

Department of e-Governance

3.2 Audit of Human Resources Management System

3.2.1 Introduction

The State Government had initiated the Human Resources Management System (HRMS) project in the year 2003 with the objective of maintaining an exhaustive and accurate database of Government employees for effective administration and also to improve productivity and efficiency in the Government. The project was funded by the World Bank under its Technical Assistance Programme. The work of “Study, design and development, testing, installation and implementation of the HRMS software” had been awarded (March 2005) by the Government to CMC Limited, Bangalore (consultant) for ₹ 4.35 crore including training of staff and maintenance for two years after acceptance of the final report of completion of the project. The consultant was to roll out the system by March 2006. The implementation of the project had been transferred (July 2006) from the Finance Department to the Department of Personnel and Administrative Reforms, e-Governance (Department) as the latter had expertise to handle the project. HRMS, which consisted of the five modules viz., Service Register, Pay Roll, Promotions, Transfer and Budget had the requisite interface for online transfer of pay bill to the Treasury. However, this functionality could not be rolled out due to the following:

- The Treasuries worked on limited bandwidth;
- The hardware at the Treasuries was more than eight years old;
- There were power problems at Taluk Treasuries; and
- Any new activity on the existing Treasury system was considered risky by the Treasury Department.

The HRMS architecture was, therefore, modified to centralised/internet based solution accessible to Drawing and Disbursing Officers (DDOs) from their offices. All the DDOs had furnished the updated Service Register data in electronic spread sheets which were migrated to HRMS, which went live thereafter on 18 February 2008. The HRMS data had information on 5,36,831 employees which resided in the servers kept at State Data Centre and the DDOs accessed the data through internet. The DDOs prepared the pay bill through the Pay Bill Module and sent the hard copy of the pay bill so generated to the assigned Treasury for payment.

The annual maintenance of HRMS had also been entrusted (August 2010) to the consultant for a period of three years effective from 1 April 2010 at a cost of ₹ 1.51 crore. The services of the consultant were continued (November 2013) for another two years at a cost of ₹ one crore.

3.2.2 Organisational set-up

The Centre for e-Governance (CeG), a society registered under the Karnataka Societies Registration Act, 1960, is an autonomous body specially formed to implement and monitor various Information Technology (IT) enabled services and e-Governance initiatives in the State. The CeG has a Governing Council consisting of Chief Secretary as the ex-officio President, Additional Chief Secretary as the ex-officio Vice President, Principal Secretary, Finance Department and 10 other members. These 10 members constitute the Executive Committee which administers the affairs of the society. The Chief Executive Officer (CEO) functions as the Member-Secretary of the Executive Committee which is headed by the Secretary, e-Governance. HRMS is headed by a Project Officer functioning under the CEO.

3.2.3 Audit objective

The objective of Audit was to examine the quality and integrity of HRMS data and to report on the effectiveness of the Department's management of the data and how it impacted service delivery.

3.2.4 Audit scope and methodology

Audit, which was conducted between April and August 2013 comprised examination of the HRMS data since inception to end of March 2013 including pay roll processing, and the accuracy, completeness and reliability of the electronic records. The accuracy and completeness of records of selected fields and other key fields that underpin the integrity of the HRMS data were examined. While Audit did not directly examine the accuracy of individual payments, it examined the underlying data integrity issues that could impact on the accuracy of payments to employees. Audit also included a limited number of reviews of paper files, particularly in relation to the development of HRMS and data management.

Audit findings

3.2.5 Quality of legacy data

We observed that the Master tables of HRMS were populated with data obtained from the DDOs in electronic spread sheets without subjecting them to any validation checks. Though the Department provided data access to the DDOs after migration to rectify the data errors, inconsistent data continued to reside in the database. Examples of such inconsistencies are given below:

3.2.5.1 Personnel Information Data

HR master data is captured in the Service Register table that includes personal information like first name, surname, address, next of kin, date of birth, date of entry into service, qualifications and salary information. This is the first record

the DDO creates when an employee joins Government service. Our analysis of the data in this master table showed the following:

There were 37 records where the date of birth (DOB) was the same as the date of joining service, the DOB was later than the joining date in 38 records. Further, there were 389 records where the difference between DOB and the joining date was less than 18 years, implying that these employees had joined service before the age of 18 years. Another 49 records had DOB prior to 1 January 1947 implying that these officials had continued to remain in service after attaining the superannuation age of 60 years. Other inconsistent/invalid data noticed by us in the master table are shown in **Appendix-3.2**.

3.2.5.2 General Provident Fund numbers

We observed that the table having employee basic details contained 3204 records with invalid General Provident Fund (GPF) numbers. Illustrative details are given in **Table-3.9**:

Table-3.9: Illustrative cases of invalid GPF numbers

Employee ID	Employee name	GPF numbers
0900842472	BALAGANGADHARA TILAK	-
0900581155	B.R.BELESHE	-----41446
0900834665	K.JAYASHEELAMMA	----0
0900220532	MANJAPPA	-00
0900789615	DR.BABU REDDY.K	-00000000

(Source: HRMS database)

Further, there were 960 records where the same GPF number had been entered for more than one employee. Illustrative details are given in **Table-3.10**:

Table-3.10: Illustrative cases where same GPF numbers have been allotted to more than one employee

Employee ID	Employee name	GPF/Policy Number
0900312652	SAVITHA T.N.	EDN-357046
0900312544	NARASIMHAMURTHY BC	EDN-357046
0900849621	PRAKASH B K	EDN-357046
0900759257	DR.JAGADEESH.K.P.	M-59524
0900759256	YOGESHAPPA.S.	M-59524
0900699839	PRAVEEN	OGES-5062
0900699833	B.KIRAN KUMAR	OGES-5062
0900660296	NARAYAN V MADIVAL	SSW-2767
0900843284	VENKATANARAYANA	SSW-2767

(Source: HRMS database)

The Government stated (November 2013) that a GPF Account Master would be created on the basis of information obtained from the Accountant General (AG) and the GPF numbers would be validated against this master. It was further stated DDOs had been advised to correct the invalid GPF numbers and update the database with the correct GPF account numbers.

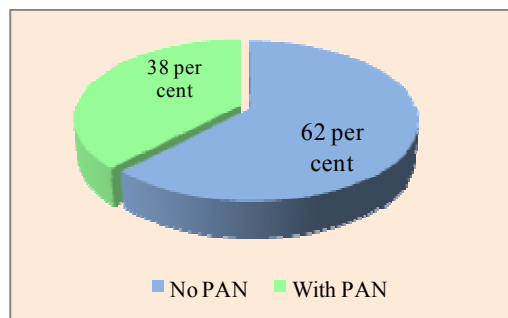
3.2.5.3 Karnataka Government Insurance Department data

We observed that the employee basic details table had invalid Karnataka Government Insurance Department's (KGID) policy numbers, duplicate policy numbers or null value. Illustrative cases are given in **Appendix-3.3**.

The Government stated (November 2013) that this had occurred during data migration when data had been received from more than 21000 offices across the State. The Government informed that at present, there were no insurance policies with null values and there were 4417 duplicate policy numbers in the system. It was further stated that in respect of records with duplicate KGID numbers, both the duplicate numbers were being made null and the DDOs were being alerted to update the correct numbers. The reply would show that the system had permitted null values in the field which should have been a mandatory field as every Government servant is mandated to have KGID insurance policy. The duplicate numbers in the field would also be indicative of lack of validation checks.

3.2.5.4 Permanent Account Numbers

We observed that out of 536831 employee records, 3,35,272 (62 per cent) did not contain the details of Permanent Account Number (PAN) and 2613 records were having the same PAN.



The Government stated (November 2013) that PAN number was not mandatory for employees who were not income tax payers. It was further stated that PAN had been now made mandatory for all the employees for whom tax deduction was made through HRMS and 49926 records had been updated by the DDOs in the last one month. Regarding duplicate PAN, it was stated that action had been taken to remove these and DDOs would be alerted to enter the correct PAN. The Government also detailed the plan of action to validate the PAN against Income Tax records.

Regarding the inconsistencies in the legacy data, the Government stated (November 2013) that since the data had been captured through the spread sheets, cross validation between the columns in the spread sheets was not possible. It was further stated that the issues relating to data integrity/inaccuracies could have been avoided only if all the Service Registers and

related information were brought to a central place and digitised with verification. HRMS, as conceived, did not have the mandate as such effort was neither physically nor financially feasible as database had to be built with information from more than 21000 DDOs with very limited IT capabilities/skills and lack of access to basic IT systems. The Government's reply is to be viewed in the light of the fact that the success of HRMS was dependent on the foundation of clean and reliable data. However, even five years after rolling out of HRMS, inconsistent/invalid data had not been removed from database defeating the very objective of developing HRMS.

The Government further stated that the DDO was responsible for updation and maintenance of the Service Register and generation of payroll and, consequently, the ownership of adequacy and correctness of the data in the HRMS rested with the DDOs. It would be relevant to mention here that while the DDO is responsible for data, the development of the HRMS afforded the perfect opportunity to enable and facilitate the DDO to rectify and update the legacy data. Further, mapping of business rules could be effective only when the data is clean. In this context, the Department/Government should consider evolving a participatory model through a web enabled interface in which the Government employees are given read only access to view their master data and propose rectifications as appropriate. On confirmation of the proposed rectifications by DDO/Head of the Department (HOD), the incorrect/inconsistent data can be set right. This participatory approach carries the potential of improving the quality of the legacy data as the Government employees, as a major stakeholder, will be more than willing to set right the inconsistencies in their service data. Populating Aadhaar in the Personal Information Database would also help in deduplicating records.

We also observed that basic information in the service register table like nominee details, home town and qualification of Government servants had not been updated. The participatory model suggested above would quicken the process of gathering the basic information.

3.2.6 Creation of reference Master Tables

The design of the HRMS should have commenced with designing and developing Master Tables indicating the posts, groups, pay scales, categories for House Rent Allowance and City Compensatory Allowance, other allowances etc with facility for their regular updation. However, we observed that all the requisite master tables had not been created. This led to non-mapping of business rules, resulting in wrong determination of entitlements of the employees. One instance where Audit observed that employees belonging to a group had been incorrectly classified under more than one group is shown in **Table-3.11**.

Table-3.11: Classification of employees under more than one group

Cadre	Groups under which classified	The group which the employee actually belonged
Range Forest Officer	A,B,C & D	B
Gazetted Manager	A,B,C & D	B
Administrative Officer	A,B & C	B
Agricultural Officer	A,B & C	B
Armed Police constable	A,C & D	C
Assistant Administrative Officer	A,B & C	B
Assistant Director	A,B & C	B
Assistant Engineer	A,B & C	B
Block Education Officer	A,B & C	B
Commercial Tax Officer	A,B & C	B
Deputy Conservator of Forest	A,B & C	A
Executive Engineer	A,B & C	B
First Division Assistant	B,C & D	C
Inspector of Excise	A,B & C	B
Librarian	A,B & C	C
Peon	C & D	D

(Source: HRMS database)

As per the Government order of December 1981, the following deductions should be done from the salary of each employee compulsorily towards Employees' General Insurance Scheme.

Group	Monthly subscription
A	` 240/-
B	` 180/-
C	` 120/-
D	` 60/-

We observed that due to wrong classification of groups of the employees, deductions towards Employees General Insurance Scheme had been made erroneously as illustrated in **Appendix-3.4**.

The Government stated (November 2013) that the Department had been trying to solve this problem by creating a Post-Group-Scale-Master and the process of compilation of masters had been completed to a large extent by collecting and mapping of data in respect of 60 departments having large number of employees. It was further stated that after the creation of this master, exception report would be generated for employees mapped to incorrect groups and sent to the HODs/DDOs for necessary action.

3.2.7 Ineffective application controls

We noted that workflow functionality had not been introduced in full for pay roll processing as all the applicable Government rules had not been incorporated in the software by way of validation checks. As system functionality had not been used to enable automated checks to be performed against employees' entitlements, manual interventions in pay roll processing led to deficiencies as discussed in the subsequent paragraphs. It would be relevant to mention here that after the deficiencies were pointed out by Audit, the Department introduced additional validations.

3.2.7.1 Salary drawn for terminated employees

We observed that the business rule applicable for terminating the service of an employee in special circumstances had not been mapped into the system. The application provided an option for the DDOs to enter the employees' exit details under "EXIT" option. Once the employee was entered and approved in Exit details screen, the record was moved to history table. Data analysis showed that employees who had exited from service for various reasons like voluntary retirement, death, re-appointment, *etc.*, had been disbursed salary as of April 2013. The details are shown in **Table-3.12**.

Table-3.12: Employees drawing salary after termination on special grounds

Exit reason categorised in the table as	Reason	No. of Employees
A	Invalid on medical grounds	2
CR	Compulsory retirement	1
D	Death	5
RML	Removal	25
RP	Reversion in Probation	3
RS	Resignation	10
Total		46

(Source: HRMS database)

An exception report generated by the Department after the issue had been raised by Audit showed that there were 629 records in which employees' salary had been generated and approved after the exit date. Though there could be delay in recording exit after occurrence of event, cases pointed out by Audit are the ones where the DDO had already recorded 'Exit'. This is an application control issue because salary cannot be drawn once 'Exit' has been recorded.

The Government stated (November 2013) that in cases of resignation, death *etc.*, HRMS could not control the generation of the salary for those who were no longer in service since the details of occurrence of the events were external to the system. If the pay bill was generated before occurrence of the event or if there was delay in exiting the employee from HRMS, it could result in drawal of salary after the actual date of resignation or death. It was further stated that exception report had been sent to the departments concerned and reports being received from the DDOs indicated that recoveries were being made.

3.2.7.2 Irregular payment of House Rent Allowance

We found that in the case of 12438 records, employees occupying rent free quarters had been irregularly disbursed House Rent Allowance (HRA) amounting to ` 4.36 crore.

Data Analysis of the Pay Bill table for the month of April 2013 showed that 82 employees working in Bangalore had been paid HRA (` 3.06 lakh) in excess of their eligibility (30 *per cent* of the total of Basic Pay, Grade Pay and Personal Pay). We also observed that 2,99,634 records (56 *per cent* of the total records) did not have information on place of work of the employees, though it was relevant for regulating the HRA and City Compensatory Allowance

(CCA) at the rates applicable for the place of work. Though this field should have been made mandatory and mapped to the rates prescribed, the system, in the absence of appropriate validation checks, permitted the DDOs to enter the HRA amount manually.

After the issue was raised by Audit, an exception report for the entire State was generated by the Department. As per this report, while HRA had been drawn in excess of admissibility in 883 cases, HRA drawn was less than the stipulated rate in 1110 cases.

The Government stated (November 2013) that exception reports had been sent to the HODs concerned for verification and additional validations were being introduced in the system. It was further stated that the HODs had been directed to take necessary action for recovery and details of actual entitlements and recoveries were awaited from the field. It would be relevant to mention here that generating exception report is not the permanent solution to the problem which should have been addressed by mapping the business rules to the system. It is also imperative that Government employees from whom recoveries are due are flagged by the Department till the recovery is completed by the DDO.

3.2.7.3 Excess payment of City Compensatory Allowance

Absence of appropriate validations vis-à-vis prescribed rates for CCA (master data) also resulted in excess payment of CCA during September 2012 to April 2013 as shown in **Table-3-13**.

Table-3.13: Details of excess payment of CCA

Classification of cities/towns	Group to which Govt. Servant belonged	Prescribed monthly rate of CCA	Remarks
BBMP	C & D	₹ 350	104 employees had been paid CCA at a higher rate than prescribed. The excess payment worked out to ₹ 41852
	A & B	₹ 400	52 employees had been disbursed CCA at a higher rate than prescribed. The excess drawal aggregated ₹ 43302.
Belgaum Hubli & Dharwad Mangalore Mysore	C & D	₹ 250	82 employees had received CCA at a higher rate than prescribed. The excess drawal amounted to ₹ 27341
	A & B	₹ 300	25 employees had been paid CCA at a higher rate than prescribed, resulting in excess payment of ₹ 11656.

(Source: HRMS database)

The Government stated (November 2013) that while additional validations preventing the DDOs from selecting a city grade higher than that applicable for their headquarters were being introduced, exception reports had been sent to the HODs for taking necessary action.

3.2.7.4 Allowances during Extra-ordinary leave

Rule 171 (1) of Karnataka Civil Service Rules specifies that where a Government servant avails of Extra-ordinary Leave, he shall be entitled to draw HRA and CCA during the leave at the same rate at which he had been drawing this allowance before he proceeded on leave, if the period of Extra-ordinary Leave did not exceed four months. If the actual duration of Extra-ordinary Leave exceeded four months, he is eligible for HRA and CCA only for the first four months of such leave.

We observed that in eight cases HRA and CCA had been irregularly drawn for employees on Extra-ordinary Leave even beyond the fourth month of such leave. The Government stated (November 2013) that the DDOs had entered the Extra-ordinary Leave after generating salary. It was further stated that exception reports had been generated and sent to the concerned HODs to initiate appropriate action. The reply was not acceptable as the leave module had not been linked to the pay bill module and there were no validation checks guarding against entering leave details belatedly after disbursement of salary.

3.2.7.5 Irregular deduction and non-deduction of GPF contribution

Rule 3(i) of Karnataka General Provident Fund (Amendment) Rules, 2001 prescribes that subscription to the General provident fund shall be compulsory for Government servants (except Group 'D' employees) who had joined service before 1 April 2006. However, we observed that 32400 employees other than those belonging to Group D who had joined service before 1 April 2006 had not been contributing to GPF as this rule had not been mapped to the system.

Further, Rule 4 (1) of Karnataka General Provident Fund (Amendment) Rules, 2001 prescribes that the minimum rate of the monthly subscriptions payable by the subscriber shall be fixed as equal to 4 *per cent* of the average of the time scale of the pay of the post held by him. Rule 4 (2) *ibid* further provides that a subscriber may at his option, propose higher subscription subject to maximum of the basic pay of the post held by him. We observed that the software, in the absence of validation checks, had been allowing deduction towards GPF at rates less than the minimum or more than the maximum. While 70,000 records had values less than the prescribed rate of GPF contribution, eight records had values more than the prescribed rate of GPF contribution.

The Government stated (November 2013) that it was the duty of the DDO to deduct GPF and non-recovery of the GPF was a lapse on the part of the DDOs. The Government had also realised that many employees had not been contributing to GPF and had made (September 2013) it mandatory for all the non-Group D employees to have GPF account numbers. It was further stated that HRMS was creating Group-Post-Pay Scale master to address the issue of wrong pay scales entered by the DDOs and validations had been imposed in the system for deducting GPF at the prescribed rate and restrict the maximum GPF amount to the basic pay of the employee.

3.2.7.6 Professional Tax

Professional Tax (PT), inter alia, is to be deducted from the salary of the each employee at the following rates:

Monthly salary	PT amount to be recovered
` 10,000 to ` 14,999	` 150 per month
` 15,000 & above	` 200 per month

(Source: HRMS database)

Analysis of the pay bill data for the month of April 2013 showed that there were short recoveries towards PT. It was also seen that PT had not been deducted from the salary of 14280 employees. The Government stated (November 2013) that the deduction of PT had been made mandatory for all employees except those who were physically challenged or having a single child. In respect of 1480 employees where the PT had been short recovered, exception reports had been sent to the HODs concerned for initiating appropriate action. It would be relevant to mention here that the appropriate solution would be to update the database of employees who are physically challenged or having a single child and introduce validation checks exempting them from the purview of PT and making it mandatory for others.

3.2.7.7 Festival Advance

We observed that in many records, the balance outstanding Festival Advance was the same as the sanctioned amount without any deduction and in some cases, the number of balance installments was “minus”. After Audit pointed out these cases, an exception report generated by the Department showed that there were 320 cases where the total number of installments was zero. The Government stated (November 2013) that there was no provision in HRMS to cancel the sanctioned festival advance in the following cases:

- ❯ The DDOs generated the Festival Advance bill, but due to non-availability of grants, the Treasury had rejected the bill and Festival Advance was not paid, and
- ❯ DDO generated the FA bill, but received the cheque very late after the festival from the Treasury. The DDO, therefore, returned the cheque to the Treasury.

DDOs, therefore, made the total installments “zero” to avoid unnecessary deduction of installments from the employees’ pay bill. The Government further stated (November 2013) that a separate sub-module of Festival Advance Cancellation would be introduced and the cancellation would be initiated by the DDO and approved by the HOD. The Government further informed that a separate validation would also be enforced not to accept “zero” installments.

We further observed in the case of 25 employees that the Festival Advances sanctioned during 2007 to 2013 had remained unrecovered. The Government

stated (November 2013) that exception reports had been sent to HODs for verification and rectification. The reply would show that the system lacked the requisite validation checks to ensure mandatory recovery of Festival Advances.

3.2.7.8 Fixed Travelling Allowance

The rates of Fixed Travelling Allowance had been revised with effect from April 2012. Our analysis of the allowance table showed that there were 400 employees, not eligible for Fixed Travelling Allowance (FTA), who had drawn FTA during April 2013. This evidenced that the rule for regulating FTA had not been mapped to the system.

We further observed that while 26 employees had drawn FTA in excess of their eligibility, 842 employees had drawn less than the entitled FTA. The Government stated (November 2013) that FTA drawn by an employee might not match the amount defined in the FTA Rules as the employee was paid the allowance for the days he had worked during the month and after considering whether the employee had used official vehicle for performing official duties.

It was further stated that Allowance Master was being created in the system containing provision for exception transactions with the approval of the HOD. The Government also informed that the exception report had been sent to the DDOs/HODs for necessary action.

3.2.7.9 Uniform Allowance

The Government revised the rates of uniform allowance with effect from April 2012. In the case of Police Department, the revised rates were as shown in **Table-3.14:**

Table-3.14: Revised rates of uniform allowance

Name of the Post	Existing Rates	Revised rates
Superintendent of Police	Initial grant ` 2500	Initial grant ` 4000
Non IPS	Renewal grant ` 2000	Renewal grant
Deputy Superintendent of police	Once in 5 years	` 750 per annum
Police Inspector	Maintenance grant of ` 50 per month	Maintenance grant of ` 100 per month
Sub-Inspector of Police and Police Constable to Assistant Sub-Inspector	(i) Three pairs of Uniform to be given every year	No Change
	(ii) Maintenance grant ` 100per month	

(Source: HRMS database)

Our data analysis of the Uniform Allowance paid for the month of April 2013 to the employees of the Police Department showed that the HRMS had not validated these rates and the application was allowing the user to input any amount for any cadre. The amount of Uniform Allowance paid ranged from ` 8 to ` 4,000 in the case of a Police Inspector who was eligible for ` 100 per month.

The Government stated (November 2013) that validations had been introduced in the form of Allowances Master to store the posts and the applicable eligibility amounts for the posts and exception reports had been sent to the HODs/DDOs for necessary action.

3.2.7.10 Motor Car and Computer Advance

We observed that Government servants had been sanctioned computer advance of ` 50,000 during 2007 and recoveries were still outstanding. We also observed minus balances and residuary balances relating to Motor Car and Computer Advances. After the issue was raised by Audit, the Department generated an exception report which showed that there were 5,148 instances where recovered amount was more than the sanctioned amount and another 6229 instances where the recovered amount was less than sanctioned amount.

The Government stated (November 2013) that the Advances Master Database would also store the maximum eligible amount of various advances and other parameters related to the advance and the recovery sub-module would validate the total amount of advance entered and the number of installments. It was further stated that the exception report had been sent to the Departments concerned for further action.

3.2.8 Conclusion

Transferring the legacy data to HRMS unscientifically rendered the database inaccurate and unreliable. Even after migration of data to HRMS, the data quality and design issues had not been addressed effectively by creating necessary masters and mapping the business rules in the form of validation checks. This created a need for manual intervention in payroll processing leading to wrong determination of the entitlements of the employees.

3.2.9 Recommendations

- The Government should encourage employees' participation in cleaning the incorrect personal information data through a web enabled interface. The masters can be updated on the basis of the information subject to necessary authorisation controls of DDOs/HODs.
- Instead of routinely generating exception reports as a method of addressing data integrity issues, the Government should strengthen the validation routines in the data entry system by mapping the business rules. Where mapping of business rules is difficult requiring manual intervention, appropriate authorisation controls should be put in place, and
- The Government needs to clarify the role of the Department and the DDOs with respect to the development, maintenance of the HRMS and the ownership and updation of the database.