

# e-Kosh: Online Computerisation of Treasuries, Chhattisgarh

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## ABSTRACT

Treasuries are the institutions, first set up in the period of British rule, from which field-level officers physically 'draw' funds allotted to them by the government. The procedures and processes followed by the treasuries were based on a time-tested manual system, which in the present context has become outdated on quite a few respects. The manual system was time-consuming and depended heavily on the discretion of the treasury officer. The accounting system was tedious and riddled with discrepancies. To tackle the weak points of the system, project *e-Kosh*, an online treasury system was taken up. The state budget is allotted electronically to 107 budget controlling officers, who re-allot it through the central server directly to 3000 plus drawing and disbursing officers in the entire state. The budget thus made available is drawn at 17 treasuries and 46 sub-treasuries. The entire process from allotment, re-allotment, withdrawal, disbursement and accounting has been brought online.

This article describes briefly the project *e-Kosh* developed for the Directorate of Treasury Accounts and Pensions, Department of Finance, Government of Chhattisgarh by the National Informatics Centre, Chhattisgarh State Centre (NIC-CGSC), Raipur. It discusses the various project components with its functionals and the transformation of the manual system into a well-managed process automated system. It also describes how the performance of treasury system has increased to become more transparent in the state. The benefits accrued from the system has also been examined. Other than reducing the lag period between allotments, withdrawal and accounting, it has made the treasury functioning transparent and provided the state government with real-time information on receipts and expenditure at any given point of time. The article also examines the issues and responsibilities of stakeholders involved in the project, ranging from the Department of Finance, Directorate of Treasuries, National Informatics Centre (NIC), National Informatics Centre Services Inc. (NICSI) to the treasuries, sub-treasuries and AG office. The issues of sustainability and cost-effectiveness are also emphasised in this document.

## Details

e-Kosh is an integrated product conceptualised, designed, developed and implemented by NIC, Chhattisgarh State Centre. It ensures process automation at treasuries, sub-treasuries, finance departments, Directorate of Treasuries, divisional joint director offices and drawing and disbursing officers. It covers all activities from the entry point to the exit point, with respect to budget communication to budget controlling officers (BCOs) and allotment to DDOs, online bill passing from treasuries, monitoring of expenditure, payments, receipts, letter of credit (LoC) system for works accounts and pension administration.

This project is taken up on a turn-key basis by NIC/NICSI with the project cost estimated at Rs 11.54 crores for 3 years, excluding the software development, which is provided free of cost to the user department.

A brief description and important features of the constituent products are discussed below:

### e-Kosh (Core)

The entire process related to treasuries and sub-treasuries for the major treasury functions of payments, receipts from entry point to the exit point including all processes, reports and compilation and transmission of accounts to AG office are automated.

- The payments module (Fig. 1) takes care of all types of bills including pension payments, salaries of employees, public representatives viz. ministers, MLAs and other self-DDOs, in addition to endorsement bills, deposit-account-related bills, grant-in-aid bills, payments by transfer adjustments, etc. The cheques can be printed for a group of bills or for a single bill using pre-printed stationery.
- The receipts module takes care of all types of government receipts, deposit receipts, by transfer receipts and integrates it fully with the payments system. The data entered at banks is received in soft copy and accepted into the system, thus saving considerable man-hours spent on data entry.
- Works accounting: The departments that generally perform development works, viz., Water Resources, Public Works, Public Health Engineering, are allowed to meet the expenditure through LoC system. Cheques issued to the executing agency/party by these departments are received in treasuries after they are paid by the concerned banks. These cheques are to be taken for treasury accounting and hence are entered into the system. DDO code, cheque number, cheque date, encashment date and amount are captured in the system. The required reports are generated for the purpose of submission of accounts from time to time. The information related to cheques is instantly updated at a central server.

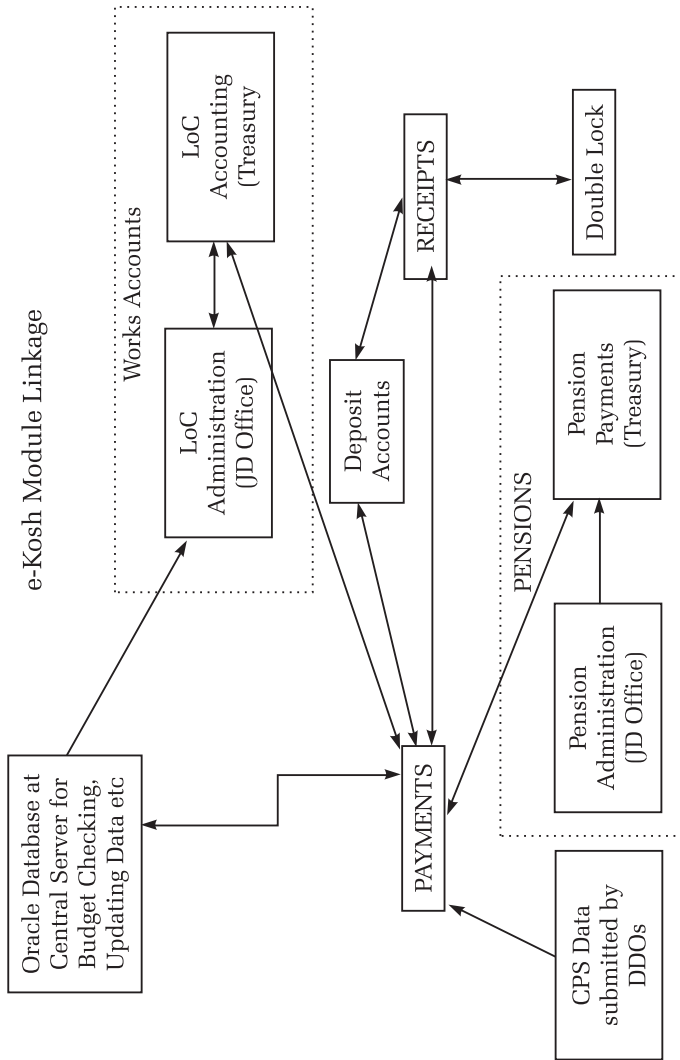


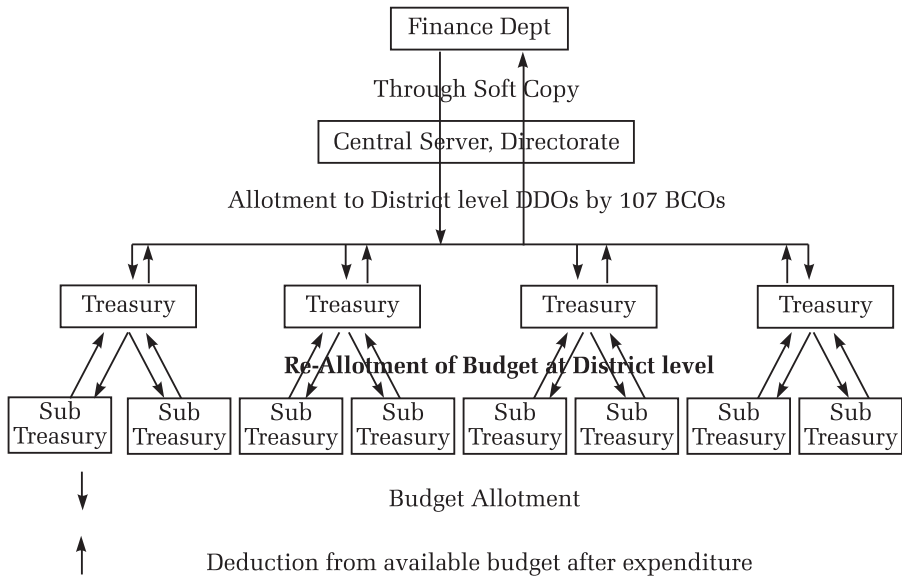
Fig. 1. Satellite Network Diagram

- The contribution made by employees under the new Contributory Pension Scheme (CPS) (applicable for the new entrants into government service with effect from November 1, 2004) and other pay details as required are captured while DDOs submit the pay bills at treasuries along with payroll data. This part not only ensures accurate maintenance of CPS account at treasuries but also facilitates the uploading of such data to the central server from all treasuries/sub-treasuries enabling the Directorate of Treasuries to maintain the CPS account of all the employees covered under the scheme across the state without duplicating the job of data entry.

### e-Kosh Online (<http://cg.nic.in/ekoshonline>)

This web-enabled software provide access to other web-enabled modules, viz., budget allotment and communication system, employee database, pension management system, CPS administration and LoC system, besides providing update information on payments, expenditure, receipts and budget allotment.

- **Budget Allotment and Communication System:** Online budget allotment (Fig. 2) is made to district-level DDOs by 107 BCOs from the Data Management Centre (Raipur) using the Java-web server based software specially made for the purpose. The same is used at district treasuries, where DDOs further allot the budgets to their sub-DDOs out of the allotment given to them. The DDOs across the state can instantly view the head of account-wise allotment and expenditure made so far at any given point of time.
- **Payments and Expenditure:** The information on online payments, department-wise/scheme-wise expenditures, expenditures made in a quarter of a given financial year, etc., are made available for general view for the departments as well as the public. The payments made through the e-Kosh (Core) software are captured automatically through the software at the central server to make the information available at different levels.
- **Receipts:** Information on receipts – major-head-wise, district-wise, minor-head- and sub-head-wise are made available for departments so that the departments can have the updated status of receipts received from treasuries across the state. The data is uploaded from across the treasuries to the central server as and when a day's receipts are accounted in the treasury along with its sub-treasuries. The facility to monitor treasury-wise receipts status is provided in the software to the designated authorities.
- **e-Karmchari:** This manages the data pertaining to employees of state government under the categories of permanent/temporary/contract and contingent categories.



**Fig. 2.** *Online Budget Allotment and Monitoring*

- **LoC for works accounts:** LoC is issued to executive engineers who are also DDOs of works departments to enable them to draw amounts up to the cumulative limit of the budget mentioned in the LoC from time to time. The LoC is issued generally by the chief engineer/designated authority of works departments, viz., Water Resources, Public Works, Public Health Engineering, etc., and counter-signed by the divisional joint director concerned. LoC is issued quarterly for the identified heads of account in which the expenditure is proposed by the DDOs. This LoC, however, is subject to the maximum limit of annual budget allotted in the corresponding head of account.

The issue part of the LoC system is maintained at the level of the joint director office whereas the expenditure spent by the DDOs can be entered from any treasury. The expenditure is generally drawn in the form of cheques issued in the name of the executing agency/party that performed the assigned work. A single cheque is issued to the party for the work executed, which may comprise many heads of account. The DDO submits the cheque number, expenditure, deduction and net amount for each head of account. The total net amount is checked against the cheque amount.

Divisional joint directors can have the reports for each LoC and for each DDO and can monitor the expenditure and allotment in each head and ensure proper utilisation of LoC amounts by the departments.

The data flow through the e-kosh project is shown in Fig. 3.

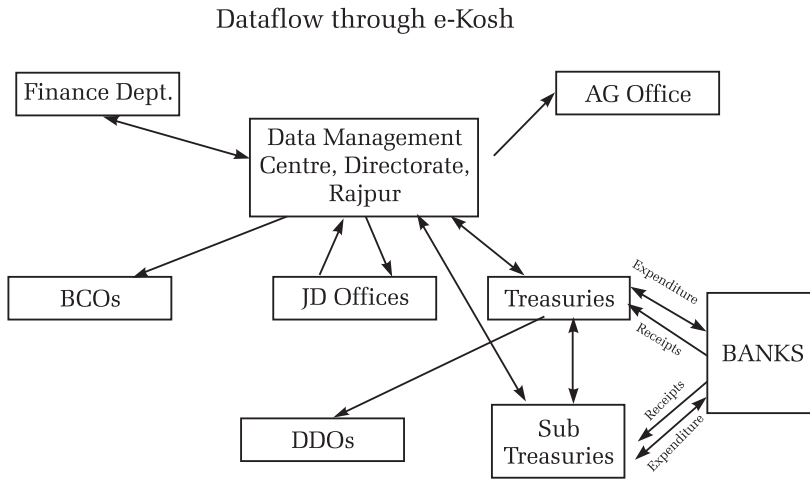


Fig. 3. Data Flow through e-Kosh

## Project Management

For any project to run successfully, proper management is required to address the implementation problems at field level locations. It is essential to supply the latest releases of software instantly and by cost-effective methods, so as to ensure sustainability over a longer period. To this end, the e-Kosh project management portal (<http://cg.nic.in/ekosh> or <http://ekosh.cg.nic.in>) has been designed and launched. The portal facilitates the tasks of releasing and maintaining various versions of software at a single place. In addition, it has provision for replying to the queries posted by treasuries and sub-treasuries, providing common instructions or notices to all the concerned at a single go and maintaining FAQs on software for user reference from time-to-time, besides providing general understanding on the project and software. The answers to the problems can be viewed by other treasuries/sub-treasuries so as to avoid multiple posting of similar problems.

## Impact on Stakeholders

The following are the roles and responsibilities of respective stakeholders:

**Directorate of Treasury Accounts and Pensions (DTAP):** As the user department, DTAP is responsible for providing suitable infrastructure at treasuries, sub-treasuries and divisional joint director offices in various districts across the state and implementing the software developed and updated by NIC from time to time. They shall provide NIC the data pertaining to master tables and information regarding rules and regulations for incorporating

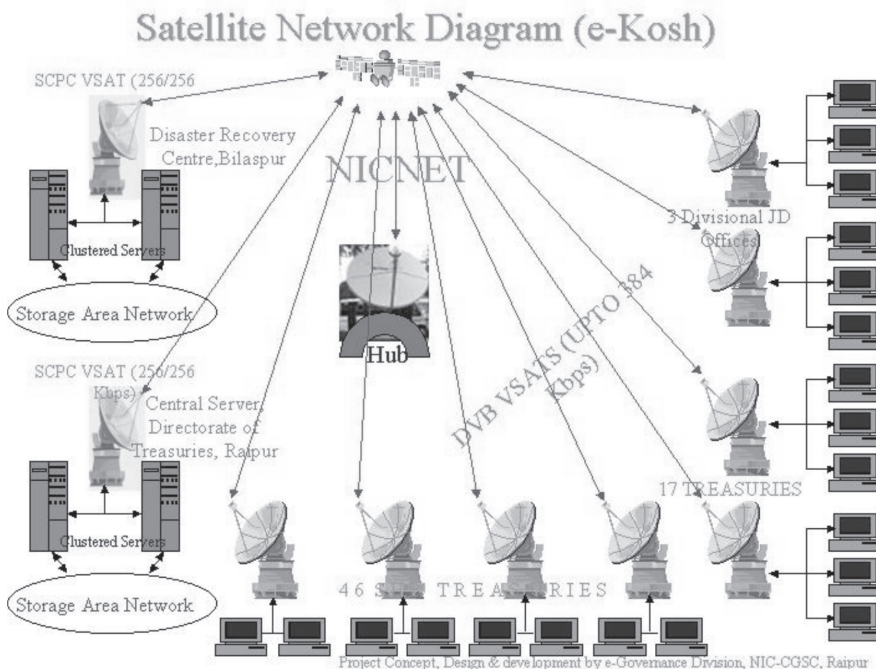
into the software. In addition, they make available the required domain expertise to NIC as and when required and test the software thoroughly before allowing it to be rolled out for implementation across the state. They facilitate the fund requirements that may be suggested by NIC from time to time for smooth implementation of the software viz. procurement of software and hardware, training requirements of staff and provision of funds for implementation support where hiring of manpower may be involved. In practice, on recommendations from NIC CGSC, DTAP places orders to NICS I for facilitating the procurement of hardware, software, V-SAT equipment, UPS units, software and implementation support that includes provision of manpower support.

**NIC State Centre, Chhattisgarh, Raipur (NIC CGSC):** As the state-level representative of NIC, NIC CGSC is responsible for studying the requirements of the user department from time to time, design suitable model, develop and provide the software to the user department (DTAP) for implementation in the locations, i.e. treasuries, sub-treasuries, divisional joint director offices, Directorate of Treasury Accounts and Pensions and others, if any, as required by the user department. NIC CGSC also provides necessary implementation support from time to time through its field-level district offices. It indicates the requirements pertaining to site preparation, hardware, software, etc., to DTAP from time to time that is essential for development and implementation of the software. It coordinates between NIC (HQ), NICS I and DTAP for required network related support from NIC (HQ), procurement and implementation support from NICS I. In other words, NIC-CGSC plays a major role in preparation of proposals, study of requirements, implementation support on a 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 the Directorate of Treasuries and Disaster Recovery Centre, Bilaspur, and other treasuries and sub-treasuries.

**National Informatics Centre (HQ):** The centre provides the required bandwidth to V-SAT equipment that are installed in various locations of the state (Fig. 4), monitor and ensure V-SAT connectivity on a 24×7 basis, which is very vital and critical for the implementation of the software in the state. NIC (HQ) guides NIC CGSC on technology updates and other issues that may improve the performance of the project. They deal with NICS I in an appropriate manner on issues such as procurement of software and hardware and V-SAT equipment required for project implementation.

**National Informatics Centre Services Inc.:** As a strategic partner, NICS I holds joint responsibility with NIC CGSC in suggesting suitable high-performance equipment viz. V-SATs, servers, clients, printers, UPS, switches and other hardware and software required for implementation of the project. Further, NICS I takes the responsibility of facilitating the procurement of V-SATs, hardware and software for the user departments through

their empanelled vendors like HCL, Wipro, Bharti, Numeric, ACER, etc. NICS I ensures all the benchmarking standards are met before the vendors deliver the product so that high quality is maintained. They are responsible for ensuring proper service provision by respective vendors during both warranty and AMC periods. NICS I is also responsible for facilitating the provision of technical staff on hire basis to assist NIC-CGSC in implementing the project. The manpower support in general is obtained through empanelled vendors with NICS I.



**Fig. 4.** *Satellite Network Diagram*

**Director, Financial Management Information Systems (FMIS):** The Department of Finance is the administrative department for the Directorate of Treasury Accounts and Pensions. FMIS plays a key role between the government and all other departments in financial matters. FMIS is responsible for collections of estimates from all departments and preparation of a consolidated budget estimate duly incorporating the new schemes that may be introduced by the government for every financial year. Thus, FMIS is the key department that 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 finalised. This budget information comprises budgets allotted to all the departments at the level of the head of the department (HoD) and shall be provided to the DTAP/NIC CGSC well in advance for incorpora-

tion in the software. FMIS is also responsible for according administrative sanctions and providing required budgets to DTAP for meeting the expenditure related to project implementation. As the ultimate user department, FMIS is to provide information requirements to NIC CGSC so as to help the government in monitoring the expenditure related to implementation of schemes for sustainable overall development.

**Heads of Departments, Government of Chhattisgarh:** Also known as Budget Controlling Officers (BCOs), they are responsible for providing budget allotments made to district-level DDOs to DTAP and provide data entry support so that DTAP can ensure that the data entry of budget allotments to DDOs is made in time and enables them to draw expenditures through treasuries and sub-treasuries using the software. HoDs are also free to communicate their information requirements to DTAP/NIC CGSC for effective monitoring in the interest of overall development of the state.

**Treasuries and Sub-Treasuries:** These are the basic service delivery points at field level. As the end users, treasuries and sub-treasuries are responsible for implementing latest version of software and communicating the requirements and problems to NIC/NIC CGSC/ DTAP for necessary solutions. These locations shall facilitate the DDOs to view their allotments available at the central server and distribute to their sub-DDOs at sub-treasury levels as the case may be. They ensure that the process re-engineering requirements that were communicated by DTAP/NIC CGSC from time to time are followed properly.

**Drawing and Disbursing Officers:** DDOs are responsible for preparing and submitting bills to the treasury or sub-treasury for necessary processing to draw the expenditures as and when required. They are required to follow the procedural requirements as communicated by treasury officers viz. provision of proper classification of heads on bills, implement payroll and submit required data at treasuries for smooth implementation of the software.

**AG Office:** As the competent authority for the state government, the AG office performs voucher-level computerisation to compile the monthly accounts received from all treasuries and submits a consolidated account to the state government. Hence, it is very important for the user department to follow the procedures laid down by the AG office from time to time to provide the classified information on a periodic basis. Thus, the AG office holds the role of communicating requirements to the department about data transmission mechanism in the form of hard copies as well as soft copy. The 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.

**Agency Banks:** Every treasury or sub-treasury is associated with one or more agency banks. Generally one agency bank discharges the cheques issued by treasuries to DDOs. The agency banks also accept receipts on be-

half of the government and submit the receipts information to treasuries for accounting purposes. Thus, agency banks need to follow the re-engineered procedures for data transmission requirements on payments and receipts.

## Sustainability and Cost-Effectiveness

### Sustainability

The product e-Kosh ensures complete automation of the aforementioned processes including the online bill passing in treasuries and sub-treasuries, merging sub-treasuries' data into district treasuries' data on a daily basis for necessary compilation, acceptance of receipts data received in soft format through software thus avoiding re-entry of data that may cause errors, generation of voucher numbers on the combined data of treasuries/sub-treasuries, compilation and generation of required reports on payments and receipts for submission to AG office and other requirements.

Divisional joint director offices, treasuries and sub-treasuries have become fully dependent on the software for the processes of payments, receipts, LoC system, employee-database-related information and pension processing and payments. All manual registers were set aside and only software-generated reports and ledgers are maintained.

Further, version management is effectively done to incorporate the requirements of the department from time to time to make the treasury system up-to-date on information needs. Thus, the software has become self-sustained.

### Cost-effectiveness

Prior to the implementation of the software, treasury staff had to spend lengthy nights at the office to match the account heads, tally the information from banks for compilation of accounts and submission to AG office. Yet, hardly 30% accuracy was achieved and that too only up to the minor head level. Budget checking was a hectic job for the treasury officer, who in turn had to depend on information provided by DDO. As a result, the government had come across instances of misappropriation and over-withdrawal of funds at the field level.

The implementation of a software completely avoided over-withdrawal of funds by DDOs and put a complete check on misappropriation of funds as the software checks the properness of head of account and budget availability before passing the bill itself. Accurate accounting information is made available up to the lowest level of accounting head, freeing the manpower from tedious account matching. Thus, considerable man-hours have been saved, which has been utilised in other productive areas by the

department without going for extra manpower that would otherwise have been required.

## Achievements

- Internal efficiency of treasury staff increased, and thereby treasuries improved to a great extent.
- Transparency in payment procedures are maintained till the highest level.
- Pending bills are monitored at the levels of treasury officer, joint director, director (treasuries) to ensure the early clearance of bills at treasuries.
- Bill passing is under complete control from any treasury/sub-treasury.
- Delay in bill processing is reduced to 1 or 2 days from 7 to 8 days earlier.
- Payments made from any treasury are recorded instantly at the central server.
- Over-withdrawal of funds by DDOs is completely avoided.
- Misclassification of heads pertaining to a bill is under check through software.
- While previously sub-treasuries' accounts were taken in district treasuries once/twice before implementation of the software, the data is now being merged on a regular basis avoiding delay in submission of accounts to the AG Office.
- Matching of accounts at treasuries is now done with ease and accuracy as per classified heads.
- Status of bills pertaining to any treasury/sub-treasury is provided at the central server.
- Errors in submission of accounts to the AG office have been reduced to less than 5% compared with more than 75% prior to implementation of the project.
- The e-Kosh online web interface has been provided to make the information available to departments, HoDs as well as the general public covering the following:
  - Instant availability of information on payments – department-wise/scheme-wise expenditure are provided for enabling the departments to monitor the outcome budget pertaining to their departments.
  - Provision of head-wise information on receipts has enabled departments to reconcile the figures with banks on a daily basis.
  - The public can view the information on the expenditure incurred by any department on any scheme.
  - District-wise/head-wise receipt information can also be viewed for any purpose by any one.

## Available statistics

1. Around 4000–5000 bills are entered and processed every day from all the treasuries across the state.
2. Around 3000–4000 cheques are prepared and issued to DDOs every day from treasuries on peak days.
3. Six thousand challans for receipts are captured from treasuries including sub-treasuries every day.
4. Pension disposal time reduced from 3 months earlier to 10 days.
5. Bill processing time reduced from 7 days to a maximum of 2 days.