सत्यमेव जयते

Performance Audit Report of the Comptroller and Auditor General of India on Integrated Financial Management System for the year ended 31 March 2022

SUPREME AUDIT INSTITUTION OF INDIA
लोकहितार्थ सत्यनिष्ठा
Dedicated to Truth in Public Interest

उत्तराखण्ड शासन

GOVERNMENT OF UTTARAKHAND

Report No. 1 of the year 2024

Performance Audit Report of the Comptroller and Auditor General of India on Integrated Financial Management System

for the year ended 31 March 2022

Government of Uttarakhand

Report No. 1 of the year 2024

Preface

This Report of the Comptroller and Auditor General of India for the year ended 31 March 2022 has been prepared for submission to the Governor of the State of Uttarakhand under Article 151(2) of the Constitution of India.

The Report contains the result of the Audit on 'Integrated Financial Management System (IFMS)', covering the period 2019-22.

The instances mentioned in this Report are those which came to notice in the course of test audit for the period 2019-22; any development subsequent to the year 2021-22 have also been included, wherever necessary.

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

Audit wishes to acknowledge the co-operation received from Government of Uttarakhand at each stage of the audit process.

Highlights

Highlights

Intent of Integrated Financial Management System

Integrated Financial Management System (IFMS) was developed under Mission Mode Project (MMP) of National e-Governance Plan (NeGP) with a vision to increase efficiency of treasury functions, transparency in financial administrative systems, better cash flow management, better accounting of receipts and payments, improved regulatory mechanism, better control on State Finances, stronger Management Information System, accuracy and speed in accounts and budget preparation.

Why this Performance Audit?

Audit was conducted to assess and derive assurance about the effectiveness of IFMS system with regards to Information Technology (IT) controls, mapping of business processes and functioning of major modules of the system.

Period of Audit: 2019-20 to 2021-22

Sample: Nine out of 25 modules

What Audit found?

- Audit observed that preliminary study of existing system was not carried out by the Department which resulted in inclusion of outdated information in Detailed Project Report (DPR) like Inventory Management Module for e-stamps was included in the DPR and the Request for Proposal (RFP) of the vendor, despite the presence of a prior agreement with Stock Holding Corporation of India Limited (SHCIL) for implementation of e-stamping system.

(Paragraph 2.2.1(i), page 7)

- DPR was not reviewed before submission to Government of India (GoI) by State Project e-Mission Committee (SPeMT), responsible to prepare DPR and oversee project execution, as committee was formed in December 2013, i.e. a year after submission of DPR to GoI.

(Paragraph 2.2.1(ii), page 7)

- Department paid full scheduled amount of ₹ 32.08 lakh to vendors without ensuring delivery of certain major deliverables such as Business Continuity Plan, Backup Plan, High & Low Level design documents and User Acceptance Testing (UAT).

(Paragraph 2.2.4, page 9)

- Post Go-Live, relevant treasury and financial codes were not updated to align with the working of IFMS.

(Paragraph 2.2.6, page 13)

- Department had not formulated or adopted any change management policy. Change management in IFMS was being carried out without approval of competent authority which shows the lack of internal controls and monitoring.

(Paragraph 2.2.7, page 13)

- There was no integration between IFMS and Department of Finance (Budget Section) due to which complete automation was not achieved in budget workflow. IFMS did not support online submission of receipt estimates and revised estimates.

(Paragraph 3.2.5.1, page 18)

- There was no control or check in IFMS to prevent re-appropriation of budget from Voted to Charged head and *vice versa* and Revenue to Capital head and *vice versa*. Analysis of IFMS data revealed re-appropriation of ₹ 51.85 crore from Revenue head to Capital head and ₹ 13.87 crore from Loan head to Revenue head in 2020-21.

(Paragraph 3.2.5.2, page 19)

- Data analysis revealed that government orders were not implemented in IFMS, and bills were found to be pending at each level for more than 30 days.

(Paragraph 3.2.6.6, page 24)

- Only limited checks were available for pre-validation of bank account details. Complete checks regarding correctness of beneficiary name, IFSC and beneficiary account number were not present in the system.

(Paragraph 3.2.7.1, page 26)

- The process of reconciliation of payments between RBI/SBI and Treasury was not automated.

(Paragraph, 3.2.7.2 page 27)

- IFMS went live without required performance and quality certification from STQC.

(Paragraph 4.2.1, page 32)

- In IFMS, DDOs were registered with their personal e-mail IDs causing potential security risk.

(Paragraph 4.2.2 (i), page 32)

- Department did not implement biometric authentication even after *three* years of operationalization of IFMS.

(Paragraph 4.2.2 (iv), page 33)

- In absence of audit certificate, network security of IFMS could not be ensured.

(Paragraph 4.2.2(v), page 33)

- Business Continuity Plan was not framed and adopted for IFMS, even after four years since operation. In its absence, the staff/ users were unaware of the procedure to be followed in the event of disruptions/ disasters.

(Paragraph 4.2.3, page 33)

- Uttarakhand being in seismic zone IV, Department did not set up any functional Disaster Recovery(DR) site. In absence of functional DR site, business continuity of IFMS remained at risk in case of disasters.

(Paragraph 4.2.4, page 34)

- In absence of documented policies, users were free to handle security related issues in their own manner which could pose risks to IT security of IFMS.

(Paragraph 4.2.7, page 36)

What Audit recommends?

1. Department should ensure delivery of technical documents from the vendor to avoid any vendor lock-in situation.
2. Department should expedite the process of updation of financial rules/codes in line with the working of IFMS.
3. Department should issue Standard Operating Procedure (SOP) for key process implemented in IFMS such as correction of accounts, handling of failed payments, etc.
4. Department should integrate IFMS with e-Office so that sanction orders can be uploaded automatically.
5. Department should implement functionality for submission of receipt estimates and revised estimates through IFMS.
6. Department should integrate IFMS with Budget department for obtaining Budget data and processing it automatically.
7. Department should formulate BCP and set up DR site to ensure that the system runs smoothly and resumes its operations within definite time period in case of disasters and other emergency events.
8. The Department should expedite the process of creating and updating government email Ids for remaining DDOs in IFMS.
9. The Department should review and test the backup restore activity on regular basis so that data can be restored if inadvertently destroyed or lost.
10. The Department should formulate an IT security policy for security of IT assets, software and data, backup, data retention and disposal, etc.

Chapter-1

IFMS overview and Audit approach

CHAPTER-1

IFMS overview and Audit approach

1.1 Introduction

Integrated Financial Management System (IFMS) is a Web based financial accounting system under Mission Mode Project (MMP) of National e-Governance Plan (NeGP). IFMS was designed and developed to provide user interface to various users of State Government Treasury in the State. This portal provides real time financial transactions of Government of Uttarakhand (GoU) performed at 91[1]Treasuries/Sub Treasuries connected through dedicated lease lines across the state. The list of treasuries and sub-treasuries is given in ***Appendix-1.1***.

Before implementation of IFMS, various transactions related to Drawing and Disbursing Officers (DDOs) of GoU were being carried out through Core Treasury System.

NeGP, originally launched by the Government of India (GoI) in 2006, currently comprises 31 MMPs. An MMP is an individual project that focuses on one aspect of electronic governance, such as banking, land records and commercial taxes, etc. Treasuries computerization was one of the 13 MMPs for states (rest MMPs were central or integrated MMPs) which was developed as IFMS in Uttarakhand.

The IFMS architecture was a centralised system with all processing centralised in a set of servers located at the Finance Data Centre (FDC). The treasuries were connected to the FDC through Uttarakhand State Wide Area Network (UKSWAN). There was a total of 4,586 DDOs registered in IFMS. IFMS was integrated with 23 different applications as given in ***Appendix-1.2***. IFMS went live in all Department of Uttarakhand with effect from 01 April 2019.

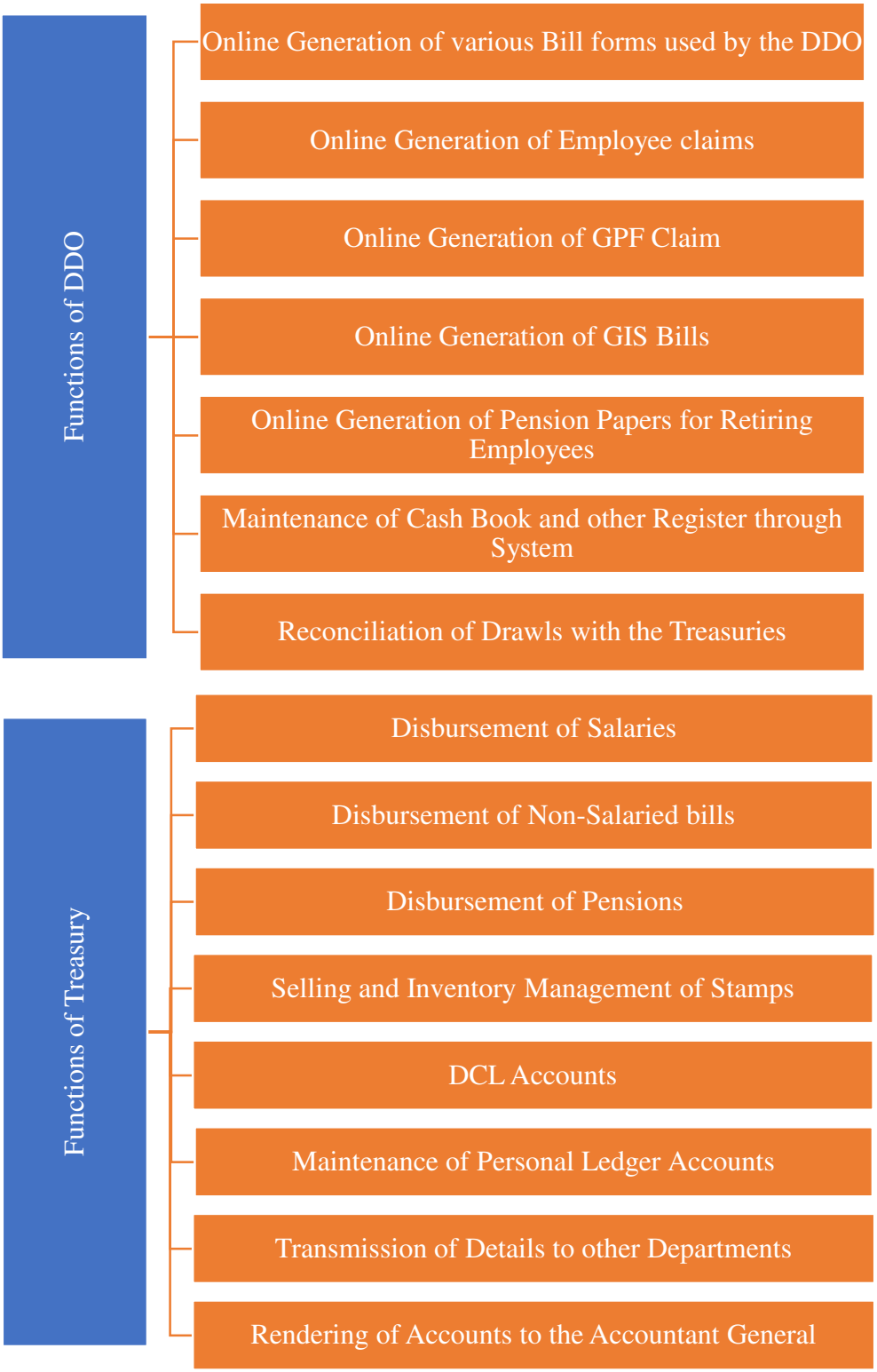
1.2 Salient features of IFMS

Common Electronic Platform	Centralised Data Processing	Uniformity	Transparency
• To provide Common Electronic Platform to its internal and external stakeholders	• To process all receipts and payments transactions online centrally at FDC.	• To establish uniformity between Government, Head of the Departments and Head of the Offices.	• To make all payments trasparently in a defined time period.

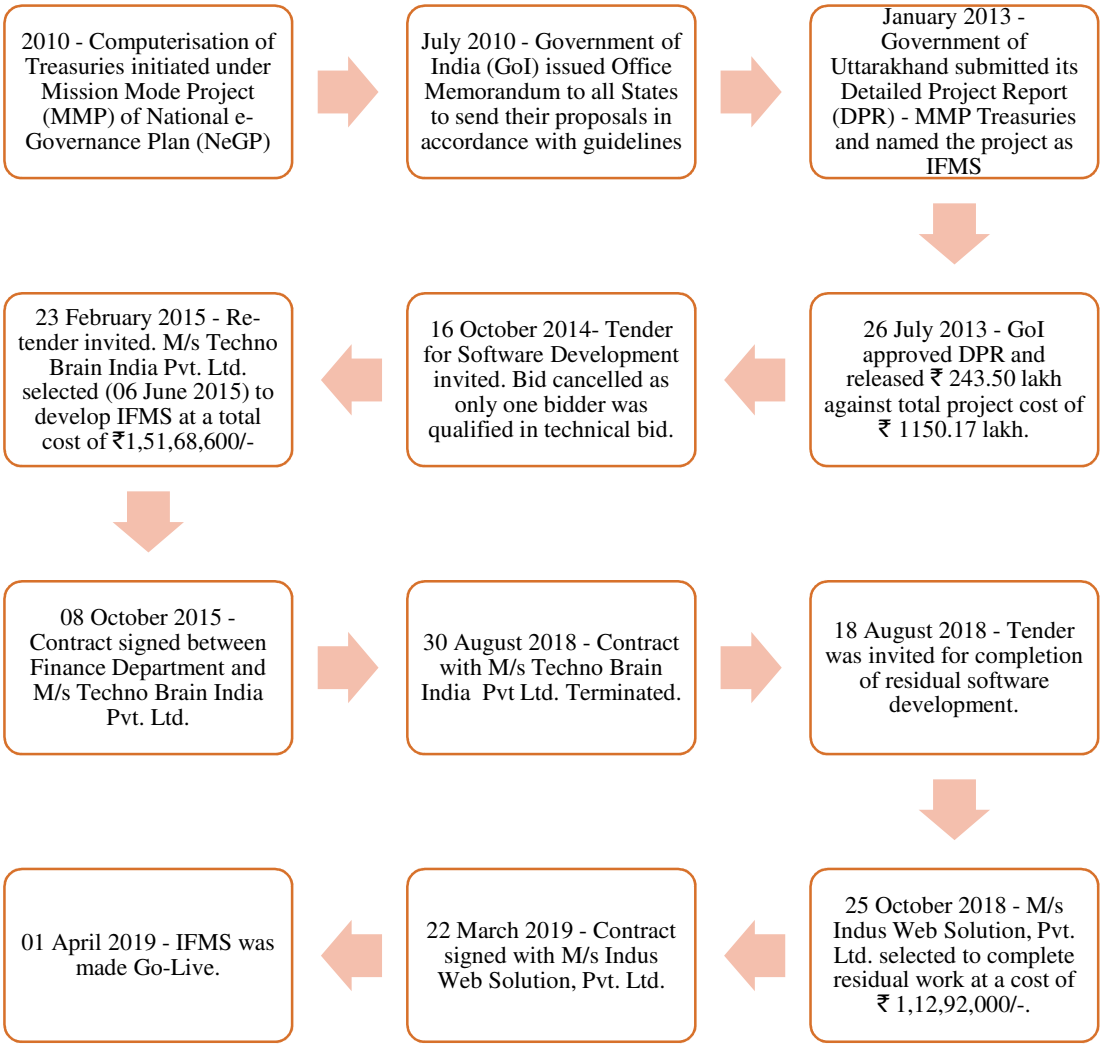
[1] 13 District Treasuries, six Treasuries, one Cyber Treasury, 70 sub-treasuries and one Pay and Accounts Office (PAO)

1.3 Functions performed by DDOs and Treasuries through IFMS

DDOs and Treasuries perform various functions through IFMS which are shown below:



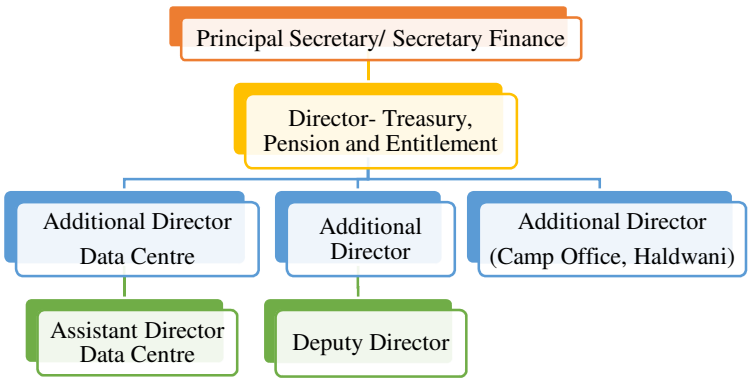
1.4 Important milestones of IFMS



1.5 Organisational set-up

Directorate of Treasury, Pension and Entitlement (DTPE) under the administrative control of Finance Department (FD) was the nodal agency for implementation of IFMS. Detailed organisational set-up is given in **Chart-1** below:

Chart-1: Organisational Structure



1.6 Audit Objectives

Audit was conducted to assess and derive assurance about the effectiveness of IFMS system with regards to IT controls, mapping of business processes and functioning of major modules of the system. The audit assessed efficiency and effectiveness of following-

- Business process re-engineering.
- Project Management.
- IFMS functionalities and controls.
- Integration of IFMS with other systems; and
- Information system security.

1.7 Audit criteria

The audit criteria were derived from the following sources:

- Provisions of National e-Governance policies & standards and technical documents.
- Detailed Project Report (DPR) of IFMS, Request for Proposal (RFP); Software Requirement Specifications (SRS) and Functional Requirement Specification (FRS) of IFMS.
- Government Orders with regard to treasury computerization /cyber security / IT systems etc.; and
- Uttarakhand Budget Manual, Financial Hand Book/ Treasury Rules and Standing Orders on Treasuries.

1.8 Audit Scope and Methodology

Audit of IFMS was conducted from 05 September 2022 to 15 December 2022. An entry conference was conducted on 26 August 2022 with the Secretary- Finance and Additional Director, In-Charge FDC, DTPE, Dehradun. Audit checked the records of DTPE and was given access to test environment of IFMS. We also analysed IFMS data covering the period from 1 April 2019 to 31 March 2022.The Audit examined nine major modules[2] out of total 25 modules, given in ***Appendix-1.3***, available in IFMS. We had access to the system through front-end and back-end for user walkthrough, and data analysis. Audit also visited Cyber Treasury and FDC to gain insight of the working of IFMS.

Audit findings were reported to GoU on 07.03.2023 and an exit conference was held with the Secretary-Finance, GoU on 21.06.2023. The responses during exit conference and written replies received (23.08.2023) from the Government have been incorporated in this report, at appropriate places.

[2] Budget (Budget Preparation, Budget Disbursement, Budget Maintenance, Budget Planning); DDO, e-Challan, Receipt Accounting, e-Payment, and Payment Accounting.

1.9 Acknowledgement

The Office of the Principal Accountant General (Audit) Uttarakhand acknowledges the co-operation extended by the officers and staff of DTPE in providing necessary access to data, information and records for audit.

Chapter-2
Project Management

CHAPTER-2

Project Management

2.1 Introduction

The success of an e-Governance project depends upon the development of the project in an integrated and holistic manner. E-Governance should not be understood merely as the procurement of hardware and other networking equipment. E-Governance is an integration of various fields of management thus making it a management game rather than merely a technology enabled project.

As a part of the project life cycle, the existing IT systems were required to be assessed along with coverage and gaps to understand the existing processes before conducting Business Process Re-engineering (BPR). It was vital that the process redesign, i.e. the critical analysis and radical redesign of workflows and processes within and between governmental Departments, was undertaken to achieve breakthrough improvements in performance.

2.2 Audit findings

The Audit noticed following shortcomings in development of IFMS:

2.2.1 Deficiencies in DPR preparation

(i) Absence of preliminary study of existing system

GoI has directed all States to fill the gaps in computerization, up-gradation, expansion, and interface requirements of existing system. For this, preliminary study of existing system was to be performed to understand the gaps in existing system and identify potential improvement areas. Audit noticed that no such study was carried out by the Department which resulted in the inclusion of outdated information in Detailed Project Report (DPR). For example, Inventory Management Module for e-stamps was included in the DPR and the Request for Proposal (RFP) of the vendor, despite the presence of a prior agreement with Stock Holding Corporation of India Limited (SHCIL) for implementation of e-stamping system.

(ii) DPR not reviewed before submission to GoI

State Project e-Mission Team (SPeMT) headed by Secretary-in-charge of the Department was to be constituted as per scheme guidelines. SPeMT had the responsibility to prepare DPR, oversee project execution, manage implementation and deal with technology, process & change management related issues. Audit noticed that SPeMT was formed in Uttarakhand in December 2013, i.e. a year after submission of DPR to GoI (January 2013), thus it did not fulfill its role in DPR preparation and reviewing.

2.2.2 Inadequate Business Process Re-engineering

BPR is the radical redesign of business processes to achieve dramatic improvements in critical aspects like quality, output, cost, service, and speed. GoI directed (July 2010)

States that while preparing DPR, it should include BPR of existing process and introduce new processes, where necessary. The requirement of process re-engineering and a brief methodology to conduct the same was to be included in DPR. The main objective of IFMS was to build an integrated finance information system to provide efficient transfer, storage and retrieval of information through workflow automation. For this, potential improvement areas were to be identified through BPR.

As the Department did not provide any document, Audit could not derive assurance whether BPR was undertaken by the Department or not.

During audit, deficiencies were observed in the IFMS which indicates lack of proper BPR prior to development of system. The deficiencies include lack of Integration with Budget Section for automation of budget process (Para 3.2.5.1.i.a), lack of Full automation of submission of supplementary budget estimates (Para 3.2.5.1.i.c), lack of auto-generation of sanction orders in IFMS (Para 3.2.2), lack of Defacement of vouchers/sub-vouchers in IFMS (Para 3.2.6.8), and lack of Automation of accounts acceptance and further correction (if required through transfer entries) with AG (A&E) (Para 3.2.9.2.v).

DTPE accepted (Dec 2022) the facts and stated that the current mechanism was adopted in consultation with budget section of Department of Finance. It also assured that further discussions shall be held with the budget section and if required, such functionality shall be added in IFMS. It was also informed that sanctioned orders were being generated manually but the Department was planning to integrate IFMS with e-Office so that digital sanction orders were automatically made available in IFMS. DPTE also assured that bill defacement would be implemented in future.

The Secretary-Finance, during exit conference (June 2023) agreed to the audit observations and stated that communication with budget section was underway for integration and functionality for submission of supplementary estimates through IFMS has been implemented and functional.

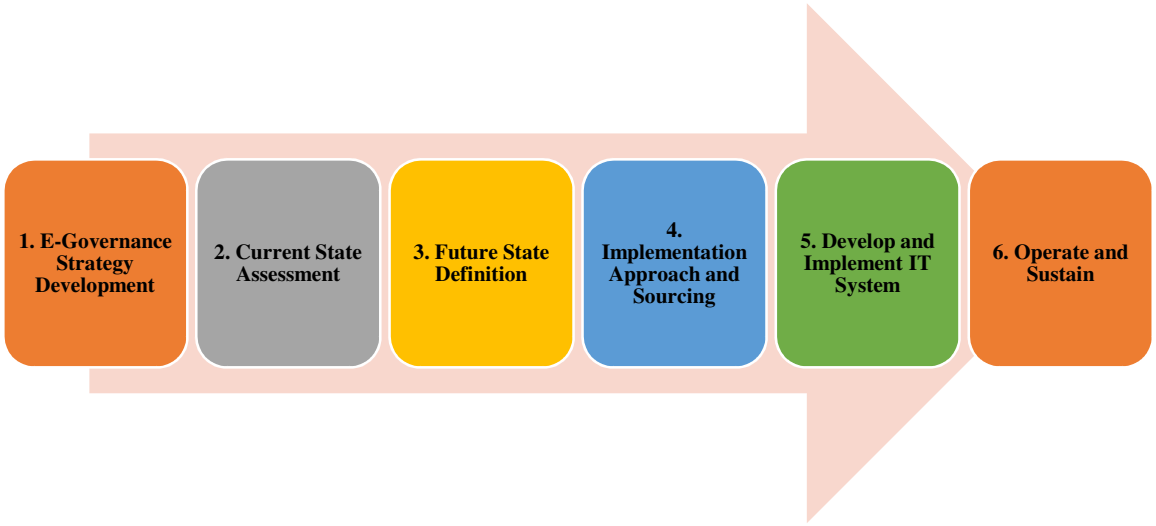
Reply confirmed that complete workflow automation of IFMS could not be achieved due to non-review of BPR. Thus, the Department failed to accomplish one of the major objective of the project. However, at the instance of Audit, the Department implemented the functionality for submission of supplementary estimates through IFMS.

2.2.3 Software Development lifecycle

The Software Development Life Cycle (SDLC) is a framework defining tasks performed at each step in the software development process. It consists of a detailed plan describing how to develop, maintain and replace specific software. It divides the project into distinct stages which follow sequentially and contain key decision points and signoffs.

SDLC permits an ordered evaluation of the problem to be solved, an ordered design and development process, and an ordered implementation of the solution. An example of SDLC is provided in **Chart-2:**

Chart-2: Software Development Life Cycle



Audit scrutiny revealed that there was no document available with the Department to ensure that any structured approach for development of IFMS was adopted. Department continued project development on unstructured approach, thus, resulted in non-delivery of key technical design documents (High-Level Design and Low-Level Design documents) which was essential to mitigate vendor dependency, non-execution of System Testing and User Acceptance testing to ensure quality of the developed software during the project development stages.

Thus, non-adherence to SDLC methodology towards software design and development escalated the risk of vendor dependency and compromised the software quality.

Government, while accepting the audit observation, stated (Aug 2023) that constant efforts were being made by the Department to get the essential documents prepared without any additional financial burden.

Reply was not acceptable as the fact remains that non-adherence to SDLC resulted in non-identification of risks during each stage of project development like project timelines were not met, project documentation was not done by the vendor, deliverables were not achieved, system not tested before Go-Live, cost escalation, quality not assured, etc.

2.2.4 Payment of ₹32.08 lakhs to Vendors without ensuring deliverables

Agreements between the Department and both the vendors (M/s. Techno Brain India Private Limited (TBIL) & M/s. Indus Web Solutions Private Limited (IWS)) provide for the project milestones with its deliverables and the amount payable against completion of each milestone. Audit however, noticed that the Department paid contracted amount of ₹ 32.08 lakh [1] despite lack of delivery of certain deliverables as detailed in **Table-2.1** below.

[1] ₹ 22,24,728 to TBIL and ₹ 9,84,000 to IWS

Table-2.1: List of deliverables not delivered by the vendor.

Sl. No.	Deliverable	Significance of deliverable	Audit observation	Government's reply
1.	Business Continuity Plan (BCP)/Back-up Plan	BCP is a document that outlines every aspect of disaster preparedness, response, recovery, and training. It dictates all the steps that should be taken during a critical event and outlines the preventative measures for mitigating the risks of disaster. The backup plan defines a comprehensive backup strategy to identify critical data and systems to be protected, backup administrator responsibilities, data retention, restoration procedures and more. It is essential because it is last line of defense against data loss stemming from data corruption, hardware failure, or security breach.	No BCP formulated by the Directorate till August 2023. In its absence, the staff/ users were unaware of the procedure to be followed in the event of disruptions/ disasters. They were also not trained in preventing, mitigating, and responding to emergency situations.	Government emphasized the criticality of BCP during exit conference (June 2023) and directed DTPE to frame the BCP as soon as possible.
2.	High Level Design (HLD) and Low Level Design (LLD) documents	HLD refers to overall system design. It is significant as it covers the system architecture and database. It describes the relation between various modules and functions of the system in brief along with data flow, flow charts and data structures. It converts the business requirements into High Level Solution. LLD refers to component-level design process, thus it is like detailing HLD. It is significant as it converts the High-Level Solution into Detailed solution. It defines the actual logic for each component of the system and goes deep into each modules specification.	Design documents were not delivered by the vendor and its contract expired on 31 March 2023. As these documents were necessary to understand the system, there was a dependency on vendor as well as contractual staff. In absence of design documents, it will be very difficult for new vendor to gain complete understanding of the system. On expiry of present contract, Department will face a vendor lock-in like situation.	Government accepted the facts and during exit conference (June 2023), directed DTPE to get the essential documents delivered from the vendor as these documents were critical to avoid vendor lock-in situation.
3.	Unit testing, System testing, test cases and test reports.	Quality Assurance testing (Unit Testing, System Testing, Integration testing, etc.) is an integral aspect of the software development lifecycle to ensure that software meet the required quality, security, availability,	No document was made available to audit in this regard. Hence, Audit could not derive any assurance whether software met the required quality,	Government accepted the facts (August 2023) and stated that Unit testing, System testing, Test

Sl. No.	Deliverable	Significance of deliverable	Audit observation	Government's reply
		reliability, and scalability standards.	security, availability, reliability, and scalability standards.	cases and Test reports were not provided by the Vendor.
4.	User Acceptance Testing (UAT)	UAT is crucial for the successful launch of any online platform. UAT ensures that system is performing as expected and whether the user accepts the finished product.	The system was made Go-Live hurriedly on 01 April 2019, within just 10 days of new contract. The Department did not conduct any UATs before implementing the software. Various shortcomings noticed in different modules could be addressed if user acceptance tests were done.	Government replied (August 2023) that the work order was issued on 25 October, 2018 and based on that Vendor started working on the development of the software. Contract was signed at a later stage. UAT document was not provided by the vendor before Go-live. After Go-live FDC prepared UAT Document to ensure software meets user needs. These documents were made available to the Audit.
5.	Data migration and verification support; Restructuring of tables and streamlining of database	Data Migration is necessary to ensure data is transferred successfully and securely and prevent corruption or data loss. It is required in scenarios where a business needs to upgrade its system or server, hardware, databases that is more aligned with business requirement. The streamlining of databases paves the way for consolidation of databases through integration and elimination of unnecessary tables and overlapping data items. Thus, it allows to take advantage of better data accuracy, better productivity, getting data faster, cost	Data Migration, restructuring of tables and streamlining of database was not carried out as data of legacy system was kept in a separate schema.	Government stated (August 2023) that data migration, restructuring of tables were done by combining all the previous data of the two databases i.e., Core Treasury System and DDO database in a single merged database. For smooth functioning of the system, only current financial

Sl. No.	Deliverable	Significance of deliverable	Audit observation	Government's reply
		efficiency and overall standardized business processes		year data was migrated to UKIFMSW schema and the data previous to the current financial year was kept in BACKDBA schema of the same database. The migrated new joint database was named as IFMRAC.

Government, in its reply (August 2023) confirmed that data of legacy system was kept in separate schema i.e. BACKDBA and only current year data was migrated to new database i.e. UKIFMSW. This clearly shows that the tables were not restructured and databases were not streamlined.

Regarding UAT, no supporting documents were provided to Audit to confirm that work order was issued on 25 October 2018 and UATs were carried out by the vendor before Go-live. Also, UAT reports provided by the Department showed that UATs were conducted after Go- live of the IFMS.

2.2.5 Go-live of IFMS after 10 days of signing contract with new vendor

M/s. IWS was selected on 25 October 2018 to complete the residual work after termination of contract with M/s. TBIL. An agreement was signed between Department and M/s. IWS on 22 March 2019, according to which 24 weeks were assigned to the vendor for completion of the residual work before IFMS was made to Go-Live.

Audit noticed that despite agreement, IFMS was made Go-Live on 01 April 2019, just 10 days from signing the contract and without conducting the mandatory processes of data migration, UAT and a Performance and Quality Audit from Standardization Testing and Quality Certification (STQC).

The Government replied (August 2023) that work order was issued on 25 October 2018 and based on that vendor started working on the development of the software. The contract was signed at a later stage. So, the vendor had sufficient time for working on the development of the software.

Reply was not acceptable as no supporting documents were provided to Audit to confirm that work order was issued on 25 October 2018 and the vendor started working on software development before signing of contract. In absence of work order, audit could not ascertain when vendor initiated the software development work.

2.2.6 Relevant Treasury and Financial codes not updated

Guidelines for 'Computerization of Treasuries' issued by GoI in July 2010 stipulated that since a large part of treasury computerization would become possible only after relevant codes are amended by the States, each state was to prepare and submit an action plan which included the changes required in procedures, practices, codes, manuals and laws (like provision for use of digital signatures, file formats, transfer of funds electronically) with explicit time lines. The cost of setting up of a task force to examine the codes was considered a valid cost under the scheme. Similarly, before the IFMS was made go-live in Uttarakhand, a detailed order was issued on 29 March 2019 by the State Finance Secretary reiterating that current rules and Financial Handbooks would be amended after operationalization of IFMS in the state.

During the audit, it was observed that:

- The relevant codes like Treasury Rules, Financial Handbooks were not updated/amended to reflect the current situation where majority of critical financial functions and transactions were being carried online through IFMS. This resulted in ever increasing gap between the business rules mentioned in the codes which became outdated and the rules on basis of which actual financial operations were being transacted in IFMS.
- Some functions like digital signature, Bill processing, etc. of IFMS had their basis in GOs issued by GoU. However, for some critical functionalities, audit could not locate any written documentation or authority. For example: Rules governing the system of handling failed payments in IFMS.

Case Study: In case of incorrect bank details of beneficiary, a Return Note was received in IFMS. The details of these failed payments were displayed to DDO and Treasury. DDOs, through failed upload option in IFMS, rectify the failed payment both in Return Note and Master tables by correcting bank details of beneficiary. DDO sends a certificate of correctness to treasury and the bill was processed again. The above process was neither documented nor available in existing financial rules.

Government, during exit conference (June 2023) accepted the audit observation and stated that report had been prepared and submitted by *Niyam Samiti* to GoU. The Secretary-Finance directed concerned officials that a weekly meeting with the members of *Niyam Samiti* shall be held to finalize the relevant rules.

2.2.7 Change Management

National Information Security Policy and Guidelines provides that the organization must implement and maintain a change management process to track and monitor activity related with changes to existing software applications. Activity such as application maintenance, installation of critical changes, review of changes and post testing, responsibility of changes, documenting change request amongst others must be documented with relevant details. Each significant change in application must be approved. SpeMT was responsible for change management.

Scrutiny of records revealed that the Department had not formulated or adopted any change management policy. Change management in IFMS was being carried out without approval of SpeMT / FDC-in-charge which shows the lack of internal controls and monitoring.

The Government in its reply (August 2023) stated that formal change management policy was not in place and changes were made in the software after approval from the competent authority and made live after the successful testing by the team. Framing of change management policy was in progress.

The reply was not acceptable as documents provided by the Department revealed that changes in the system were being made without necessary approval from the competent authority. In absence of change management policy, the due process of change management was not defined.

2.3 Conclusion

The Department had not conducted preliminary study and BPR which resulted in functional deficiencies in IFMS. Further, SDLC framework was not followed during software development which resulted in non-delivery of essential technical documents of the project. Department made a payment of ₹ 32.08 lakhs to vendor without ensuring certain major deliverables like BCP, Testing reports etc. IFMS was made Go-Live without ensuring sufficient testing. Post Go-Live, relevant treasury and financial codes were not updated to align with the working of IFMS. The department did not frame any change management policy to track and monitor modifications in the source code of the IFMS.

2.4 Recommendations

- ***The Department should ensure delivery of technical documents (HLD, LLD, test cases etc.) from the vendor to avoid any vendor lock-in situation.***
- ***The Department should expedite the process of updating of financial rules/codes in line with the working of IFMS.***
- ***The Department should issue Standard Operating Procedure (SOP) for key process implemented in IFMS such as correction of accounts, handling of failed payments, etc.***
- ***The Department should formulate and implement a Change Management Policy for any changes to be made in IFMS source code.***

Chapter-3

System Functionality and Controls

CHAPTER-3

System Functionality and Controls

3.1 Functioning of IFMS system

Nine modules were selected for this performance audit: Budget (Budget Preparation, Budget Disbursement, Budget Maintenance and Budget Planning) DDO, E-Challan, Receipt Accounting, E-Payment and Payment Accounting. They capture whole process from Budget estimation and approval to expenditure and receipt, their accounting and their compilation by AG (A&E) as Finance Account.

3.2 Audit findings

The Audit noticed following shortcomings in system functionality and controls of IFMS:

3.2.1 Modules envisaged in IFMS not implemented

The IFMS application was developed by M/s. TBIL and M/s. IWS. As per RFP document, 31 Modules were to be developed by the vendor. Also, approval of SPeMT committee was required before undertaking any changes in scope of work. Audit noticed that only 25 modules were developed by the vendor, with following modules **(Table-3.1)** declared 'out-of-scope' by the Directorate without consulting the stakeholder Departments and without obtaining necessary approvals from SPeMT.

Table-3.1: List of modules declared out-of-scope

Sl. No.	Modules	Objective/Function
1.	Resource Planning	It includes receipt estimation and would have helped the resource planning section to perform trend analysis and estimation of expected figures of receipt for the next year.
2.	Public Debt Management	The module would have provided projection on GoU fiscal deficit. Periodic cash inflow and outflow projections through this module would have been a critical factor in resource planning estimates and meeting mandatory liabilities of GoU.
3.	Budget Plan	An interface was to be provided to State Planning Department to upload annual plan outlay and filtering of estimates under Plan and Non Plan head.
4.	Input/output	It included generation of State Cash Book for receipt and payment and graphical presentation of data of five years for decision makers.
5.	E-Audit	It included Annual Audit Plan, digitization of formats as per audit manual, audit sampling techniques, Computer Aided Audit Techniques, audit progress monitoring system, etc.

The Government replied (August 2023) that meetings were held under the chairmanship of competent authorities and as per the directions these modules were kept out of scope. Additionally, certain new modules like SGHS, OPGM, RBI eKuber 2.0 upgradation etc. were added in place of modules kept "Out of Scope".

Reply was not acceptable as the Department did not provide any documents to support the fact that meetings were held with the respective Department. As every module had different requirements and involved different quantity of work in its development, therefore replacing some modules with others did not justify that same amount of work was executed. Also, the Department did not seek any approval for these changes from SPeMT.

3.2.2 Manual sanctions

GoU order stipulated that paperless facility should be available in IFMS for any application, form, bill, sanction order, etc. related to any work and it would be auto generated from system.

The Audit noticed that the sanctions were not auto generated from IFMS but communicated physically by the competent authority. The processing of sanctions was handled in IFMS in broadly two ways:

- **Facility of uploading sanctions available on IFMS in some cases**: Physical sanctions/ sanctions obtained through e-Office were scanned and uploaded along-with the bill in IFMS. Sanctions related to expenditure could be uploaded along with other supporting documents during Upload Document stage.
- **No facility of uploading sanctions available in rest cases**: No facility was available in IFMS for capturing the sanctions/orders related to creating a new DDO post or suspension of an employee. Although the processes could be carried out through IFMS, its authenticity could not be relied upon, as the functionality to upload sanctions/orders was not available in IFMS.

Provision of uploading of sanction orders in IFMS unavailable in case of suspension and creation of new DDO post depicted failure in accomplishment of paperless facility in IFMS and lack of functionality to auto-generate sanction orders in IFMS and thus, paved the way for manual intervention.

The Government accepted the facts and stated (August 2023) that sanction orders were generated using e-Office and a PDF copy of these orders was uploaded in IFMS. Communication with NIC was open regarding integrating e-Office with IFMS. Also, working of IFMS was completely made paperless from 01 Jan 2023 for cyber treasury and from 01 April 2023 for all the other treasuries, uploading of supporting document was made mandatory in almost all the modules.

3.2.3 Non-revocation of access rights of ceased users

User rights and permissions are the levels of access granted to users, enabling them to perform specific tasks and access resources on network such as data files or applications. There are four types of access rights (roles) in IFMS viz., Employee, Operator, Supervisor and Officer. These access rights enable users to perform various tasks associated with IFMS.

Data Analysis revealed that access rights of 23 employees who had retired or resigned from service or deceased were not revoked. No functionality was available in IFMS to auto deactivate the users from assigned role in case of death, retirement, or resignation. It was the responsibility of concerned Treasury Officer/DDOs to manually deactivate the User Roles in IFMS. Manual deactivation of User Role rather than auto deactivation renders IFMS vulnerable to potential risk of misuse of functionalities of IFMS.

The Government accepted the facts and stated (August 2023) that the issue had been resolved and assigned roles were removed by default as soon as Last Pay Certificate (LPC) was generated in any of the cases (transfer, death, retirement or resignation).

3.2.4 Non-review of Super User activity

DTPE created a 'Super User' who was to act like front end gateway meant for Data Center for facilitating its treasury operations. It was the most privileged user in DTPE who was capable to make any changes (Modify/Update) in various Master tables like Bank Master, DDO Master, Treasury Master, HoD Master, etc. Functionalities which were *inter alia* performed by Super User were:

- DDO Code Creation
- Treasury IP binding
- Update Master tables
- Display alerts/messages in IFMS
- Update DA/DR rates

However, Audit observed that Super User was single-handedly performing critical functions like significant changes in Masters i.e. changes in bank details, changes in scheme, activate/deactivate menu in IFMS, changes in Object Code, DDO Post generation, update party name, etc. It implied that an individual (Super User) had full control over master data. Activities of Super User, despite it being the most privileged user, were never reviewed. Super User login facilitated single mode approval rather than three tier approval, as envisaged in Government Orders. Hence, it was pertinent to review its activities periodically. Furthermore, DTPE was unable to formulate any documentation to substantiate activities performed by Super user. Non-reviewing of critical treasury functions discharged by immensely empowered Super User was sheer illustration of arbitrary conduct and thus, subjected to individual will or judgement without restriction.

The Government replied (August 2023) that any changes made by Super User were performed after the approval from the competent authority and logs for the same were also being maintained in the system. Also, Implementation of three level approval for super user was in progress.

Reply was not acceptable as the Department did not provide any document to support their claims. Further, three levels of approval for Super User was to be implemented.

3.2.5 Budgetary work flow and control deficiencies

The budgetary process in IFMS was required to provide support for Budget management, including preparation, communication, and revision of budgets for the State/UT Governments. It would enable the Department to moderate the demands made by field offices and submit them to the Finance Department, indicating their requirements for funds. The Finance Department would analyze the demands from various perspectives

and finally recommend provisions for each of the budget heads/ Department. The module would be able to print the document for being placed before the legislature for approval. This module would facilitate timely releases as well as adherence to the authorized limits of expenditure by the DDOs. The module would allow re-appropriation / supplementary grants, surrenders to be handled through it in similar manner.

Audit noticed following systemic deficiencies in their analysis:

3.2.5.1 Key work flow processes not automated

(i) Audit noticed that following key processes in the workflow of budget preparation, approval and distribution were done manually or required manual intervention in some form or other.

a) **Budget estimation:** Budget estimation includes both receipt and expenditure estimates for generation of Annual Financial Statement or State Budget to be laid before Legislature. Budget Estimates (BE) limited to expenditure estimates from DDO to HoD and from HoD to Secretary level were submitted through IFMS. During the system walkthrough, it was noticed that there was no integration between IFMS and Department of Finance (Budget Section). However, an interface was provided to the budget section in IFMS. The secretaries could submit consolidated expenditure estimates to Finance Department online followed by final submission to Budget section for consideration. Thereafter, the budget section downloaded the expenditure estimates in excel format from the available interface in system for budget formulation. IFMS was oblivious of the data worked upon by the budget section for budget formulation. Thus, due to absence of integration with Budget section, complete automation was not achieved in budget workflow.

b) **Receipt estimates:** IFMS supported online submission of expenditure estimates only whereas online submission of receipt estimates was not supported as the Resource Planning module proposed for receipt estimates was dropped. Thus, due to incomplete formulation of budget estimation, IFMS was unable to generate State Budget (Budget Literature) which was required to be generated from the system automatically.

c) **Revised estimates:** Due to absence of functionality in IFMS, revised estimates were submitted manually by the Department.

The Government accepted the facts and stated (August 2023) that the entire budget module was developed as per the requirement of the budget directorate. Budget preparation was being done by the budget Department using its own software. Therefore, many functionalities associated with budget preparation had not been provided in IFMS. However, Receipt estimation and revised estimation functionality would be provided in IFMS from financial year 2024-2025 after consultation with budget Department.

(ii) Uploading of approved budget in IFMS: After the budget is approved by Legislature, there was no functionality in IFMS for budget section either to upload or fill the approved budget details in IFMS. Therefore, approved budget details were sent by the

Finance Department to FDC, DTPE in excel format through e-mail. FDC imported the budget details in IFMS database manually which then became available to all secretaries for further distribution.

The Government accepted the facts and stated (August 2023) that at present, database dump was shared by the budget section after its approval by the Governor. However, from financial year 2024-25, the budget data will be obtained through an API from the budget section in the Finance Department.

(iii) Budget distribution:

- **From Secretary to HoD**: A batch ID was generated in IFMS whenever secretary allotted funds to HoD. The Batch ID generated in IFMS was not visible to HoD. Therefore, Batch ID was being communicated to HoD through a letter. Once the letter was received, HoD was required to enter the Batch ID manually in IFMS and accept the funds. There was no functionality to accept the funds automatically.
- **From HoD to DDO**: Similarly, a Batch ID was generated and communicated to DDO through a letter by HoD after allotment of funds. In place of DDO, the functionality to accept the budget was provided to Treasury Officer. For acceptance of allotted budget, DDO had to produce the letter before the Treasury Officer.

DTPE accepted the facts and assured Audit that all manual intervention in all modules would be automated after implementation of e-sign.

The Government accepted the facts and stated (August 2023) that working of IFMS was made paperless from 01 April 2023 across the state. Also, alert functionality was implemented for all the modules.

3.2.5.2 Deficient control over Re-appropriation of budget

Rule 134 of Uttarakhand Budget Manual stipulates that Re-appropriations are not permissible -

(i) from one Grant/Appropriation to another;
(ii) from the Charged to the voted section or vice versa;
(iii) where provision for an existing service has been made either in the Revenue, Capital or Loan section and it is proposed to change the character of service by transferring it from the existing section to any other section;
(iv) to provide for new expenditure, whether voted or charged;
(iv) to increase or provide for the expenditure on an item the provision for which was specifically reduced or disapproved by the Assembly either through a substantive or a token cut; and
(v) after the close of the financial year.

Audit scrutiny of the system revealed that there was no control or check in IFMS to prevent re-appropriation of budget between inadmissible budget heads (from Voted to Charged head and *vice-versa* or from Revenue to Capital head and *vice-versa*). Analysis

of IFMS data revealed re-appropriation of ₹ 51.85 crore from Revenue head to Capital head in 2020-21 and ₹ 13.87 crore from Loan head to Revenue head as detailed in **Table-3.2**.

Table-3.2: Instances of inadmissible Re-appropriations

Sl. No.	Financial Year	Grant No.	From Head	To Head	Amount (in ₹)	Remarks
1	2020-21	19	250106102010105	451500102010653	2,78,00,000	Revenue Head to Capital Head
2			251500102011042	451500102010653	18,00,00,000	
3			251500102280050	451500102010653	6,00,00,000	
4			251500102350050 251500102350056	451500102010653	7,10,00,000	
5		11	220202113010303	420201202010153	17,97,14,778	
6	2020-21	18	242500106030050	642500108020061	13,86,69,800	Loan Head to Revenue Head

The Government accepted the facts and stated (August 2023) that necessary validations were implemented as per Uttarakhand Budget Manual, 2012.

3.2.5.3 Irregular surrender of budget

Rule 125 of Uttarakhand Budget Manual provides that all the final savings must be surrendered to the Finance Department by 25th March.

Audit scrutiny of IFMS revealed that there was no control or check to prevent generation of surrender requests after the end of financial year. Thus, the system was allowing surrender of budget after 31st March. Analysis of IFMS data revealed that:

- A total of 1493 surrender requests were submitted from HoD to secretary level after 31 March 2021, i.e., from April 2021 to August 2021 (FY 2020-21).
- A total of 2339 surrender requests were submitted from HoD to secretary level after 31 March 2022, i.e., from April 2022 to September 2022. (FY 2021-22).

Moreover, the Audit noticed that there was no functionality in IFMS through which the concerned secretaries could surrender the excess budget of their Department to the Finance Department. In absence of such functionality, the surrender was done through manual process.

The Government accepted the facts and stated (August 2023) that implementation of functionality to enable budget surrender by Secretary to Finance Department was in progress.

3.2.5.4 Absence of alert functionality

There was a provision in DPR and FRS to generate e-mail alerts in IFMS on irregularities like unexpected variation in estimates. Regular alerts to notify concerned estimating officer about the last date of estimate submission were also to be generated in IFMS so that budget estimates from all Department could be submitted timely. During system walkthrough, Audit noticed that budget estimate submission timeline was not captured in IFMS. E-mail alert functionality, as part of internal control and monitoring, was not implemented in IFMS to notify higher authorities about any unexpected variation or delay in submission of estimates.

The Government accepted the facts and stated (August 2023) that e-mail alert functionality was developed and it would be enabled for the officials whose official email-id are available in the system.

3.2.6 DDO module workflow and controls

Drawing and disbursing officer works on behalf of state government and is responsible for all money received or disbursed in his office and the maintenance of accounts thereof. There were 4586 DDOs in the state who were using E-DDO module in IFMS.

DDO module was an online application/interface in IFMS which enabled DDOs to:

- to create various bills and submit those bills online to Treasury,
- to prepare and approve employee loans and advances like House Building advance, Medical Advance, Travelling Allowance, GPF advance and LTC advance,
- to generate pension papers of retiring servants,
- to online Reconcile data with Treasuries,
- to generate Cash Book,
- to keep track of receipts and expenditure through various MIS reports like Bill Register, UTR detail, Payment Status Report and Voucher list, etc., and
- to view the status of their bills submitted online, and verify status whenever their Bill was approved.

Audit noticed following systemic deficiencies in DDO module:

3.2.6.1 Non segregation of roles

GoU directed that operator (Maker), supervisor (Checker) and Officer (Approver) would be made three tier users separately in IFMS portal.

Data analysis revealed that system, while mapping an employee to DDO post, by default assigned multiple roles (Operator, Supervisor, Officer, and Admin) to a single employee. There was no bar on assigning distinct roles to different employees, as multiple roles could be assigned to a single person in IFMS. Further, Audit noticed that a DDO could assign multiple roles to a subordinate employee. As a result, Audit noticed instances of a single user performing different and incompatible roles and functions as shown in **Table-3.3**:

Table-3.3: Instances of Incompatible roles by same user

Financial Year	Total no. of bills processed during the year	All the three user's functions performed by a single person	Two out of three user's functions performed by a single person
2019-20	6,28,663	3,03,940	1,45,611
2020-21	6,80,802	2,64,875	1,91,485
2021-22	6,71,553	2,61,496	1,85,506
01.04.22 to 01.11.22	4,47,186	1,32,824	1,37,937

It is evident from above Table that the segregation of duties which is a strong safeguard against error, fraud and embezzlement was largely absent in financial transactions of the State government.

The Government accepted the facts and stated (August 2023) that due to limited staff in many offices, the ability to assign multiple roles to a single person was kept flexible.

The reply was not acceptable as assignment of multiple roles to a single user clearly depicted lack of segregation of duties.

3.2.6.2 Incomplete implementation of e-sign functionality

Government orders provided that bill would be prepared online and scanned copy of related sub-voucher/vouchers/sanction orders, etc. would be uploaded in the system along with the bill. The existing practice of producing hard copy of bill and vouchers at treasury/PAO was to be discontinued. To achieve this, e-signature was to be implemented at all levels.

Audit noticed that the Department did not implement e-sign functionality in all types of bills. E-sign functionality was implemented only in three types of bills (Whole Transfer, Value Added Tax refund and State Government Health Scheme claims) and two types of reports (Pension Payment Order and Monthly accounts sent to AG (A&E)). Remaining bills were being prepared and forwarded to treasury/PAO online. As e-sign functionality was not implemented, a printout copy of online prepared bill, along-with original supporting documents, after manual signature was being sent physically to treasury/PAO for passing of payment. Treasuries, after matching the specimen signature of DDO, passed the bill online. After passing the bill online, treasury transmitted the payment schedule electronically to RBI for e-payment. Once e-payment was made, physical bills were marked as paid and vouchers/sub-vouchers were defaced manually by the treasury.

The Government accepted the facts and stated (August 2023) that e-sign functionality was implemented in all the modules of IFMS.

3.2.6.3 Inconsistent workflow

The procedure for bill processing was divided into three main phases: Bill Initiation, Document Upload, and Bill Generation. Initially, the Bill was prepared by the DDO, who completed essential information such as the grant, head of the account, and the amount. Subsequently, the DDO uploaded the necessary accompanying documents. Once done, the DDO triggered the bill generation process, resulting in the creation of a Transaction ID. This ID was then sent to the Treasury for the subsequent stages of processing.

During the audit, it was observed that the DDO encountered difficulties in creating bills due to the absence of a feature that would automatically display the budget availability for a specific scheme in IFMS during the bill processing. This led to a situation where the budget availability was not automatically populated while entering details for a particular scheme during bill processing. In cases where the budget limit was exceeded, a message

indicating that the 'bill cannot be generated' would appear during the Bill Generation stage. This forced the DDO to start the bill preparation process anew.

To ensure budget availability, the DDO had to manually cross-reference a separate register called the 'Budget Register' in the IFMS. This involved navigating through various pages of the DDO web application to check the budget availability during the bill processing. This approach resulted in an inconsistent workflow for the bill processing procedure and imposed unnecessary workload on the DDO.

The Government accepted the facts (August 2023) and assured of improvement in User interface of bill preparation.

3.2.6.4 Absence of DDO specimen signature in system

Workflow automation was one of the key objectives of the IFMS project.

Audit noticed absence of a functionality that would allow the DDO's specimen signature to be automatically populated within the system throughout the entire Bill Processing Workflow. Instead of utilizing an online submission process through IFMS, the DDO's name and specimen signature were being manually transmitted to the PAO/Bank/Treasury Officer. Even after the online submission of the bill to the Treasury, the DDO still had to send a physical printout of the online-prepared bill to the Treasury. There, the Treasury Officers manually cross-verified the signature on the bill with the DDO's specimen signature, which had been provided manually to the concerned treasury for authentication.

The lack of an automated DDO specimen signature mechanism prevented the system from achieving full paperless functionality. This absence created a barrier to the complete elimination of the necessity to print bill documents for physical signatures. Consequently, Government Departments were unable to fully realize the advantages of a seamlessly electronic workflow.

The Government accepted the facts and stated (August 2023) that e-sign functionality was implemented in all the modules of IFMS.

3.2.6.5 Non-automation of functionalities in DDO module

(i) Creation of New DDO Code

DTPE created a Super User who was provided with privilege to change DDO Master. Super User through DDO Master created Post/Designation of DDO consequent upon receiving of Government Order regarding approval of creation of new DDO which contained therein only name of DDO and Treasury without mention of DDO Code. After filling various fields like DDO Code, Treasury, DDO Name, Department, Tax Deduction and Collection Account Number (TAN), Goods and Services Tax Identification Number (GSTIN), District, Mobile Number and Email ID in DDO Master, DDO ID was created. Thereafter any Treasury Officer (having same treasury which was contained in GO while creating post of DDO) via his Admin Role maps requisite employee to DDO. After this stage, User ID was created for that particular employee.

Audit noticed that DDO Code was entered manually rather than auto generated in IFMS, whereas it was observed that Secretary Code was auto generated. DDO Codes were being allotted randomly by DTPE. No prescribed formula or criteria was being followed while allotting DDO Codes rendering non-uniformity in allotted DDO Codes.

The Government accepted the facts (August 2023) and assured of implementing the functionality in future.

(ii) Bill Register (11C) Serial Number

A bill register was maintained physically by DDO for record of all bills processed for later verification with Treasury.

Audit noticed that at the time of Generating Bill, 11C serial number (Bill register) was entered manually rather than auto populated in IFMS. The serial number to be entered was to be time and again tracked from physical Bill register maintained in the office. Thus, IFMS lacked the functionality of tracking Bill serial numbers despite the fact that all bills were being processed through IFMS. Non-achievement of automation in above functionalities in DDO module defeated the very purpose of holistic automation of whole DDO functions and enhanced the unnecessary manual workload.

The Government accepted the facts and stated (August 2023) that functionality of auto generation of 11C numbers was implemented.

3.2.6.6 Lack of internal control in timely processing of bills

Government orders provided that a bill since its creation in DDO office till its approval at treasury/PAO could be held for a maximum period of one day at each user level. If a bill was held for more than one day at any level, then system should not allow the bill to be approved at maker and approver level for further processing.

System walk-through revealed that no alert/checks mechanism was implemented in IFMS to force or remind the maker, checker, or approver to process the bill within stipulated time limit.

Data analysis revealed that government orders were not implemented in IFMS, and bills were found to be pending at each level for more than 30 days as shown in **Table-3.4**:

Table-3.4: Pendency of bills at different stages

Financial Year	Total Bills Processed during the year	Time taken (in days)	Number of Bills processed					
			At DDO level			At Treasury/PAO level		
			By Maker	By Checker	By Approver	By Maker	By Checker	By Approver
2019-20	628663	00-01	526373	574898	582993	323560	615842	603377
		02-10	92798	49803	41880	269138	12398	24252
		11-20	7282	3042	3001	26666	318	698
		21-30	1428	621	489	5883	63	196
		More than 30	782	299	300	3416	42	140
2020-21	680802	00-01	560025	623726	636113	385275	662280	671247
		02-10	115143	55157	42591	283447	17765	9516
		11-20	4592	1522	1685	8950	541	34
		21-30	728	253	289	1911	103	2

Financial Year	Total Bills Processed during the year	Time taken (in days)	Number of Bills processed					
			At DDO level			At Treasury/PAO level		
			By Maker	By Checker	By Approver	By Maker	By Checker	By Approver
		More than 30	314	144	124	1219	113	3
2021-22	671553	00-01	555845	614403	626586	404005	647553	659790
		02-10	110128	55022	43018	267548	23768	11763
		11-20	4553	1707	1576	0	163	0
		21-30	709	306	238	0	21	0
		More than 30	318	115	135	0	48	0

Further, though, a DDO could check the status of bills pending at various levels but duration of pendency was not shown. Not-implementing of above timelines/ functionalities in IFMS was in contravention of Government Order and manifests lack of internal control in timely processing of bills at various levels and also the possibility of lack of accountability and delay in processing of bills cannot be ruled out.

The Government accepted the facts and stated (August 2023) that timeline of one working day at each user-level had been implemented from 01 April 2023. Also, dashboard preparation for monitoring/alert purposes was in progress.

3.2.6.7 Lack of internal control in drawing of AC bills

Financial Rules provided that Drawing Officer is authorized to draw advances on Abstract Contingent Bill (AC Bill). A certificate to the effect that the Detailed Contingent Bills (DC Bills) in respect of drawings on AC Bills have been furnished in respect of each drawing which is over three months old has been recorded on the DC Bill.

Audit noticed that system accepted all AC Bills without checking any details related to pending DC Bills. DC bills were required to be submitted to AG (A&E) and certificate to this effect was to be attached with AC bills. In fact, a separate provision for capturing details of this certificate did not exist in the system. Details of AC bills not adjusted within stipulated time limit is shown in **Table-3.5** and **3.6**: -

Table-3.5: Details of AC Bills adjusted through DC Bills

Financial Year	Total No. of AC Bills Drawn	Duration of AC Bills adjusted through DC Bills					
		Within 3 months	3 to 6 months	6 to 9 months	9 to 12 months	Beyond 1 year	Beyond 2 year or more
2019-20	1558	108	61	19	13	0	0
2020-21	838	157	24	10	9	23	0
2021-22	600	226	59	12	15	30	8

Table-3.6: Details of pending AC Bills

Financial Year	Previous year's AC Bills pending for adjustment	Total No. of AC Bills Drawn during the year	Bills adjusted through DC Bills	AC Bills pending for adjustment at the end of year
2019-20	1217	1558	201	2574
2020-21	2574	838	223	3189
2021-22	3189	600	350	3439

Not adjusting of AC bills in stipulated time indicates lack of monitoring and internal control at treasuries level.

The Government accepted the facts and stated (August 2023) that implementation of such control through IFMS would be explored in future.

Reply was not acceptable as AC bills were to be adjusted timely as per existing financial rules.

3.2.6.8 Non-availability of functionality for Bill Defacement in IFMS

All sub-vouchers, whether they were to be retained in the Office of the DDO/Controlling Officer or to be submitted to the AG (A&E), should be cancelled or so defaced or so mutilated by the DDO concerned that they cannot be used again.

Audit observed that there was no functionality for online Bill Defacement in the IFMS even though, IFMS had checks and controls for preventing generation of duplicate bills. Once e-payment was made, physical bills were marked as paid and vouchers/sub-vouchers were defaced manually by the treasury.

The Government replied (August 2023) that digital defacement will not serve any purpose because without physical defacement the same sub-voucher may be uploaded again. Also, necessary validations had already been implemented to avoid the possibility of re-use of the same invoice/sub-voucher.

Reply was not acceptable as digital defacement was necessary in cases where only online bills were provided by the third party for achieving paperless processing of bills.

3.2.7 e-Payment work flow and controls

e-Payment module of IFMS was designed for automated processing of electronic payments. The entire process like preparation of transaction files for uploading to bank, integrations with payment gateways and treasury portal along with proper validations, were captured and followed in the module. On behalf of government, RBI was responsible for making all e-payments except draft payments as draft payments were processed by SBI. All payment requests from IFMS to RBI and SBI were transmitted through Secure File Transfer Protocol (SFTP) in the form of payment schedules. Once payment was credited to the beneficiary, the details of payment were transmitted back by both the banks to IFMS. Payment details received from RBI and SBI were populated in IFMS through scheduler. Audit observed following deficiencies during analysis of e-payment module: -

3.2.7.1 Beneficiary bank details not validated

Functional Requirement Specification (FRS) of e-payment module provided that while making e-payment, the bank account details of beneficiary or third party would be pre-validated. During system analysis, audit noticed that only limited checks which included checks on length of account number and Indian Financial System Code (IFSC) only, were available for pre-validation of bank account details. Complete checks

regarding correctness beneficiary name, IFSC and beneficiary account number were not present in the system.

The Government accepted the facts and stated (August 2023) that DTPE had signed MoU with National Payments Corporation of India (NPCI) for validating the beneficiary's name, account number, IFSC etc. and this functionality would be implemented soon.

3.2.7.2 Reconciliation process not automated

Workflow automation was the main objective of IFMS project. It removes manual intervention and hence ensures data accuracy and integrity.

Audit noticed that the process of reconciliation of payments between RBI/SBI and Treasury was not automated and carried out manually. The daily and monthly scrolls were received from agency banks and RBI through e-mail. The payment details received in scrolls were manually reconciled by treasuries and posted in IFMS. Hence, reconciliation process was not automated.

The Government stated (August 2023) that there was automatic reconciliation of payments done using RBI's e-Kuber system. IFMS automatically identify the differences in Return Note (RN)/Debit Note (DN) details and ACST (Account Statement). Once identified, treasury officials would take up the issue with RBI and resolve the difference. E-mail facility was an additional check to verify the account statement manually. It was same as the details already shared electronically in the form of ACST.

Reply was not acceptable as Department did not provide any documents to support their claim of automatic reconciliation of payments in IFMS.

3.2.8 e-challan module: A successful tool

The practice of manual deposition of governmental receipts was discontinued and online collection of all Government receipts through e-Challan module was made mandatory w.e.f. 01 April 2021. e-Challan module facilitated selection of Department and its various services automatically. Multiple services of a Department could be selected for depositing amount against each service in a single challan (**Figure-1**). The module provided the options to deposit the challan amount online or offline. Payment for offline challan could be made at any SBI counter. For online challans, SBI provided banking services including payment gateway, internet banking, mobile banking, etc. SBI prepared a daily receipt e-scroll and sent it to IFMS through SFTP. Once e-scroll was received from SBI, the IFMS reconciled the receipts automatically. Department having their own receipt collection portal like excise, mining, election, Police Headquarter, etc. were integrated with IFMS.

Audit checked the e-challan module on the parameters like complete head classification, automation of workflow, checks to prevent refund more than once, etc., and found that entire workflow of the module was automated, contained necessary checks and controls and functioning as per requirements. Hence, e-challan module successfully achieved its objectives.

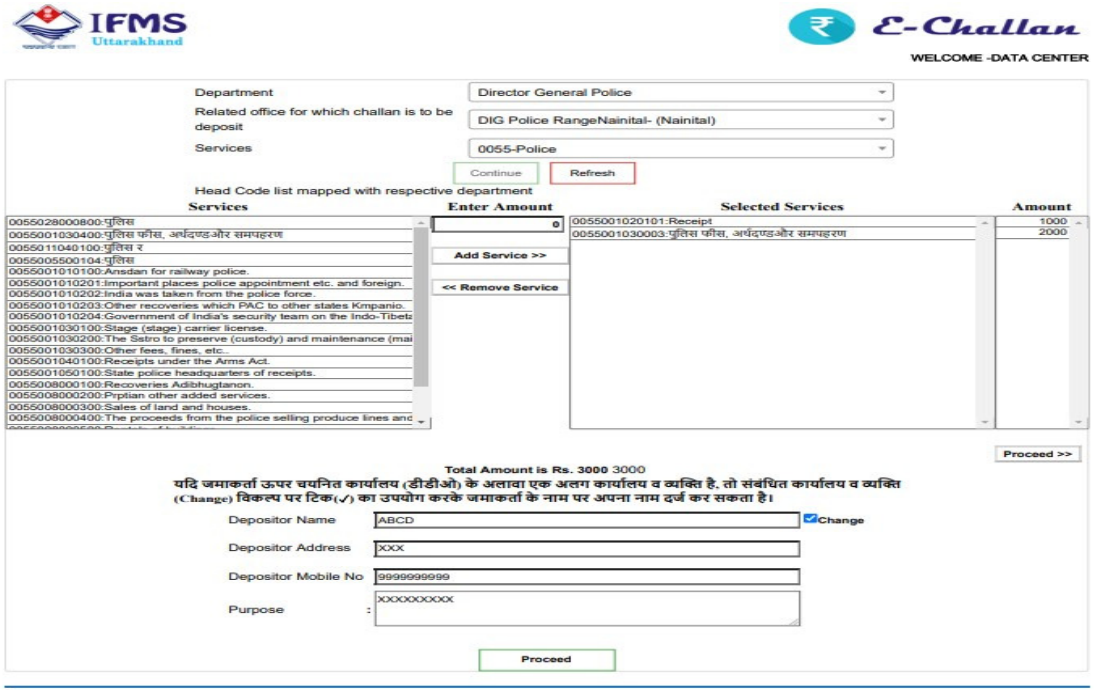


Figure-1

3.2.9 Accounting workflow and integration with AG (A&E)

Financial Rules stipulated that after the close of the month, a consolidated monthly account should be sent to the Accountant General, Accounts & Entitlements (AG- A&E). The respective treasury generated the monthly accounts in IFMS and submitted its e-signed report to AG (A&E) online. Various e-signed reports such as List of Payments (LoP)/Schedule of Payments (SoP), cash account, Reserve Bank Deposit statement, etc. and other data were being forwarded to A&E office through IFMS user interface. During analysis of **receipt accounting** module, audit observed that:

3.2.9.1 Partial integration of IFMS with Transport Department

Online receipts of transport Department were collected using departmental portal i.e. *e-Vahan/ Sarathi* etc. Since there was no integration between IFMS and *e-Vahan/ Sarathi*, the information regarding the receipts collected by Transport Department were received at FDC only through e-scrolls received from SBI. As e-scrolls of Transport Department contained only major head wise details. Thus, the complete 13-digit classification of receipt heads was not captured in IFMS leading to incomplete data being forwarded to AG (A&E).

The Government accepted the facts and stated (August 2023) that multiple reminders were sent to the Transport Department but no action was taken by Transport Department in this regard.

Reply was not acceptable as complete integration with Transport Department was not achieved. Further, the reply clearly depicted that there had been lack of synergy between DTPE and Transport Department since requirement gathering phase of the project.

3.2.9.2 Deficient functionality of correction of accounts through transfer entries

Audit noticed that although, functionality of proposing accounts correction through transfer entry was developed in IFMS, the process of account correction and the authority of AG (A&E) office was not captured in the system. Thus, the correction proposals were not submitted to AG (A&E) office through IFMS. Instead, to propose any correction in accounts through transfer entry, a printout of the proposal was taken out by the concerned treasury and sent manually to the AG (A&E) Office. After the approval from AG (A&E) Office was obtained, the same was approved in IFMS by the Treasury Officer.

The Government accepted the facts and stated (August 2023) that functionality for correction of account through transfer-entry was partially automated and team was working to fully automate this process.

Reply was not acceptable as complete automation of correction of account through transfer-entry was not implemented in IFMS.

3.3 Conclusion

The Department did not implement all the envisaged modules in IFMS. There was existence of manual intervention in IFMS which defeated the purpose of automation. Duties of 'Super User' were not segregated and all the tasks were executed at single user level. The receipt estimates were not submitted through IFMS. IFMS was unable to generate State Budget (Budget Literature) which was required to be generated from the system automatically. The budget modules lacked complete automation in budget distribution, deficient controls over re-appropriation and surrender of budget. There was absence of alert functionality in IFMS to notify higher authorities about any unexpected variation or delay in submission of estimates.

IFMS lacked segregation of duties at DDO level. There was no control in IFMS for timely processing of bills and settlement of AC bills. There was lack of validation (beneficiary name, IFSC and bank account number) while adding a new beneficiary in IFMS. There was lack of synergy between DTPE and various stakeholders since requirement gathering phase of the project.

3.4 Recommendations

- ***Department should integrate IFMS with e-Office so that sanctions orders can be uploaded automatically.***
- ***Department should implement functionality for submission of receipt estimates and revised estimates through IFMS.***
- ***Department should integrate IFMS with Budget Department for obtaining Budget data and processing it automatically.***
- ***Department should integrate IFMS with NPCI for validation of beneficiary bank details while making payment.***
- ***Department should completely integrate IFMS with Transport Department for capturing complete receipt details from e-Vahan / Sarathi.***

Chapter-4
Information System Security

CHAPTER-4

Information System Security

4.1 Introduction

Traditionally, information available with the government has been safely managed by keeping it in paper records throughout its lifecycle i.e. creation, storage, access, modification, distribution, and destruction. However, to make all government services accessible to the common man in his locality, through efficient service delivery outlets, along with transparency & reliability, the government has steadily graduated towards using electronic formats of information.

IFMS is a web-based application for payment, accounting and reconciliation of Government transactions which integrates various existing standalone systems. IFMS envisages single point of data capture; hence assume greater importance to ensure the integrity and correctness of information. As treasury transactions are very sensitive in nature and is therefore imperative that the security, consistency and integrity of such data and transactions should be maintained at all levels.

4.2 Audit findings

In Uttarakhand, the IFMS went live from 1 April 2019. It is currently being operated through FDC located in the premises of Directorate Treasury, Pension and Entitlement, Dehradun. During Joint physical inspection of FDC and system review of IFMS, audit found following (**Table-4.1**) features to be installed and working in the IFMS and setup:

Table-4.1: List of observations noticed during joint verification of FDC

Sl. No.	Parameter	Audit observation
1.	Physical Access controls	During Joint inspection of FDC audit noticed that • Physical access to FDC was restricted by biometric door lock devices. • Server room was secured with three layer biometric securities and only authorised personnel were given access to the server room. • Preventive measures like fire extinguishers, air-conditioned machines, etc. were in place. No dust and loose articles were found in server room.
2.	Monitoring Vulnerability and threats	Intrusion Prevention System (IPS), Anti Malware, Firewall, email filtering to monitor vulnerability and threat through Fort iGATE 2600F Series Firewall was installed at FDC and system logs were being recorded.
3.	Database security	Audit observed that: • Database server was installed on separate dedicated machine, hosted in private network of UKSWAN. • Three – tier connection methodology was adopted as all connections to database were routed through Application / Integration Server. • Database was configured to allow only trusted IP address. • All users' sessions were encrypted through Secure Socket Layer (SSL) handshake keeping data secure in transit. • The development database / application was kept separate from production database / application.

4.2.1 Non-conduction of Performance and Quality Audit from STQC

Standardization Testing and Quality Certification (STQC) Directorate, is an attached office of the Ministry of Electronics and Information Technology, Government of India, which provides Quality Assurance Services for software testing, information security and IT Service Management by conducting Testing, Training, Audit and Certifications.

Audit observed that it was the responsibility of selected bidder[1] to carry out Performance and Quality Audit from STQC before IFMS went live. But the system went live on 01 April 2019 without the required certification from STQC. During audit, DTPE also accepted that the users of IFMS were facing slowness issues. Therefore, in absence of necessary STQC certification, risk of quality and performance issues in IFMS could not be ruled out.

The Government in its reply accepted the facts and stated (August 2023) that some digitization work was going on and shall be completed by 2023-24. STQC will be done once digitization work was completed. Reply was not acceptable as the contract with the vendor, who had already been paid for the deliverable 'Performance and Quality Audit from STQC', already expired on 31st March 2023.

4.2.2 IS security systemic deficiencies

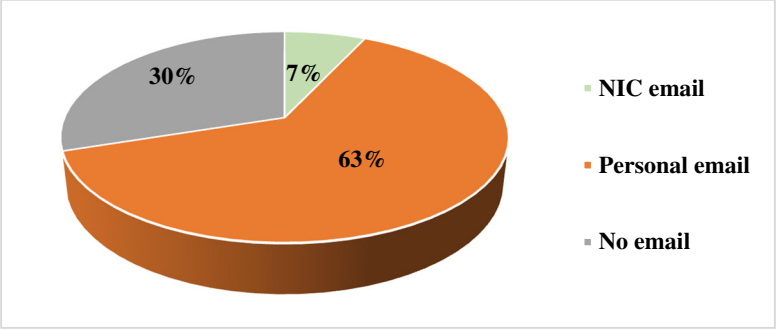
During system review, audit noticed following deficiencies in the system:

(i) Use of personal email IDs by DDOs

As per directions of GoU, "All DDOs shall use Government e-mail in IFMS portal provided by State NIC for all official work and communication. Usage of personal email is strictly forbidden in IFMS". Audit observed that 2912 (63%) out of 4586 DDOs were registered with their personal e-mail IDs as there was no check available in IFMS to ensure that DDOs register in IFMS through government e-mail IDs only. This created a potential security risk as government data was being stored in servers outside government control.

The Government, during exit conference (June 2023) accepted the audit observation and stated that a campaign to create government e-mail IDs for remaining DDOs shall be launched and subsequently e-mail IDs of DDOs shall be updated in IFMS.

Chart-5: Use of email IDs



[1] M/s IWS.

(ii) Non-incorporation of audit trails

An audit trail (also called audit log) is a security-relevant chronological record, set of records, and/or destination and source of records that provide documentary evidence of the sequence of activities that have affected at any time a specific operation, procedure, event, or device. During system walk through, audit noticed that audit trails were not being incorporated in IFMS due to which details of changes made through IFMS were not traceable through front end. For example: Lifecycle of a bill including details of rejections and subsequent actions taken on the bill were captured in the form of logs at back-end but were not available at front end for DDO user.

Government accepted the fact that audit trail was not visible through front end and stated (August 2023) that report of audit trail will be made available to DDOs soon.

(iii) Weak Password policy

Password policy provides that password should be a combination of upper and lower case characters, digits and punctuation characters as well and other characters. Audit noticed that the system was not enforcing use of lower case while constructing password.

The Government accepted the fact and assured (August 2023) of its compliance in future.

(iv) Non implementation of Biometric authentication during Login

As per Software Requirement Specification (SRS) of the project, Biometric authentication (in form of fingerprint capture) of registered users of DDO System[2] and Treasuries was to be implemented in IFMS. However, it remained non-implementable even after three years of operationalization of IFMS.

The Government accepted the importance of biometric authentication and stated (August 2023) that integration with Aadhaar was proposed. Once implemented, Aadhaar based biometric authentication will be done by the users at the time of login.

(v) Network Security

Audit observed that IFMS was being operated on UKSWAN managed by Information Technology Development Agency (ITDA), Dehradun. Despite request to DTPE and ITDA to provided network security audit certificates of UKSWAN to Audit, they were not provided. In absence of audit certificate, Audit could not ascertain the network security of IFMS.

4.2.3 Absence of Business Continuity Plan (BCP)

Formulation of BCP was the major component to be implemented under IFMS project. It ensures that the system runs smoothly and resumes its operations within definite time period in case of disasters and other emergency events. Audit noticed that BCP had not been framed and adopted for IFMS, even after four years since operation. In its absence, the staff/ users were unaware of the procedure to be followed in the event of disruptions/

[2] DDO is primarily a front-office type of web application and is accessible over the internet using a web browser.

disasters. They were also not trained in preventing, mitigating, and responding to emergency situations.

The Government accepted the criticality of BCP during exit conference (June 2023) and directed DTPE to frame the BCP as soon as possible.

Reply was not acceptable as framing of BCP was the responsibility of vendor who had already been paid for the same. In absence of BCP, business continuity of IFMS remained at risk in case of disruptions/disasters.

4.2.4 Disaster Recovery site not set up

Disaster Recovery (DR) aims at protecting the Department from the effects of significant catastrophic events. It allows the Department to quickly resume mission-critical functions after a disaster. Various possible disasters that can take place are – human error, epidemic, power outage, fire or explosions etc. The distance for a DR site can vary depending on the types of disaster - such as earthquakes, floods, terror attacks, etc. The Department should choose a DR location that fits its business model and regulatory requirements.

Audit observed that as per the DPR of the project, DR site was to be set up at State Data Centre (SDC) at ITDA. In the same DPR, it was envisaged that once the SDC at ITDA becomes operational, all IT infrastructure and IFMS operations at Finance Data Center[3] (FDC) would be relocated to SDC and the former would act as an archival site. The proposal to make SDC the DR site was reiterated in a meeting held with DTPE, NIC & ITDA under chairmanship of Finance Secretary on 03 December 2021.

Audit noticed that the two provisions of DPR were mutually contradictory as in case of shifting of IFMS operations from FDC to SDC, the latter could not act as DR site which by definition had to be present at geographically different location. Moreover, both FDC and SDC were located near to each other, around 6.5 kilometers apart and in a region vulnerable to disasters (Seismic zone IV). Recently, flash flood like situation was created in the region due to cloudburst on 25 August 2021. Thus, despite IFMS being operational since 1 April 2019, no efforts had been made to set up a DR Site, in absence of which the critical financial operations of GoU remained vulnerable in case of any disaster.

During exit conference (Jun 2023), Government accepted the importance of DR site and stated that IFMS application, presently hosted in FDC was planned to be shifted to SDC in ITDA. Further, ITDA was planning to create a 'far' DR site for all the applications hosted in SDC.

Reply was not acceptable as Dehradun lies in seismic zone and prone to natural disasters like earthquakes, floods, cloud bursts etc. In absence of a functional DR site, business continuity of IFMS remained at risk in case of disasters.

[3] In DPR, Integrated Data Center

4.2.5 Backup and recovery controls

National Information Security Policy and Guidelines, 2014 provides that organization must ensure that backup copies are maintained for all operational data to enable reconstruction should they be inadvertently destroyed or lost. Also, Back-up copies of information and software shall be taken and tested regularly in accordance with the agreed backup policy.

Audit noticed that the data generated in IFMS was replicated on real time basis in SDC of ITDA. In the FDC of DTPE, scheduled backup was done in which backup of data schemas was taken on daily basis and full backup was taken after every 15 days. However, despite three years of go-live of IFMS, Department had not formulated the backup policy and tested the system by restoring it through back-up data. Also, the Department did not determine the data retention period, in absence of which data kept on accumulating and could impact the performance of system such as increased response time, etc.

The Government in its reply (August 2023) accepted the fact that backup policy had not been formulated but daily, monthly, incremental and full backups were taken by the Database Administrator (DBA). Government in its reply claimed that backup activities were reviewed and tested on monthly basis, however no documents were provided to audit to substantiate the claims.

4.2.6 Critical financial data handled by outsourced personnel

To manage FDC, DTPE demanded the sanction of *seven* posts/technical cadre citing the necessity of deploying technically proficient regular personnel in view of the sensitivity of the work and the financial implications involved. As per GO dated 12 September 2019, three technical posts[4] were sanctioned by the GoU and directed DTPE to formulate service rules before direct recruitment to aforesaid technical cadre and fill the created posts before 29.02.2020.

Audit noticed that instead of formulating the required service rules and direct recruitment to the sanctioned posts, all the technical staff at FDC was outsourced and hired on contractual basis. This not only created dependency on contractual staff but also involved significant security risk as the critical database including financial transactions and personal data were handled by outsourced personnel. This defeated the purpose of 'restricting the possible misuse and to protect the stored data' for which DTPE got the technical cadre sanctioned from the GoU.

The Government in its reply (August 2023) stated that outsourced personnel worked under the close supervision of the Domain Team which was manned by government employees. Most of the outsourced personnel were working with FDC since last ten years. Efforts were being made to have additional technical resources who would not only help

[4] Two direct recruitment posts (System Administrator and Database Administrator) and one outsourced post (Senior Software Engineer)

in maintenance and enhancement of IFMS but work as back up of existing resources. In future, requisition would also be sent to the Government for hiring permanent technical staff after their service rule is framed.

4.2.7 Absence of documentation and policies

Web Application security is of paramount concern for all stakeholders. Guidelines for Indian Government Websites state that Department must formulate a security policy to address various security issues related to the website. Hence, a well-documented security policy was required for proper functioning of IFMS.

Audit observed that Department did not formulate any IT security policy for security of IT assets, software and data, backup, data retention and disposal, incident reporting, e-mail, Password, etc. Due to lack of documented security policy, every user was free to handle such issues in his own manner which could pose risks to IT security of IFMS.

The Government accepted the facts and stated (August 2023) that IFMS was being shifted to SDC and IT policies regarding infrastructure, network, password etc. would be adopted as of SDC. Whereas other policies like BCP, DR Policy etc. would be framed by DTPE in due course.

4.3 Poor feedback from end users of IFMS

Audit carried out an online survey to get feedback from end-users of IFMS at DDOs and Treasuries. Nearly 370 responses were received. Issues reported were related to Login, OTP delay, poor and delayed support from helpdesk, slow speed of site, server down, bill creation and accounting, lack of training, lack of user-friendliness, issue in various reports and modules, non-availability of legacy data, work-flow, vendor or party management, file-upload size, unnecessary 20 minutes' wait period after abrupt logout, duplicity of work due to hardcopies, save-session not enabled, mismatch in GPF, delayed voucher generation, duplicity of accounts of contractors in context of GST, Works module, and many other issues.

The Government accepted the feedback given by IFMS users and stated (August 2023) that few issues had been identified and fixed. Issues related to slowness of the system would be resolved once system is moved to SDC. Other issues would be fixed after hiring of additional technical staff.

4.4 Conclusion

Information security of IFMS application is of paramount concern to owners as well as users of the applications as treasury transactions are very sensitive in nature. Audit noticed that IFMS went live without required performance and quality certification from STQC. In IFMS, DDOs were registered with their personal e-mail IDs causing potential security risk. Department did not implement biometric authentication even after *three* years of operationalization of IFMS. In absence of audit certificate, network security of IFMS could not be ensured. Despite being in seismic zone, Department did not frame BCP/set up any functional DR site. In absence of BCP/DR site, business continuity of

IFMS remained at risk in case of disasters. Department did not formulate any IT security policy. In absence of documented policies, users were free to handle security related issues in their own manner which could pose risks to IT security of IFMS.

4.5 Recommendations

- ***The Department should expedite the process of creating and updating government email Ids for remaining DDOs in IFMS.***
- ***The Department should formulate Business Continuity Plan and set up Disaster Recovery site to ensure that the system runs smoothly and resumes its operations within definite time period in case of disasters and other emergency events.***
- ***The Department should review and test the backup restore activity on regular basis so that data can be restored if inadvertently destroyed or lost.***
- ***The Department should formulate an IT security policy for security of IT assets, software and data, backup, data retention and disposal etc.***

Dehradun
The 10 April 2024

(PRAVINDRA YADAV)
Principal Accountant General (Audit),
Uttarakhand

Countersigned

New Delhi
The 26 April 2024

(GIRISH CHANDRA MURMU)
Comptroller and Auditor General of India

Appendices

Appendix-1.1
(Reference: Paragraph-1.1; Page-1)

List of Treasuries/Sub-Treasuries

Sl. No.	District Treasury	Treasury	Sub-Treasury
1	**Sadar Treasury Dehradun**		1-Chakrata
			2-Mussoorie
			3-Tyuni
			4-Rishikesh
			5-Vikasnagar
2	**Sadar Treasury Nainital**		1-Betalghat
			2-Koshyakutoli
			3-Ramanagar
			4-Kaladhungi
			5-Dhari
3	**Sadar Treasury Almora**		1-Chaukhutiya
			2-Dwarahat
			3-Deghat
			4-Maulekhal
			5-Lamgada
			6-Takula
			7-Danya
			8-Bhikiyasen
			9-Someshwar
4	**Sadar Treasury Pithoragarh**		1-Berinag
			2-Didihat
			3-Ganaigangoli
			4-Dharchula
			5-Gangolihat
			6-Munsiyari
			7-Thal
			8-Askot
			9-Nachni
			10-Dewalthal
5	**Sadar Treasury Gopeshwar, Chamoli**		1-Chamoli
			2-Joshimath
			3-Karnprayag
			4-Pokhri
			5-Gairsain
			6-Tharali
			7-Dewal
			8-Narayanbagad
			9-Ghat
6	**Sadar Treasury Uttarkashi**		1-Purola
			2-Bhatwadi
			3-Badkot
			4-Dunda
7	**Sadar Treasury Pauri Garhwal**		1-Srinagar
			2-Thalisan
			3-Dhoomakot
			4-Satpuli
8	**Sadar Treasury New Tehri**		1-Ghansali
			2-Thatyud
			3-Pratapnagar

Sl. No.	District Treasury	Treasury	Sub-Treasury
			4-Devprayag
			5-Nainbag
9	**Sadar Treasury Haridwar**		1-Haridwar
			2-Laksar
10	**Sadar Treasury Udham Singh Nagar**		1-Jaspur
			2-Kashipur
			3-Bajpur
			4-Gadarpur
			5-Kiccha
			6-Sitarganj
			7-Khatima
11	**Sadar Treasury Champawat**		1-Lohaghat
			2-Pati
			3-Tanakpur
12	**Sadar Treasury Bageshwar**		1-Kapkot
			2-Kanda
			3-Garud
			4-Dungnakuri
13	**Sadar Treasury Rudraprayag**		1-Agastmuni
			2-Ukhimath
			3-Jakholi
14	**Other Treasuries**	1-Roorkee	
		2-Kotdwar	
		3-Lansdowne	
		4-Narendra Nagar	
		5-Ranikhet	
		6-Haldwani	
Total	**13**	**6**	**70**
15	**Pay and Accounts Office, New Delhi**		
16	**Cyber Treasury, Dehradun**		
Grand Total		**91**	

Appendix-1.2
(Reference: Paragraph-1.1; Page-1)

List of applications integrated with IFMS

Sl. No	Name of Application
1.	Reserve Bank of India
2.	State Bank of India
3.	Goods and Services Network (GSTN)
4.	National Securities Depository Limited (NSDL)
5.	Public Financial Management System (PFMS)
6.	CDAC
7.	Jeevan Praman
8.	NIC-SMS Gateway
9.	NIC-Email Gateway
10.	Stock Holding Corporation of India Limited
11.	Social Welfare Department
12.	State Tax Department
13.	Excise Department
14.	Directorate of Industries
15.	Police Department
16.	Planning Department
17.	National Scholarship Portal
18.	PSARA
19.	National Payment Corporation of India (NPCI) through SFTP
20.	National Payment Corporation of India (NPCI) through API
21.	Digi Locker
22.	Apuni Sarkar
23.	State Government Health Scheme (SGHS)

Appendix-1.3
(Reference: Paragraph-1.8; Page-4)

List of modules

Sl. No.	Module	Proposed Functionality Requirements
1	**Pay Roll**	1. Information of Employee Master, Nominee Details
		2. Information of Pay, Entitlements, Loan & Claims
		3. Monthly Attendance
		4. Monthly Regular Salary Processing
		5. Monthly Supplementary Salary Processing
		6. Monthly Salary Arrears Processing
		7. Salary Bill Generation
		8. Employees Pay Slip Generation
		9. Employees Annual Statement
		10. Last Pay Certificate Generation
		11. Schedule of Advances, Recoveries, Loans etc.
		12. Bank Schedule
		13. Other Analytical Reports for MIS
2	**Claims**	1. Online Claims Bill Submission by Employees for various personal nature claims as per entitlements
		2. Processing of Claims at treasury
		3. MIS of Claims
3	**Pension Disbursement**	1. Information of Pensioner Master, Nominee Details
		2. Monthly Pension Processing
		3. Monthly Pension Arrears Processing
		4. Pension Bill Generation
		5. Last Pay Certificate Generation
		6. Life Time Arrear Payment Calculation for Death Cases
		7. First Payment Processing
		8. Pensioners Slip Generation
		9. Pensioners Annual Statement Generation
		10. Generation of Various Schedules
		11. Other Analytical Report for MIS
		12. Capturing of Biometric & Photo for Annual Verification
		13. Online Verification of Pensioners annually
4	**Income Tax**	1. Generation of Form 16
		2. Generation of Form 16 A
		3. Generation of Form 24 Q
		4. Generation of Form 26 Q
		5. Income Tax Calculator for Employees & Pensioners
		6. Generation of Form 24 G
		7. Online Submission of required return through Treasury Portal
5	**E-Payment**	1. Preparation of Beneficiary and transaction files generated from various modules for uploading in net banking
		2. Provision of Validation before upload
		3. Integration of Treasury Portal with Bank Server through SFTP
		4. Integration of payment gateways
		5. MIS
6	**HRMS**	1. Employees Service Book Maintenance
		2. Employees Leave Details
		3. Employees Corrector Rolls Maintenance
		4. Generation of Appointment orders, Transfer Orders & Retirement Orders
		5. Annual Character Reports (ACR)

Sl. No.	Module	Proposed Functionality Requirements
		6. Employees Property Return Maintenance
		1. MIS
7	**Works Accounting**	2. Online issue of CCL
		3. Online Generation of Works Bills
		4. Generation of Accounts for AG Submission
		5. Generation of Schedules of Recoveries & Advances
		6. Generation of Asset and Liability Register
		7. Maintenance of Budget and Balances under CCL/DCL
		8. e-payment to Contractors
		9. MIS
8	**PLA**	1. Online Deposit of money in PLA
		2. Online Payment to third Parties
		3. Generation of Schedules of Recoveries & Advances
		4. Generation of Asset and Liability Register
		5. Maintenance of Budget and Balances
		6. e-payment
		7. MIS
9	**Receipt Accounting**	1. Integration of e-scroll received from Agency Bank
		2. Data Entry of Physical Challan
		3. Generation of Receipt Account
		4. Generation of Receipt Cash Book
		5. Generation of Cash Account with enclosures
		6. CCL, DCL, PLA Receipt Accounting
		7. MIS
10	**Payment Accounting**	1. Integration of e-payment scroll received from Agency Bank
		2. Generation of Report KA
		3. Generation of Report KHA
		4. Generation of Report GA
		5. Generation of Cash Book
		6. Generation of List of Payment with enclosures
		7. Generation of Payment Account
		8. CCL, DCL,PLA Payment Account
		9. Generation of Schedules for e-payments
		10. MIS
11	**GIS**	1. Claim Listing
		2. Calculation Sheet
		3. Objection Letter
		4. Form 26
		5. Form 27
		6. Form 28 (Claim Register)
		7. Form 29 (Covering Letter)
		8. Pending Claim List
		9. Schedule for e-payment
		10. Integration and up gradation to a web enabled application
		11. MIS
12	**GPF**	1. Annual GPF Slip Processing
		2. Online GPF Claim Submission
		3. Broad Sheet Maintenance
		4. Interest Calculations
		5. GPF Accounting
		6. MIS
13	**Virtual Treasury**	1. Online integration with the Bankers and RBI to capture receipt data on run time

Sl. No.	Module	Proposed Functionality Requirements
		2. Online verification of e-transactions
		3. MIS
14	**DDO**	1. Online Generation of various Bill forms used by the DDO
		2. Online Generation of Employee claims
		3. Online Generation of GPF Claims
		4. Online Generation of GIS Bills
		5. Online Generation of Pension Papers for Retiring Employees
		6. Maintenance of Cash Book and other Register through System
		7. Reconciliation of Drawls with the Treasuries
		8. MIS
15	**e-Challan**	1. Online Collection of all government receipts, Taxes, duties, penalties and cess
		2. Site to site integration with other department's web site
		3. Online reconciliation of receipts collected through e-Challan
		4. Online Generation of e-stamp to pay stamp duty
		5. MIS
16	**Registration**	1. Online Application Submission for Registration & Renewal of Societies & chits firms
		2. Online Collection of fees
		3. Online additional information required it, form applicant
		4. Online information to applicant about issuing of certificates
		5. Online appointment for Applicants
		6. Data entry for Registration & Renewal
		7. Duplicity check
		8. Name matching
		9. Generation of Registration & Renewal Certificates
		10. Digitization of records
		11. Generation of Amendments requests
		12. MIS
17	**Pension Sanction**	1. Online submission of pension documents by DDO to pension Director
		2. Online submission of PPO to Treasuries & Sub Treasuries using Digital Signature
		3. Online Pension Sanctioning
		4. Generation of PPO, GPO, CPO
		5. Online Calculation of Pension
		6. Online Calculation of revised Pension
		7. Electronic routing of application for necessary approval
		8. Integration of email and SMS gateway
		9. Monthly pension payment analysis vis-à-vis sanctions
		10. MIS
		11. Digitization of records
18	**GIS**	1. Online Account preparation from payments made by treasuries
		2. Online analysis of payment made by treasuries
		3. Online maintenance of AIS (All India Services) accounts
		4. Online payment of the premium
		5. Online request for claims from AIS accounts
		6. MIS
19	**IRLA**	1. Maintenance of Service History and Service Book of entitled officers
		2. Generation of Pay slip
		3. Online application for issuance of Pay Slips
		4. MIS

Sl. No.	Module	Proposed Functionality Requirements
20	**NPS**	1. Maintenance of Master of NPS Employees
		2. Online Claim Processing
		3. Online Contribution Matching based on the data received from the Treasuries
		4. Online uploading of the monthly CPSN using FUV to NSDL website
		5. MIS
21	**Budget Preparation**	1. Entry of Gazetted and Non-Gazetted Posts Details (Volume 6)
		2. Entry of Expenditure detail (Volume 5)
		3. Actual Expenditure
		4. Deduct & refund
		5. Revised estimates
		6. Entry of State Receipt details (Volume 4)
		7. Contingency & Public Accounts
		8. Generation of Vote on Account
		9. Updation of Vote on Account
		10. Details of Supplementary Budget
		11. Entry of New Demands
		12. Online submission of estimates using the web based interface
		13. Inbuilt rules, checks and the request would automatically get routed for approval
		14. Provision for providing online comments and remarks
		15. Comments and editing done during the approval process would be visible till finalization
		16. System would assist Budget Department in scrutinizing the estimates on the basis of state resource plan and past data available
		17. Integration with Resource planning module
		18. Generation of alerts on irregularities like unexpected variation in estimates
		19. Online submission of budget estimates by DDO to HOD
		20. Online submission of budget estimates by HOD to Administrative Department
		21. Online submission of budget estimates by Administrative Department to Finance Section
		22. Online submission by Finance Department to Budget Department
22	**Budget Disbursement**	1. Records Head-wise Government Approved budget as received from State Government
		2. Records the Allocation Authority related data as received from State Government
		3. Records the New expenditure related data for the current Financial year
		4. Reports
		5. DDO-wise Head-wise budget allocation
		6. Treasury-wise consolidated budget allocation
		7. Re-appropriation budget
		8. Surrender of Budget
		9. Budget Control Register (BM-10)
		10. Import/ Enter Monthly Expenditure Register (BM-4) of the DDO
		11. Register of Expenditure (BM-6)
		12. Statement of Progressive Expenditure (BM-8)
		13. Exceptional Reporting Head-wise for unutilized heads
		14. Online Grant distributions to Admin Dept., their controlling officers and Drawing and disbursement officers within the limit of approved budget

Sl. No.	Module	Proposed Functionality Requirements
		15. MIS for monitoring of expenditure w.r.t Allocated Grant and budget
23	**Budget Maintenance**	1. Amendment in 15 digit code
		2. Maintenance of profile like User, Admin etc.
		3. Upload data
		4. Integration and up gradation to a web enabled application
24	**CPSMS**	1. Integrate the Central Plan Schemes Monitoring System with the Treasury Portal to exchange the data between Central and State
		2. MIS
25	**AG Module**	1. Online verification of data processed by Treasuries on various parameters
		2. Preparation of State Classified Account
		3. Online processing and Sanctioning of GPF to State government employees
		4. Accounting of GPF and Loan disbursed to the government employees
		5. Online processing and Sanctioning of Pensions of other state pensioners
		6. Calculation of interest on GPF, loans and advances
		7. Online Reimbursement and Accounting of other state pension claims paid from state treasuries
		8. Compilation and preparation of works account submitted by works Department like PWD, Irrigation, Forest etc.
		9. Online payments of various payments on behalf of State Government
		10. Online reconciliation of budget, releases and expenditure

Abbreviations

List of Abbreviations

Sl. No.	Abbreviation	Description of Abbreviated Term
1.	A&E	Accounts and Entitlement
2.	AC Bill	Abstract Contingency Bill
3.	ACR	Annual Character Reports
4.	ACST	Account Statement
5.	AG	Accountant General
6.	AIS	All India Services
7.	API	Application Programming Interface
8.	BCP	Business Continuity Plan
9.	BE	Budget Estimates
10.	BPR	Business process Re-engineering
11.	CA	Cash Account
12.	CCL	Cash Credit Limit
13.	CDAC	Centre for Development of Advanced Computing
14.	CPO	Commutation Payment Orders
15.	CPSMS	Central Plan Scheme Monitoring System
16.	CTS	Core Treasury System
17.	DBA	Database Administrator
18.	DC Bill	Detailed Contingency Bill
19.	DCL	Deposit Credit Limit
20.	DDO	Drawing and Disbursing Officer
21.	DN	Debit Note
22.	DPR	Detailed Project Report
23.	DR	Disaster Recovery
24.	DTPE	Director, Treasury, Pension and Entitlement
25.	FD	Finance Department
26.	FDC	Finance Data Centre
27.	FRS	Functional Requirement Specifications
28.	GIS	Group Insurance Scheme
29.	GO	Government Orders
30.	GoI	Government of India
31.	GoU	Government of Uttarakhand
32.	GPF	General Provident Fund
33.	GPO	Gratuity Payment Orders
34.	GST	Goods and Service Tax
35.	GSTN	Goods and Service Tax Network
36.	HBA	House Building Advance
37.	HLD	High Level Design
38.	HOD	Head of Department
39.	ID	Identity Document
40.	IFMS	Integrated Financial Management System
41.	IFSC	Indian Financial System Code
42.	IPS	Intrusion Prevention System
43.	IRLA	Individual Running Ledger Account
44.	IT	Information Technology

45.	ITDA	Information Technology Development Agency
46.	IWS	Indus Web Solutions Private Limited
47.	LLD	Low Level Design
48.	LOP	List of Payment
49.	LPC	Last Pay Certificate
50.	LTC	Leave Travel Concession
51.	MIS	Management Information System
52.	MMP	Mission Mode Project
53.	MoU	Memorandum of Understanding
54.	NeGP	National e-Governance Plan
55.	NIC	National Informatics Centre
56.	NPCI	National Payment Corporation of India
57.	NPS	National Pension System
58.	NSDL	National Securities Depository Limited
59.	OPGM	Online PRAN Generation Module
60.	OTP	One Time Password
61.	PAO	Pay and Account Office
62.	PSARA	Private Security Agency Regulation Act
63.	PDF	Portable Document Format
64.	PFMS	Public Financial Management System
65.	PLA	Personal Ledger Account
66.	PPO	Pension Pay Orders
67.	PRAN	Permanent Retirement Account Number
68.	PWD	Public Works Department
69.	RBD	Reserve for Bad Debt
70.	RBI	Reserve Bank of India
71.	RFP	Request for proposal
72.	RN	Return Note
73.	SBI	State Bank of India
74.	SDC	State Data Centre
75.	SDLC	Software Development Lifecycle
76.	SFTP	Secure File Transfer Protocol
77.	SGHS	State Government Health Scheme
78.	SHCIL	Stock Holding Corporation of India Limited
79.	SMS	Short Messaging System
80.	SOP	Standard Operating Procedure
81.	SoR	Schedule of Receipts
82.	SPeMT	State Project e-Mission Team
83.	SRS	Software Requirement Specifications
84.	STQC	Standardizations Testing Quality Certification
85.	TAN	Tax Collection Account Number
86.	TBIL	Techno Brain India Private Limited
87.	UAT	User Acceptance testing
88.	UKSWAN	Uttarakhand State Wide Area Network
89.	UTR	Unique Transaction Reference
90.	VLC	Voucher Level Computerisation

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