audit, despite repeated requests. Details are given in **Appendix 3.23**.

In reply, the State Government stated (January 2024) that in place of hypothecation of machines, Bank Guarantees (BG) equal to the amount of McA were obtained in accordance with the State Government order (October 2012). All the McAs had been recovered from the contractors' bills.

The reply of the State Government was not tenable, as the General Conditions of contracts clearly mentioned that machinery against which McA was granted, had to be hypothecated to the Government and no exception was provided in this context. Further, the State Government did

²⁸ Agreement number 01/SE/2013-14 (agreed cost: ₹ 316.86 crore) for construction of RMC and its distribution system from Km 114.000 to Km 125.682 and 02/SE/2013-14 (agreed cost: ₹ 306.90 crore) for construction of RMC and its distribution system from Km 60.000 to Km 80.000.

²⁹ McA of ₹ 12.00 crore to M/s Patel Apco Joint Venture against 63 machines and ₹ 15.00 crore to M/s Valecha Engineering Pvt. Ltd. against 74 machines.

not provide reply for grant of McA on the machineries which were purchased before the date of contract and thereby not eligible for McA.

Thus, the grant of McA for the machines purchased before executing the contracts and non-hypothecation of the machineries to the Government was irregular and the contractors were extended undue advantage.

3.10.4 Pending adjustment of Miscellaneous Works Advances

Miscellaneous Works Advance (MWA) is a temporary head of account meant to record expenditure incurred on deposit works in excess of deposits received, losses due to deficiencies in cash or stocks, errors in accounts awaiting adjustments and the items which cannot be adjusted until recovery or settlement for want of details. These are required to be cleared as early as possible. However, in the test checked 10 out of 17 divisions, ₹ 76.48 crore was lying in the MWAs for adjustment (*Appendix 3.24*). The divisions did not provide records due to which details of debits such as nature of charges, contract/ supply orders to which it relates *etc.* could not analysed in Audit. The above MWAs were provided to officers/officials, firms and others by charging the amount on the expenditure of SNP provisionally.

On being pointed out the issue in Audit, the concerned divisions did not give specific reason for non-adjustment of advances for such a long period and merely stated that action would be taken to settle the advances. The unadjusted advance for a long period had also risk of being misappropriated. The State Government replied (November 2023) that vouchers in respect of registry of land and purchase of construction material had been received and the advances had been adjusted at the level of construction divisions. The State Government, however, did not provide evidence in support of its statement. In further verification of records by Audit in two test checked divisions³⁰, it was disclosed that the unadjusted advances amounting to ₹ 194.84 lakh were lying unadjusted as of February 2024 which contradicted the statement of the State Government that advances had been adjusted.

To sum up, the project was bereft of timely availability of funds because of weak expenditure management. Unauthorised financial liabilities were created and funds earmarked for payment of Labour Cess was utilised unauthorisedly. The Department failed to purchase land according to the targets. In execution of works, there was *ad hocism* in preparation of detailed estimates. Contracts were awarded without finalising designs & drawings due to which the scope of works also had to be changed several times. The contractors not only could not complete the works in time but also got undue benefit due to allowing higher rates in the estimates. Various instances of excess and irregular expenditure were noticed. Inadequate time to submit bids was noticed in 39 *per cent* of test checked contracts. Quality checks were not carried out as per the prescribed norms and internal control was lax as technical inspections by Technical Audit Cell were not carried out during 2017-22. Site inspections by Chief Engineers and Superintending Engineers were also inadequate.

³⁰ SNK, Bansi, Siddharthnagar (₹ 185.72 lakh) and RCCD-2 Shohratgarh, Siddharthnagar (₹ 9.12 lakh).

Documentation and evidencing were weak, depriving the officers of noticing the errors in the implementation of projects.

Recommendation 4: *In view of the persistent situation of time and cost overrun in many of the schemes/programmes, the State Government should fix responsibility for lapses and delays in project execution.*

Recommendation 5: *The State Government should take appropriate action to settle the financial liabilities and ensure financial closure of the project at the earliest.*

The State Government replied (November 2023) that action was in progress for financial closure of the agreements.

Recommendation 6: *The State Government should find out the circumstances under which the contracts were awarded without finalising designs and drawings and quantities of works.*

The State Government replied (November 2023) that agreements were executed on the basis of drawings prepared for the creation of structures and the works were executed at the agreed rates. The State Government also stated that the works were delayed due to situation of that time and other hurdles.

The reply of the State Government was not tenable because the estimates were prepared on the basis of typical drawings³¹ as mentioned in the estimate.

Recommendation 7: *The quality of construction of the major structures of the project should be verified.*

The State Government replied (November 2023) that quality tests were carried out to ensure the quality of the construction works and deductions in respect of deficiencies in workmanship were made.

The reply of the State Government was not tenable because quality tests of earth works were not carried out and in respect of masonry works only two out of 15 types of prescribed tests, were carried out.

Recommendation 8: *Internal control mechanism should be strengthened through regular internal audits, technical inspections and maintaining the records and documents.*

³¹ Typical drawing is the standard drawings of various structures of the project. The structure is however, created on the basis of actual drawing considering various factors such as location of the structure, geographical condition, purpose of the structure etc.