

Online Computerization of Treasuries (e-Kosh)

D. Rama Prasada Rao
NIC, Raipur, Chattisgarh
drprao@nic.in

ABSTRACT

‘e-Kosh’ is a major e-Governance initiative of Government of Chhattisgarh as a solution to the problems and discrepancies existing in the manual system of system of treasuries. Basically it is a G2G project except the service pensions. However, to improve transparency in the procedures, G2C module has been provided to facilitate general public with update information on budgetary allotments, expenditure and receipts under different classifications accounted through treasuries and LoC system. The state budget is allotted electronically to 107 Budget Controlling Officers, who re-allot it in the central server directly to around 3500 Drawing and Disbursing Officers in the entire state. The budget thus made available is drawn through 19 Treasuries and 44 Sub Treasuries. The entire process of allotment, re-allotment, withdrawal, disbursement and accounting has been made online.

This paper examines the benefits accrued from the system. Other than reducing the lag period between allotments, withdrawal and accounting, it has made the treasury functioning transparent and provided the state government departments with real time information on receipts and expenditure for necessary monitoring and realization. Further, the paper describes the efficient management of accounting for the employees covered under new Contributory Pension Scheme introduced recently by Government of India. Further the paper describes the linkage of payroll currently implemented at disjoint locations with the system for integrating the information with treasury database. The facility provided to online tax payers to pay the taxes to the government using online bank account is also examined.

1. Introduction

Finance Department communicate budgets to Budget Controlling Officers (BCOs) after the state budget is passed by the legislative assembly and enacted by head of government i.e. governor. The budget bill is signed in general by the governor on the penultimate day to the current financial year. The Budget Allotment is done be in the classification of major head, sub major head, minor head, segment code, scheme code, object head, detail head and voted/charged known as head of account under various grant numbers. BCOs communicate the proportional budgets to district

level Drawing and Disbursing Officers (DDOs) including their sub DDOs at tehsil level. Sub DDOs get the allotment from their DDOs in due course of time. Thus DDOs are enabled to draw the funds from treasuries limited to the sanctioned budgets under each head. By nature, the communication of budgets to DDOs takes place in a phased manner along the financial year as the expenditure incurred by DDOs required to be monitored before issuing the subsequent allotment.

Directorate of Treasury Accounts and Pensions is the controlling authority for all treasuries and divisional joint director officers and thus monitors the treasury activities and ensures that the procedures related to accounting at treasuries and pension disbursements and other activities at divisional joint director offices are observed. Thus Directorate is answerable to finance department and government in respect of activities of institutions under its control.

In the manual system, the budget communication had never been an easy task. DDOs usually got the communication very late causing delay in development related expenditure and hence in implementation of schemes that benefit the people at a larger extent. Further, treasury officers did not have proper mechanism to check the sanctioned budgets under each head leading to numerous mistakes in classification of heads and overdraft of funds by DDOs. An MIS system was in implementation since late nineties where the system just serves the reporting purpose. Following were the major challenges in the manual system.

- Software not fully automated; serves reporting purpose only.
- Any cheque drawn at any place could be fed into the system causing the dependency on few persons for data integrity/consistency.
- No control on the over draws of bills by DDOs
- No possibility for checking misclassification of heads that might result in booking of expenditure in a wrong head
- Head of Account of each bill was limited to Major head, sub major head and minor head only. And in certain cases only major head.
- Classified reporting system was not possible due to the above.
- Data from Sub Treasuries was taken at District Treasury only twice/thrice in a month resulting in information gap at higher levels on day-to-day payments/receipts position at various locations.
- Accounting was done only at major head level and submitted to office of Accountant General.
- Lack of sufficient accounting knowledge on part of most of the treasury officers led to inaccurate account submission.
- All these discrepancies finally affected the financial picture of the state.
- Settling of pension cases used to take longer time (no software existed for this earlier) affecting the financial status of pensioners

2. Organization and Scope

There are 19 district level treasuries, 44 sub treasuries and 3 divisional joint director offices in the state under the control of Directorate of Treasury Accounts and Pensions. Most of the activities of Treasury are carried out in strict accordance with the codes and rules lay down by the Government from time to time and are uniform across the state. Thus the department is ideally suited for large-scale computerization covering all the levels.

3. The Need

The options of both offline and online bill passing from treasuries were considered. In the case of former, the budget database needs to be maintained in local treasury server thus replicates the task to multiple locations. In certain cases, single head of account assigned to a DDO is operable from multiple locations and even at other districts resulting difficulty in maintaining accurate balances under the head. Further it is very difficult to incorporate new heads of accounts that could be allotted in supplementary budgets and to communicate interim budgets to treasury or sub treasury level in a timely manner which may result delay in payments to DDOs in these cases. The expenditure information will not be instantly registered at central server in this case.

To overcome the anomalies discussed above, particularly to meet the objectives of online bill passing, i.e., *bills are passed in consonance with the sanctioned budgets*, and *to assess the financial position of the state at a given point of time* the department desired to use advanced technologies to design, develop and implement a suitable model for the state of Chhattisgarh to automate the functioning of the treasury system with respect to it's major sub systems of Payments, Works Accounting, Deposit Accounts, Receipts, Pensions and Stamp Accounting.

4. Project Conceptualizations

There are 18 District Treasuries, 1 City Treasury, 3 Divisional Joint Director Offices, 44 Sub Treasuries in the state which were to be included in the network setup along with Directorate of Treasuries and O/o Director (FMIS).

For the purpose of effective budget control, central accounting system and electronic data transfer to AG Office to the required extent, it was recommended to have a larger VSAT based intranet environment. The VSATs were to be installed at Directorate, 3 Divisional Jt. Director Offices, 18 District Treasuries, City Treasury, Raipur and 44 Sub Treasuries of various district treasuries. The setup at District Treasury/City Treasury consists

1 server, 12–20 clients depending on the class of treasury, Sub Treasury consists 1 server and 2 clients and 1 server and 10 clients at JD offices duly connected to the central server at Raipur and DRC server at Bilaspur. Central Server Setup consists of two high-end 2U - servers clustered with each other with common SAN area of 500 GB located at Data Management Centre (DMC), Directorate of Treasuries, Raipur. These 2U-servers work in clustering such that if one server crashes by any means, the second server takes the charge automatically. SAN area was to be used as common storage area for the required data of all the treasuries. Besides, SAN ensures high-speed data transmission over the network reducing the delay in processing of information needs. All the locations access this server for checking the budget for passing the bills and concurrent information on issue of a cheque is passed to the server to provide latest classified information to the department.

A Disaster Recovery Centre (DRC) is to be located at Bilaspur, which is at a distance of 115 km from Raipur with similar setup as that of DMC. SCPC VSATs are proposed for these two locations to ensure maximum outbound data transmission where as DVB VSATs are set up in other locations. In case of any natural calamity viz. floods, fire, and in the worst case of even earthquake, the DRC server will be in a position to take over the database needs with minimum delay. The data on the DRC server is automatically refreshed periodically.

5. Project Vision

It is envisioned that all treasuries connect to central server for passing any type of bill leaving treasury officers and staff to simply feed the bill information at their end. Required validations are performed at central server to check the nature of the bill—whether budgeted or non-budgeted. If budgeted, the balance available in the head is checked and if available, the expenditure will be booked against the head and local treasury will be allowed to pass the bill. Due to certain reasons a bill can be un-passed by the treasury officer, in which case, the budget will be restored against the head in the central server. Further, on preparation of cheque, voucher information is stored in the central server. Update information on receipts accounted in treasuries is obtained in central server on regular basis. The information on both expenditure and receipts is provided in desired classified manner to government departments through web interface for necessary monitoring and realization. Software checks the classification of head of account while it is fed with the heads of account in which budget was allotted by department of finance.

6. Objectives Achieved

- To facilitate instant communication of budget allotment to all field level DDOs by the BCOs to enable DDOs utilize the allotted funds without any delay.
- To ensure faster bill processing and early disposal duly observing the procedures
- To ensure complete budget control, i.e., funds are drawn in consonance with the sanctioned budgets available at central server
- To ensure proper validations are performed in case of non-budgeted bills at central server, before allowing the bill passing at treasury.
- To monitor pendency of bills of any treasury at Directorate level, so that pendency is under control.
- To ensure flawless, classified accounting is made till the detailed head for providing accurate information to Accountant General and government from time to time.
- To ensure receipts are collected in electronic manner from banks to reduce the data entry time at treasuries and accounted for without any delay.
- To ensure that deposit accounts of various departments are updated and maintained by respective treasuries.
- To ensure merging of sub treasury accounts into respective District Treasury system on daily basis while it was done only twice/thrice a month in the earlier system.
- To facilitate controlling mechanism with respect to issue of Letter of Credit (LoC) from divisional joint director offices so that issue of subsequent of LoC is based on proper utilization of previous LoC. This is to ensure that no misappropriation of expenditure takes place on the part of works departments.
- To automate the process of capturing CPS subscriptions of employees at treasuries from pay-roll data submitted by DDOs and integrating into treasury system and maintaining accurate accounting as required by department.
- To automate the process of capturing earnings and deductions of permanent establishment from the pay-roll data submitted by DDOs and integrating into treasury system while ensuring transfers, promotions, retirements, deputations, death cases, dismissals pertaining to employees are updated at central server through treasury software.
- To automate the processing of pension cases at divisional joint director offices and ensuring that the disposal time is brought to minimum.
- To provide real time expenditure/receipt information at state level to enable departments realize the receipts in time and monitor the development related expenditure.
- To provide updated information to employees with respect to the salaries containing earnings, deductions, CPS/DPF/GPF schedules for achieving transparency.

- To maintain data for analysis requirements

7. Stakeholders

Internal

Directorate of Treasury Accounts and Pensions (DTAP), Chhattisgarh

Prime user department that is responsible for implementing the software in all locations. Provides required domain knowledge and other related support to NIC state centre for developing the software. Also responsible for providing required reports on expenditure and receipts position in the state from time to time to department of finance.

Dept. of Finance, Government of Chhattisgarh

Finance department is responsible for collection of estimates from all departments, preparation of consolidated budget estimate duly incorporating the new schemes that might be introduced by the government for every financial year. It ensures that all the budget estimates are prepared in a pre-defined structure of head of account, which shall not be changed once the budget is finalized. This budget information comprise budgets allotted to all the departments at the level of HoD and shall be provided to DTAP/NIC-CGSC well in advance for incorporation in the software. This department is also responsible to accord administrative sanctions, provide required budgets to DTAP for meeting the expenditure related to project implementation.

As the ultimate user department, the department provides information requirements to DTAP so as to help the government monitoring the expenditure related to implementation of schemes for over all sustainable development.

National Informatics Centre, Chhattisgarh State Centre (NIC-CGSC)

As the state level representative of National Informatics Centre, NIC-CGSC is responsible to analyse the requirements from time to time, design suitable model, develop and provide the software to user department (DTAP) for implementation in the locations i.e. Treasuries, Sub Treasuries, Divisional Joint Director offices, DTAP and others if any as required by the user department. NIC-CGSC shall also provide necessary implementation support from time to time through its field level district offices. Shall indicate the requirements pertaining to hardware, software etc. to DTAP from time to time that is essential for development and implementation of the software. Shall coordinate between NIC (HQ), NICS and DTAP for required network related support from NIC (HQ), procurement and implementation support from NICS. In other words, NIC-CGSC plays major role for preparation of proposals, study of requirements, implementation support on 24/7 basis, provision of basic training to staff at various levels of DTAP, provision of

support for maintenance of data warehouse, maintenance of servers and other hardware at Directorate of Treasuries and Disaster Recovery Centre, Bilaspur and other treasuries and sub treasuries.

SATCOM group, National Informatics Centre (HQ), New Delhi

Responsible to provide the required bandwidth to VSAT equipment, monitor and ensure VSAT connectivity on 24/7 basis which is very vital and critical for the implementation of the software in the state. Shall guide NIC CGSC from time to time with respect to technology updates and other issues that may improve the performance of the project.

National Informatics Centre Services Inc. (NICSi)

As a strategic partner, NICSi facilitates the procurement of VSATs, hardware and software to the user department through its empanelled vendors like HCL, Wipro, Bharti, Numeric, ACER etc. NICSi ensures that all the benchmarking standards are met by the vendors and ensures that high quality products are supplied and installed at user locations. Also responsible to ensure proper service provision by respective vendors during warranty and AMC periods. NICSi is also responsible for facilitating required manpower support on hire basis to assist NIC-CGSC in implementing the project. The manpower support in general is obtained through vendors empanelled with NICSi. Further once the warranty or initial AMC is completed, NICSi facilitates AMC for the equipment of hardware through identified vendors.

District Informatics Officers

District Informatics Officers (DIOs) of NIC at districts play the most important role at field level implementation of the software. Responsibilities of DIO include

- Checking for software updates made available from state centre and implementing in treasuries and sub treasuries from time to time
- Looking after training needs of the treasury staff as required
- Providing solutions to the implementation problems and reporting to the state centre
- Problem analysis in a technical manner reported by treasury officer and reporting to state project team for necessary solution if could not be solved at his/her level

In other words, DIO is the first contact person to the treasury officer for providing any support with respect to implementation of the project at district level.

External

1. All Heads of Departments, Govt. of Chhattisgarh
Also known as Budget Controlling Officers (BCOs), responsible to make electronic budget allotments to district level DDOs through central

server at DTAP and enable them to draw funds in time through treasuries and sub treasuries using the e-Kosh software. HoDs are also free to communicate their information requirements to DTAP/NIC-CGSC for effective monitoring in the interest of over all development of the state.

2. Drawing and Disbursing Officers, Chhattisgarh

Responsible to prepare and submit bills to Treasury or sub treasury for necessary processing. Required to follow the procedural requirements as communicated by Treasury officer's viz. provision of proper classification of heads on bills, implementation of payroll and submission of required data at Treasuries for smooth implementation of the software. Also responsible for updating the employee data in e-karmachari database, submit salary bills provided through payroll software supplied by NIC and submission of soft copy of pay roll data at treasuries for necessary porting purposes.

3. Accountant General (AG) Office, Chhattisgarh

As the competent authority for the state government, AG office performs Voucher Level Computerization and compiles the monthly account received from all treasuries and submits consolidated account to the state government. Hence it is very important for user department to follow the procedures laid down by AG office from time to time to provide the classified information on periodic basis. Thus AG office holds the role of communicating requirements to the department about the data transmission mechanism in the form of hard copies as well as soft copy. AG office accepted the responsibility of assigning the DDO code while granting the concurrence for newly registered DDOs so that DDO codes are uniformly maintained.

4. Divisional Joint Director Offices, Chhattisgarh

Responsible to implement the LoC software and issue system generated Letters of Credit to field level executive engineers of works departments counter signed by respective divisional head of works department. Before issuing subsequent LoC, these offices have to check whether the utilization of previous LoC is as per given classification of head of account or not and take corrective action so that huge amounts of government money are properly utilized for implementation of desired schemes.

5. Agency Banks, Chhattisgarh

Agency banks are the branches of identified banks for making payments and accepting receipts on behalf of government and submit to treasury for accounting purposes. Agency bank can be same or different for payments and receipts. These banks prepare the scroll, consolidate en-cashed cheques, challans of receipts and submit to treasury or sub treasury on daily basis. Apart from the regular payments and receipts, receipts are also accepted by banks through e-challan which provides interface to online internet bank account holders to make online government payments.

State Bank of India, Dena Bank, UCO Bank, UTI Bank and ICICI Bank

are the agency banks for the treasury activities in the state of Chhattisgarh. At present, State Bank of India and UTI Bank has facilitated their online internet bank account holders to make online government payments using e-challan software through their respective payment gateways.

8. Project Plan

Table 1 *Requirements of process re-engineering*

Sl. Activity	Manual/semi computerization system	Present System
1. Codification of Treasuries	Does not exist	All the treasuries are given 4 digit codes wherein first two digits represent district and last two represent treasury/sub treasury. District treasury is assigned with '01' code and codes 02 onwards assigned to sub treasuries. Eg.: 1101 – District Treasury, Raipur 1102 – Sub treasury, Arang etc.
2. Nature of Treasury	Banking and non banking	All the non banking treasuries made as banking treasuries for smooth implementation of the software.
3. Codification of DDOs	Treasury DDO code is unique only for that treasury or concerned sub treasuries. AG office follows its own code for state level consolidation. The ultimate scenario led to incorrect compilation of data at AG level which led to discrepancies in financial figures.	DDO code is made unique across the state by pre-pending the district code to the existing code. AG office was requested to follow the coding pattern adopted and to issue the DDO code for new cases. The DDO codes are now issued through software from AG office and ported to central server at Directorate. Treasuries concerned just need to down load and use the DDO codes. This procedure ensured uniform usage of DDO codes in treasuries and AG office helping eliminate the discrepancies at AG office.
4. Budget communication	Budgets are communicated to DDOs through paper which is time consuming.	BCOs electronically allot budgets to district level DDOs on central server. District level DDOs allotment is inclusive of their sub DDOs. District level DDOs allot to sub DDOs on the centralized system. Thus District level and sub block level DDOs can view their budgetary allotments immediately

Table 1 (Continuous...

Sl. Activity	Manual/semi computerization system	Present System
		after the allotments are made to them.
5. Budget control	Does not exist. Bill passing depends on treasury officers' discretion.	Exists. In fact, treasuries' role is limited to bill detail entry. Budget availability is checked for every budgeted bill.
6. Bill identification	Identified with a serial number assigned manually and gets initialized every month. Token number also exists at certain non-banking sub treasuries.	The data pertaining to each bill of any treasury is to be maintained and processed at central server. Hence every bill is assigned a unique code of 10 digits generated by software where first 4 digits represent treasury code and last 6 digits represent running serial number for the financial year. The serial number gets initialized automatically on change of financial year.
7. Bill presentation and passing	Bills presented are entered into the system only after bills are passed. Treasury officer could not check the budget for passing the bills.	Bill submission is compulsory through counter for assigning of system generated serial number. Counter assistant note the number on each bill and passes to next level of bill detail entry and bill passing. Bill passing is subjected to validations put in central server and allows the treasury officer to pass the bill only if budget is available for budgeted bills.
8. Classification of head of account	Bills presented are classified only up to minor head level and in certain cases only major head. No check is possible on the classification of head.	Bill classification up to last item of expenditure is compulsory. I.e. each bill shall have detailed classification comprising demand number, major head, sub major head, minor head, segment code, scheme code, object head, detail head and voted/charged. System verifies the properness of the classification and rejects in case of discrepancies.
9. Cheque preparation	Manual preparation of cheque. Number written on cheque some times become erroneous.	Cheques are printed on pre-printed stationery helping achievement of accuracy besides reducing manual time involved.

Table 1 (Continuous...

Sl. Activity	Manual/semi computerization system	Present System
10. Voucher preparation	Voucher information is fed at a latter date delaying consolidation of reports.	Voucher information is recorded along with cheque information at central server during the process of cheque preparation. Thus immediate availability of classified information is enabled.
11. Merging of sub treasury data	Sub treasury data taken into district treasury data twice/thrice a month leading to information gap on financial matters.	Sub treasury data gets merged into district treasury data on daily basis easing account compilation at district treasuries.
12. Receipts	Manual data entry without proper checks leading to erroneous reports. Compilation of by-transfer deductions from payments had been tedious.	Proper validations are in place. Soft copy of data from banks is accepted and ported into the system saving lot of man-hours involved. Subscribers were also facilitated to make online payments saving their valuable time which otherwise had to be spent in paying challans manually. By-transfer deductions in payments automatically get recorded in receipts side on cheque preparation minimizing the consolidating efforts.
13. Account compilation	At least 10 to 12 rigorous man-days had to be spent for preparation of accounts.	Made easy through software. Very few checks need to be performed by treasury officers for preparation of accounts.
14. Deposit accounts	Manual system	Translated into computerized system with proper linkages to payments, receipts sub systems
15. LoC system	Letter of Credit issued at major head level to works departments.	LoCs are issued till last item of expenditure. Subsequent LoC is issued only on ensuring proper utilization of previous LoC in the financial year.
16. CPS accounting	Does not exist	Computerization started from initialization stage itself. Data captured from payroll software is well integrated with payments and receipts modules.

9. Technology Plan

Table 2

	Server end	Client end
Hardware	Two 2U Servers with 4GB RAM clustered with each other, 500 GB SAN Area at central server, Raipur and DRC, Bilaspur and One Windows 2003 Server, 20 clients with Office XP pre-loaded at Central Server.	Two Intel 2 Model Server with 1 GB RAM, 3 × 36 GB SCSI Hard Disks at each of 19 Treasuries, 20 clients for Five Class – 1 Treasuries, 15 clients for Four Class-2 Treasuries and 12 Clients for Ten Class-3 Treasuries and three clients at each of 44 Sub Treasuries
Software	Linux AS 3.0 as OS, Oracle 10g DB EE, EM 10g Grid Control, Application software developed in Java with Web server, PHP, .Net, JSP for various modules.	Windows 2003 Std. Edition as server s/w and Office XP in clients, Oracle 10g SE at Treasuries and Oracle 10g Express Edition at Sub Treasuries. One client at each Sub treasury is used as Windows 2003 server.
Network	Structured LAN internally connected to WAN through SCPC DAMA VSAT	Structured LAN internally and connected to other treasuries, central server through DVB VSAT Network

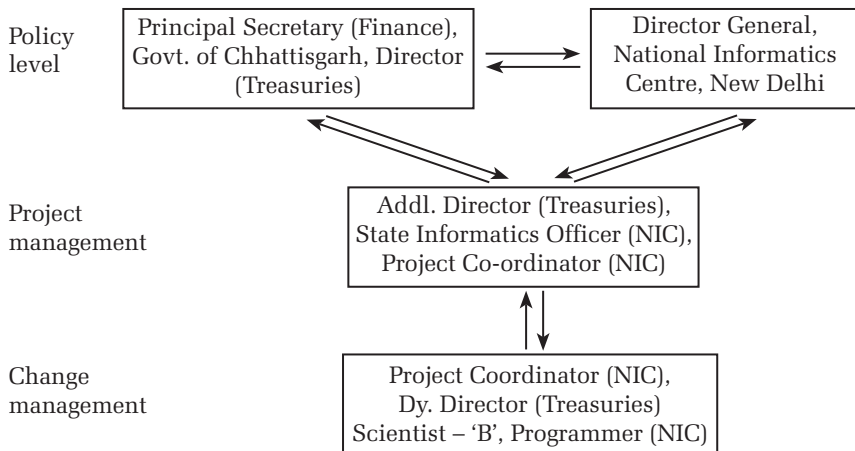
10. Milestones

1. Implementation of Payments sub system ensuring that all the manual procedures are translated into systematic and classified manner
2. Implementation of Receipts system with establishment of proper linkage between payments and receipts modules.
3. Integration of Pension payments at treasuries and works accounts to cover complete accounting information needs of treasuries.
4. Implementation of Deposit Accounts
5. Merging of data from sub treasuries into district treasury data on daily basis
6. Budget allotment information to DDO level from Budget Controlling Officers
7. Project management portal for making software updates available to field level locations, accept problems and provision of solutions etc.
8. Pension management system at divisional joint director offices to ensure faster disposal of pension cases, tracking of cases, generation of required reports etc.
9. Treasury interface with banks where banks provide receipts data in desired format for necessary porting into treasury system on daily basis.
10. Integration of deposit accounts into Payments and receipts sub systems catering to required information needs on deposit accounts.
11. Provision of online information for departments, DDOs on daily basis in respect of expenditure and receipts for necessary monitoring of development related expenditure and realization of receipts

12. Employee database: All the employees' information pertaining to initial posting, present position, transfers, and promotions from time to time is captured and maintained.
13. LoC System: Letter of Credit system implemented to facilitate divisional joint director offices to issue LoCs and track the expenditure for necessary control.
14. CPS Administration at Directorate: Automation of issue of PPAN (Permanent Pension Account Number) to employees following the procedures, their instant communication to the concerned for necessary use.
15. CPS Accounting: Capturing of CPS data at treasuries from payroll data submitted by DDOs in CD media, validating with master data from central server and preparation of required accounting schedules, and necessary uploading to central server from all treasuries for necessary consolidation and maintenance at directorate.
16. Pension backlog database through treasuries: Web module is provided to treasuries for capturing old pension cases so as to build pensioners database along with present cases.
17. e-Challan: Capturing of receipts by facilitating online payments to subscribers for all government departments. This helps subscribers to considerable time in physically presenting challans at banks and carrying cash braving security threats.
18. Employee Salary – eKosh interface: To ensure particulars of earnings and deductions of employees captured properly through soft copy of payroll data into treasury data. Salary bill generation is done by the system itself limiting the role of treasury staff to check the populated bill data against each head.

11. Project Management Structure

Fig. 1



12. Implementation

a. Pilot to Roll Out

Testing Phase: The software was run on test basis for 3 months in local city treasury from August 2004 to October 2004 to identify practical problems in software, operator convenience etc., with respect to payments sub system and incorporated the required solutions while development of other modules and reports is under way.

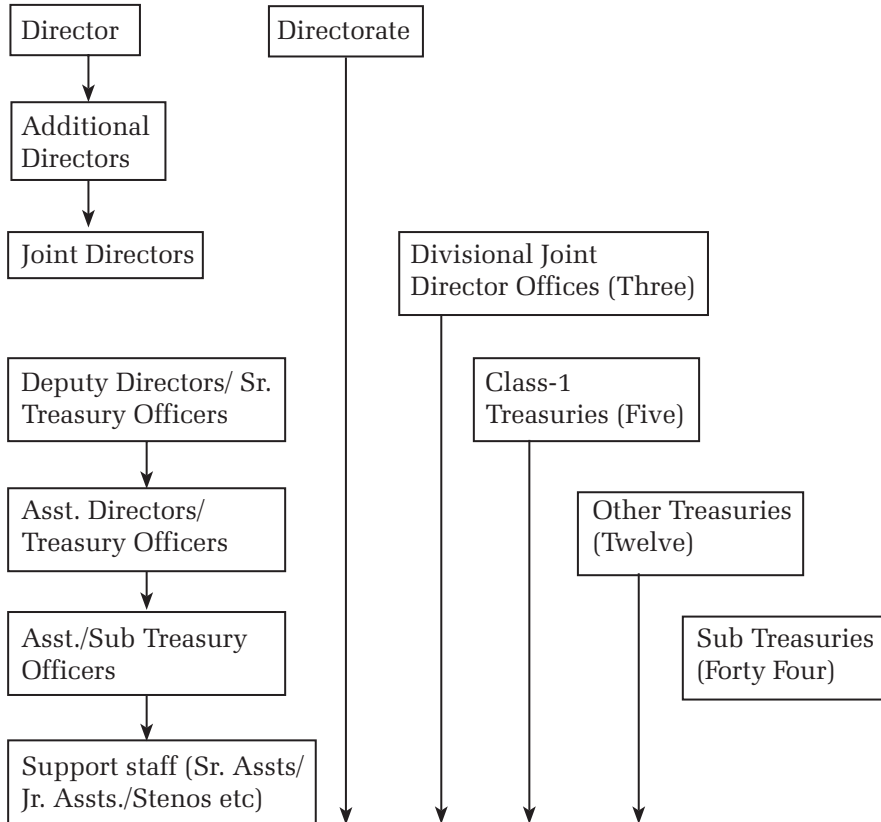
Pilot Phase: The project was launched on pilot basis on 4th November, 2004 in Raipur, Korba districts covering three treasuries namely 1. District Treasury, Raipur, 2. City Treasury, Raipur, 3. District Treasury, Korba and 8 sub treasuries in these districts. During this phase, more practical problems came up and solutions were provided in case of payments sub system. Other treasury activities of receipts, works accounts, deposit accounts, accounting related reports were taken care of during this phase with an objective to replace manual registers with electronic registers and provide accounting information up to detail head to AG office.

Rollout: The project has been rolled out to all the other 14 district treasuries and 38 sub treasuries w.e.f. April 1, 2005. All the treasuries were connected over VSAT network to central server and process of bill passing was made online and subjected to check with the sanctioned budgets against the bill heads. All sub systems required for treasury accounting have been fine tuned to provide efficient data transmission and reporting structure. Manual registers at all locations have been replaced with system-generated reports. The first financial year was monitored successfully and carefully in all aspects until last minute budget requirements, volume testing etc.,

Enhancement: New requirements of user department with respect to employee data base, Accounting of employee contributions covered under Contributory Pension Scheme, Treasury-bank interface for porting soft data of receipts, implementation of pay roll, building up of pensioners database, e-challan etc. have been taken up during the year 2006–07.

b. Capacity Building

Governance structure



Staff pattern

As the director is the administrative head of Directorate of Treasury Accounts and Pensions, the other staff strength is about 600 across the state from the level of additional director to support staff. This includes the officers of rank of deputy director to additional director who are on deputation to other departments.

Training

Prior to the initiation of the project, very few officers knew basic operations on computers where most of the staff did not see the computer at all. Numbers of training sessions were conducted by NIC state centre at state level and by NIC district centres at district level to different levels of user department to create awareness about information technology, benefits of

use in office environment and training was provided in the basic operation of the computers.

Project management teams

Project management teams have been formed at state level by user department to identify officers and staff for training, formation of batches, scheduling of batches in consultation with NIC, preparation of course material and maintaining required copies in store for necessary distribution.

During the testing phase of implementation, resource persons from user department have been identified to train the staff from treasuries of pilot phase on the software. During the pilot phase of implementation, staffs from all other district treasuries and sub treasuries were given training on the software. Besides, regular support from software development team was ensured to support the training during testing and pilot phases. While pilot phase was in progress, other district treasuries were also asked to start the implementation on available computers with the help of local district informatics officer. This helped the staff to get acquainted with the software and get ready for the implementation during roll out phase.

c. Evaluation and Measurement

Testing and pilot phase

Development team used to sit and watch the implementation of software regularly keeping in a view that certain requirements might be coming up by observation which might not be presented properly by users. Certain requirements have come up from user side and some are felt by the team members. The combined requirements were discussed with user department and after getting the approval, the goals have been divided into function points. Effort in designing the task, lines of code, testing, complexity of the feature have been worked out for each function point and assigned to actual developers. Timely achievement of these tasks was ensured so as to improve the over all performance of the system.

Rollout and enhancement

Weekly/fortnightly assessment is made with respect to requirements and accordingly goals are worked out and time line was set to development team for achieving the goals. Once a goal was achieved and put for implementation, users suggested further improvements which mostly led to creation of subsequent goals.

14. Issues and their Solutions

Apart from the training, the following were the issues which were sorted out effectively

a. Critical Success Factors

Site preparation

Project management team consisting of members from directorate and NIC has visited the treasuries and sub treasuries in and around the capital to make first hand assessment of the environment. It was observed that the offices were found with full of files, manual reports, dusty benches, unfriendly seating arrangements to general public etc. Improper electrical and civil structures were also found which might have to be corrected or prepared for proper installation and running of electronic equipment. Accordingly site preparation guide lines have been worked out and put up to government for necessary approval. The approved guide lines have been communicated to all treasuries and sub treasuries for follow-up action. While the pilot phase implementation is in progress, site preparation was also taken up parallel in the treasuries a completed in time.

Equipment procurement and installation

The time available for procurement of hardware, software and network equipment was very short that both user department and NIC were on toes in monitoring the issue. The entire procurement was given to the single Total Solution Provider, i.e. NICS I instead of multiple vendors where lack of coordination among vendors could create problems to department. NICS I which is a Government of India company registered under section 25, took up the responsibility and ensured timely installation of equipment so that project implementation moved as per plan.

VSAT connectivity

Continuous VSAT connectivity is the most critical issue in the project. As the bill passing is made online, the VSAT connectivity has to be ensured on 24/7 basis. SATCOM group of National Informatics centre, Delhi deputed special team for effective maintenance of hub and monitoring the VSATs. It is ensured that any field level problem is rectified immediately if it is rectifiable from Delhi itself. Other wise concerned vendor would be asked to attend and rectify the problem within 24 hours. Penalty procedures are in place, so that if vendor did not close the call in time, the penalties are levied against the vendor ranging from stopping of payments to black listing. Because of the effective monitoring, VSAT connectivity is ensured for all the treasuries so that their regular business is not affected.

Motivational factors

Most of the treasury staff were very reluctant and fearsome during the initial phase and even hesitate to touch the mouse. Such staff had been motivated a lot, assured of no disciplinary action for their technical and unknown mistakes and encouraged to use the computers as they wished. The functional and technical mistakes performed by treasury staff had been attended to and rectified wherever necessary, regularly and patiently by DIOs and NIC state centre. This yielded very good result in building up self confidence of treasury staff and made the implementation of the software very smooth.

b. Replication in other States

The treasury procedures are standard up to the minor head level across the country and may be subjected to minor changes from state to state. To the larger extent, there could be hardly 10% variations in procedures followed among the states. Thus the system can be replicated in any state with minimum customization efforts.

c. Road Ahead

The following are being planned.

1. To float cyber treasury over a period of time where DDOs can submit online bills authenticated by digital signatures. Treasuries can view the bill information and pass as per norms once the physical bill is received
2. To establish linkage among government offices, treasuries, banks for achieving online exchange of data minimizing multiple data entry works.
3. To produce dynamic information for access to general public to achieve the transparency.
4. Implementation of e-Payroll where all the DDOs can use web enabled payroll package replacing the present offline version of payroll in place. This helps in centralized maintenance of payroll data avoiding present data transfer modes which is very tedious and non uniform among the DDOs.

15. Status and Results

a. Present Status

The software is being successfully implemented in all the treasuries, sub treasuries and divisional joint director offices. The getting on with the software is an un-separable part for the treasuries as the entire work flow is translated into electronic system completely replacing the manual procedures. Software has been developed for double lock which is also known as stamp accounting

system and is in roll-out phase. Monthly payment of pensions from banks is linked to treasury system enabling pensioner to know the status of monthly credit of pension in his/her account.

b. Specific Achievements during the Year 2006–07

Implementation of payroll

To bring in uniformity across the government offices in pay roll system, it had been decided to implement payroll software developed by NIC in all government offices across the state. Accordingly, the available payroll software has been customized and circulated to all DDOs in the state for implementation. DIOs were busily engaged in providing training to DDOs and their staff for implementing the software. As the requirements are separate for judicial system, CPS system and for other civil employees and police department, the software was customized as per individual systemic requirements and provided to respective Heads of Departments for implementation. It was ensured to identify the heads for various heads under earnings and deductions and incorporated in the software for integrating the payroll data with treasury data.

e-Karmachari (Employee database)

The off line system in place with respect to employee database had been replaced with an online module so as to provide opportunity to field level locations to continuously update the data maintained at a central place. Additional feature of transfers, promotions, disciplinary cases was incorporated in the system so that all service books related matters of an employee could be maintained. Employees were encouraged to view their data and indicate corrections if any through their DDOs.

CPS accounting system

The employees who joined after 1/11/2004 have to opt for Contributory Pension Scheme where the account is to be maintained by Directorate of Treasuries. The employee information is entered at central server initially and a unique PPAN (Permanent Provident fund A/c Number) is assigned to him/her based on the department and year of joining. After the issue of the number, DDO concerned will be communicated accordingly to enable the salary and other allowances drawn from treasuries concerned. The salary data is entered using NIC's payroll software by DDOs and submitted to treasuries along with bills. At treasuries, e-Kosh software takes care of the required validations and captures the employees' bill wise data and processes as required. The CPS accounting is done at treasuries and concerned treasury officer uploads the data to central server for state wise consolidation besides the generation of hard copies of the schedules. The

department verifies the schedules and the data. Department also directly captures the CPS data of the employees whose salaries are drawn by DDOs out side the treasuries through LoC system. Employee wise annexure is provided duly incorporating the interest calculated. Employee can view his account status on the web site provided. Besides, hard copy is also provided to employee through his office for necessary verification and indication of corrections. The consolidated data is maintained and required annexure and reports are provided.

The difficulty involved in the system is that, employee may be subjected to transfer may be inter district or intra district. If the office is changed, DDO is also changed naturally. There were initial troubles in implementing the system as the PPAN numbers provided by the DDOs were erroneous or causing data discrepancies. Subsequently, it was worked out to affect the employee transfer in central server before his salary bill is raised, cross check employee data with DDO so as to maintain accuracy. On transfer or new issue of PPAN, treasuries have to update the CPS data that ensures that obsolete data in local server is deleted and fresh data is downloaded from central server. The system has ensured 100% accuracy in the accounting procedure at all levels

Pensioners database

With the present software, only fresh cases of pensioners can be entered and processed effectively in divisional joint director offices. It was desired to capture the old cases also so as to assess long term pension liabilities on part of government and to help effective financial planning. Accordingly, a uniform module was supplied to all the treasuries to capture the old cases data. The data thus collected was consolidated at state level with ongoing data and maintained in central server.

Monthly pension payments of pensioners

It was desired to maintain monthly pension payments from banks to track possible over-payments through banks and for facilitating ICT literate pensioners to know the status of their respective monthly payments. The process involved negotiating with banks for providing the data in desired format, development of interface, sorting out initial problems with banks during provision of data etc. The software has been developed and implemented successfully. The modules contained are interface with banks which enables porting of data file (basically xml file) into pensioners database, verification of pensioner details available in treasuries with the data provided by banks, provision of monthly payments report at treasuries and provision of status verification on public portal.

e-Challan

e-Challan is the web enabled software to facilitate capturing of online payments made by the users who have an internet enabled online bank account. The users can make any government payment of any department by simply filling the e-form provided and through the selected bank's gateway in which he/she has an online account. The data at the end of each day will be communicated by the bank concerned to treasuries for compiling required receipts account. At present the government payments are enabled through UTI bank for all departments and SBI for Commercial Tax department. The process of payments for all departments through SBI gateway is on and expected to be made available shortly to online payers.

Payroll –treasury interface

To maintain accurate payroll information in e-karmachari database, it was desired to capture salary data at treasuries through an appropriate interface so that salary bill submitted by DDO is automatically generated from the payroll data furnished. A typical bill may consist of 2 to 200 employees' salary particulars where last item of expenditure viz. detail head could be different from one another. The interface captures individual data, consolidates and generates bill information duly assigning a unique serial number for the bill to be noted by treasury staff for further processing. Once the bill is passed after thorough verification, the employee data containing earnings and deductions will be seized from any further updation. All such employees' data will be uploaded by the treasury at the end of the day to central server for required maintenance. Employees are enabled to view their salaries and other related schedules and are free to bring into the notice of their DDOs in case of any discrepancy.

c. For Readers Seeking more Information on Project

The project has two interfaces – one is for treasuries and sub treasuries which are in intranet of treasury network and other is to provide update information for general public and government departments. The URL of this site is <http://cg.nic.in/ekoshonline> also accessible through <http://ekosh.cg.ni.cin>. Users can send their feedback through the link available in the site.

Acknowledgments

1. Shri D.S. Mishra, Principal Secretary (Finance), Government of Chhattisgarh
2. Shri Gaurav Dwivedi, IAS, Director (FMIS) (2002–2004)
3. Dr. Mrs. Maninder Kaur Dwivedi, IAS, Director (Treasuries)
4. Shri M.K.Mishra, State Informatics Officer, NIC Chhattisgarh State Centre

5. Smt. S.B.J. Cladius, Additional Director (Treasuries)
6. Shri C.J.Khatri, Addl. Director (Treasuries)
7. Shri Navneet Kukreja, State Informatics Officer, NIC – Punjab State Centre
8. Shri Dayal Khandelwal, Principal Systems Analyst, SATCOM Group, NIC, New Delhi
9. Shri Arvind Yadav, District Informatics Officer, Bilaspur
10. Shri Umesh Agarwal, Sr. Treasury Officer, Bilaspur
11. Shri R.K.Sisodia, Sr. Treasury Officer, Raipur
12. Shri R.P.S. Chauhan, Deputy Director (Treasuries), Raipur
13. Shri H.K. Naidu, Asst. Programmer, District Treasury, Raipur
14. Mr. Santosh Kumar, NIC District Centre, Raipur
15. Ms. Aradhana Thawait, NIC CGSC, Raipur