Home Department

2.2 IT Audit of Common Integrated Police Application

Executive Summary

Government of India introduced in 2004 a Common Integrated Police Application (CIPA) project at police stations to automate the processes at primary sources of data i.e. police stations and to build a crime and criminal information system based on Criminal Procedure Code. Under this project, apart from maintaining the basic records electronically at police station level, facilitating availability of records to investigating officer, supervision by the senior officers and faster response to public were envisaged. It sought to increase the efficiency and effectiveness of police functioning. It was to be an important tool for e-governance. Audit of CIPA was undertaken not only to get assurance that adequate measures have been designed and are operated to minimise the exposure to various risks, but also to examine the overall outcomes of the entire project.

There were delays ranging from 62 to 85 days in instalation of hardware and from 91 to 200 days in commissioning of work, keeping the hardware idle, and affecting timely completion of the project. The vendors failed to upkeep the hardware under the warranty period and to attend the complaint within prescribed time which indicated poor quality of services provided by them. Annual maintenance contract of the hardware was not executed after expiry of warranty period to ensure smooth working and prompt repairing of down systems.

Progress of work to clear backlog of data entry and current arrear was very slow. Data entry was below 25 *per cent* in nine districts in investigation module and below 25 *per cent* in 17 districts in prosecution module. The integrity of data could not be ensured as constables were allowed to perform all duties relating to various stages of the CIPA. No password change policy was found resulting in an impact on the confidentiality, integrity and reliability of data.

Framed back-up policy was not implemented and there was absence of fire safety equipments. The information and hardware were exposed to the risk of damage and loss. There were deficiencies in the software resulting in incomplete or improper data entry and report generation. CIPA Software connectivity between Police stations, District Crime Records Bureau, State Crime Records Bureau and National Crime Records Bureau was not established which defeated the basic purpose of sharing of the information.

There was no significant reduction in manual records/ registers maintained at police stations after introduction of CIPA. Data entry was being made both in registers and in the software resulting in duplicating of efforts and non achievement of objective of CIPA. CIPA trained officials in the Police Stations were few and even though they were assigned other police duties. Prescribed role/duties were not performed by officials at higher levels.

2.2.1 Introduction

The Police Department has been bringing in initiatives over the years to use information technology to create a crime and criminal database and computerise different activities for early detection of crimes as well as improvement in its services. Common Integrated Police Application (CIPA) was introduced in 2004 by Government of India to automate the processes at primary sources of data i.e. police stations and to build a crime and criminal information system. The application was introduced not merely as a means to process data but to store, utilise and communicate a wide variety of information that influences decision making at various levels of the organisation. This project aimed at creating a national database for crime prevention and detection, while shifting to an electronic system to increase ease of storage and access to records and reflect credibility of the Department.

2.2.2 Objectives of the Project

The main objectives of CIPA were to:

- automate the processes at Police Station in order to maintain the details pertaining to all the activities relating to crime and criminals;
- provide information as and when required;
- Generate various statutory output for smooth functioning of the Police Station.

2.2.3 Organisational set up

Director General of Police (DGP) who functions under the administrative control of Principal Secretary, Home Department, heads the Police Department of the State. The computerisation work implemented through Police Station (PSs) and District Crime Record Bureau (DCRB) is monitored by the Director, State Crime Record Bureau (SCRB), Jaipur.

2.2.4 Audit objectives

The objectives were to evaluate whether:

- the scheme achieved its primary objectives of automating processes, providing required information and generation of timely reports;
- implementation of the project was as per schedule and personnel at different levels were adequately trained to operationalise the software;
- adequate controls exist to ensure data confidentiality, completeness and availability;
- well-defined disaster recovery and business continuity plan were laid out and implemented; and
- there was a smooth flow of information from Police Stations to DCRB, SCRB and finally to National Crime Report Bureau (NCRB).

2.2.5 Audit criteria

The audit criteria adopted were

∗ Instructions of NCRB/GoI

∗ CIPA manual and guidelines

∗ Criminal Procedure Code (Cr. PC), Indian Penal Code (IPC), local Acts, etc.

∗ Best practices relating to IT controls and security aspects

2.2.6 Scope and methodology of audit

The implementation of CIPA project was examined (during May to August 2010) in seven DCRBs[37] out of 40 and 21 PSs[38] under these DCRB, in addition to scrutiny of records at SCRB, Jaipur. The DCRBs and PSs were selected through random sampling. Audit evidence were collected through questionnaires, comparison of electronic data with manual records, analysis of various modules of CIPA software, checking of reports generated and general scrutiny of documentation in selected units. An Entry conference was held in April 2010 with the Director, SCRB, Jaipur, where the audit objectives and criteria were discussed. The audit findings have been discussed (February 2011) with the Director General of Police, Rajasthan.

2.2.7 Audit Findings

2.2.7.1 Project implementation

∗ CIPA Software was designed and developed by National Informatics Centre (NIC), New Delhi. CIPA was to be implemented in four phases as per orders (May 2004 and July 2006) by Ministry of Home Affairs, GoI with certain number of districts covered in each phase. It was noticed that though three phases of instalation of computer hardware in 566 Police Stations of 28 police districts were over by 2008-09 by incurring ` 11.96 crore for hardware and ` 1.15 crore for infrastructure, the fourth phase of implementation covering remaining 176 police stations of 12 districts was yet to be started (August 2010).

The funds for procurement of hardware have been provided to NIC, New Delhi by Ministry of Home Affairs, Government of India (GoI) under the scheme of Modernisation of Police Forces (MPF) and for site preparation by the Government of Rajasthan.

It was also noticed that procurement for phase I started only in February 2006 as against the scheduled completion in 2004-05. The purchase orders for supply, testing, acceptance and instalation of hardware items for CIPA project

[37] Alwar, Dausa, Jaipur (North), Jaipur (Rural), Jodhpur, Sikar and Udaipur.

[38] Aravali Vihar, Kotwali, Sadar (Alwar); Bandikui, Kotwali, (Dausa); Amber, Kotwali, Shastri Nagar (Jaipur North); Kalwar, Kanota, Kotputli (Jaipur Rural); Kotwali, Mandore, Pratap Nagar (Jodhpur City); Fatehpur Kotwali, Kotwali, Sadar Sikar, (Sikar) and Ambamata, Goverdhanvilas, Rishabdev, Surajpole (Udaipur).

were placed by the NIC in favour of M/S HCL Info Systems Ltd, Pondicherry for Phase-I (` 2.31 crore) and Phase-II (` 4.68 crore) and to M/s Acer India Pvt. Ltd, New Delhi (September 2008) for Phase-III (` 4.98 crore).

The seven modules covered under CIPA software are registration, investigation, prosecution, information, State specific requirements, general/ daily station diary and reports/registers/queries. As per Action Plan for implementation of CIPA Project, Technical Assistants (TAs) were required to be provided by the vendor for assistance of the staff of PSs to start data entry work and clearance of backlog.

It was observed that there was delay in finalisation of supply orders by NIC for procurement of hardware. Out of 21 test checked PSs, completion of project was delayed in nine PSs[39] due to delay in instalation of hardware by the supplier ranging from 62 to 85 days and commissioning of work in CIPA software was also delayed at 10 PSs[40] ranging from 91 to 200 days after instalation of software which besides keeping the hardware idle for such period, adversely affected timely completion of backlog entries as indicated in *Para 2.2.7.2.*

While accepting the facts SCRB attributed (November 2010) the delay to (i) late instalation by suppliers, (ii) non-preparation of site as per norms, (iii) delayed posting of TAs, (iv) inadequate trained staff as there was no provision of training under CIPA project and (v) non-release of funds by GoI for phase IV.

∗ Hardware supplied were under warranty of three years for the first two phases and five years for the third phase from the date of supply, and the vendor was responsible for the upkeep of the hardware and to attend the complaint within prescribed time. In case of failure, penalty could be levied from vendor. The SCRB vide letter dated 27.11.2009 intimated the State Informatics Officer, NIC to levy penalty amounting to ` . 4.54 crore from two vendors for the down time of UPS System and computer hardware upto June 2009, which was later increased to ` . 8.70 crore (upto June, 2010). This indicated poor quality of services provided by the vendors during warranty period which adversely affected the utilisation of the system. SCRB replied (15 December 2010) that State Informatics Officer, NIC, Jaipur has been further requested (10 October, 2010) to levy total penalty ` . 8.70 crore (upto June 2010) but no information in this regard has been furnished by NIC so far.

∗ It was observed that out of seven test checked districts, Annual Maintenance Contract (AMC) to ensure smooth working and prompt repairing of down systems was not executed after expiry of warranty period in six districts (except Jaipur Rural). The computers and other peripherals were either running without UPSs or without power back-up. It was also found that

[39] Kotwali, Sadar in Police District, Alwar; Bandikui, Kotwali in Police District, Dausa; Kalwar, Kanota, Kotputli in Police District, Jaipur Rural; Kotwali, Sadar Sikar in Police District, Sikar.

[40] Arawali Vihar, Kotwali, Sadar in Police District, Alwar; Kotwali, Mandore in Police District, Jodhpur City; Fatehpur, Kotwali in Police District, Sikar; Ambamata, Goverdhanvilas, Rishabdev, Surajpole in Police District, Udaipur.

computer and peripherals which required repair were remained idle at 14 police stations.

Accepting the facts Director SCRB, Jaipur replied (December 2010) that for renewal of AMC of Phases I and II expired by the end of June 2009 and June 2010, Ministry of Home Affairs, GoI and NIC had been requested, but no budget was provided for renewal of AMC. Further SCRB requested (February and November 2010) Home Department, GoR for providing budget for AMC but no budget has been provided. The CIPA guidelines are silent in this regard.

* Inbuilt Modem/Fax cards (two for each police station) to all 566 Police Stations (Phase I to III) which were provided by the suppliers at the cost of ` 4.98 lakh could not be put to use due to lack of connectivity from Police stations to DCRB , SCRB and NCRB. Accepting the facts Director, SCRB stated (November 2010) that during Stage II of CIPA, software was proposed to be web enabled. Fact remains that till the software is web enabled the inbuilt Modems/Fax cards will remain unutilised.

2.2.7.2 Backlog of data entry

The State Level Committee on CIPA and SCRB directed the District Level Officers to clear the backlog of data entry. To facilitate the clearance of backlog and bring the data entry at current level, the data entry work during phases I and II was outsourced. As per Action Plan for implementation of CIPA in State, a Technical Assistant (TA) was required to be provided by vendor firm at police stations for six months to help the staff for starting data entry work in CIPA and for clearance of backlog. A Senior Technical Assistant (STA) was posted at 10 PSs for trouble shooting on demand. A review of the progress reports (January 2008 to March 2010) of various districts revealed that in three districts data entry in investigation module was between 25 to 50 *per cent* and in nine districts[41] it was below 25 *per cent*. Similarly, in Prosecution module the data entry was 25 to 50 *per cent* in 5 districts and below 25 *per cent* in 17 districts which includes five districts[42] where no data entry was done in prosecution module.

On being pointed out the SCRB attributed (November 2010) that the delay in prosecution module was due to delay in prosecution and disposal of cases in courts. Similarly, back log in investigation module was due to inadequate trained man power, heavy work load and delay in investigation. Further, lacunae in CIPA software and short service period of TAs was also one of the reason for non-clearance of backlog and arrear of data entry.

2.2.7.3 Access control

* To maintain the integrity and confidentiality of the data, designated officers with appropriate rights should only be allowed to access the data. As per guidelines given in CIPA Brochure, the Duty Officer is authorised to

[41] Baran, Bundi, Churu, Dholpur, Jalore, Jhalawar, Karauli, Sikar, Sawaimadhopur.

[42] Baran, Jhalawar, Karauli, Sikar, Sawaimadhopur.

register a case at PS and the Investigation officer is authorised only to input the information in Investigation and Prosecution modules of the CIPA. It was observed in the 21 test checked PSs that constables were performing all duties relating to various stages of the CIPA application. Accepting the facts Director, SCRB informed (November 2010) that data entry was being done by CIPA trained constables under supervision of Investigating Officers as all Investigating Officers were not trained in computer operations. Thus, the secrecy of the data could not be ensured.

∗ According to the IT security practices there should be a password policy insisting change of passwords at regular intervals. It was observed that no such policy prescribing minimum length, period of expiry, regular change of passwords and prohibiting re-use of earlier passwords existed in the Department. Director, SCRB replied (November 2010) that facility to use the password of self choice and to change the passwords, was available in CIPA software. However, the fact remained that the required password policy was not framed by the Department to have a control over access to data. Further, it was not made compulsory in the software to change the password at regular interval.

2.2.7.4 Disaster recovery and Business continuity plan

∗ *Data back-up*

With the objective to ensure data security at police Stations, SCRB circulated (November 2007) a back-up policy for police stations prescribing back-up time table, back-up process, life time of media and responsibility to take regular back-up and restore data. However, it was found that back-up of the data was not taken at regular intervals. Register for record and for monitoring the back-up was also not maintained. The back-ups were stored in the same room where the data were stored in the server. This defeated the purpose of taking back-ups since the threat to information remain continued. Director SCRB informed (November 2010) that directions have been issued to keep the CD of data in a separate room for use in case of fault in server.

∗ *Environmental control*

No fire extinguishers were available in all the test-checked PSs to provide reasonable magnitude of security to the sophisticated servers, PCs and other peripherals. Director SCRB accepted the facts and stated (November 2010) that budget was not provided in CIPA for fire extinguishers.

2.2.7.5 Software design

The following system design deficiencies were noticed during the audit of the test checked PSs:

∗ Month and year of the case diary was not indicated in the FIR (First Information Report) Register report though such data were entered in the system.

- FIRs of the same head were not grouped together and shown under the local head-wise register.

- In the absence of provision to indicate the “amount of bail” in the Bail register, the amount of bail received could not be ascertained through the system.

- As the data entry screen was designed to capture only upto eight digits of the value of property, the value of ` 10 crore or more could not be entered in the system.

- Description/summary of the section of the act applied was not shown in the FIR.

- Since the text relating to subject matter of the FIR was not in ‘Justified alignment’, this caused problems when FIR printouts were presented in Courts.

- Complete number of stolen vehicle was not captured in the “Motor Vehicle stolen register” though data entry was correct.

- Details of the Motor Vehicle Act were not maintained in the master file.

- Descriptions against various sections of IPC were not mentioned in the software.

Director, SCRB intimated (November 2010) that NIC has been informed to remove the deficiencies in CIPA software and NIC has also improved the software from time to time.

2.2.7.6 Data sharing/connectivity

One of the major objectives of the application was to spruce up information gathering, organizing and dissemination among police organizations to give an edge over criminals. On these lines, it was envisaged that information would flow between PSs, DCRBs, SCRB and NCRB with certain degree of access being provided to citizens through a web-based interface. However, data connectivity from Police station to DCRB and to organisations above was yet to be established and data was lying on stand alone server at each PS, defeating the purpose of sharing of information between PSs and DCRB, SCRB and NCRB and thereby not achieving the objective of e-governance. Director, SCRB admitted (November 2010) the facts.

2.2.7.7 Reduction in manual records/ registers

One of the main objectives of CIPA was significant reduction in manual records/register maintained at police stations and also generating various reports required from time to time. However, it was observed in test checked PSs that data entry both in registers (i.e. crime register, arrest register, bail register, establishment register, registers of missing persons, un-natural death register etc.) and CIPA software was being made due to deficiencies and lacunae in software, in-adequate training and non-receipt of directions/ orders from higher authorities.

Director, SCRB replied (November 2010) that maintenance of various registers at PSs was legally binding. These registers could not be closed without sanction of designated officers. Further, formats of registers in CIPA software was faulty and different from those being used by Rajasthan Police. In this regard, NIC was also being requested from time to time.

With respect to utilisation of the information stored in the software, though a variety of reports could be generated in the system, the PSs were not generating these reports on account of lack of adequate training and awareness which indicated a gap between the uses envisaged for the application and the extent of actual utilisation at ground level.

2.2.7.8 Training

∗ It was noticed that only 257 out of 927 officials in the test checked Police stations were trained in CIPA. Only constables were able to operate CIPA, whereas the officers at higher levels were not contributing in terms of their prescribed roles. In all test checked PSs, the CIPA trained constables were assigned other police duties. Accepting the facts, Director, SCRB replied (November 2010) that data entry was being done by CIPA trained constables under the supervision of Investigating Officers as all Investigating Officers were not trained in computer operation.

∗ It was also noticed that eight computers in five test checked PSs[43] of ` 1.86 lakh were lying idle from the date of their instalation due to non-availability of trained staff.

Director, SCRB stated (November 2010) that number of computers to be installed in PSs had been decided by Ministry of Home Affairs, GOI/ NIC on the basis of number of Investigating Officers, However, these computers were being used for CIPA training purposes from these PSs where there was no sufficient computer work.

2.2.7.9 Non-utilisation of available features

∗ In the investigation module data relating to eight categories of cases like FIR, missing persons, medico-legal cases, unnatural deaths, absconding persons, un-identified properties, non-cognizable offences and other cases were to be entered . However, it was observed that information relating to FIR only was entered in investigation module. Director SCRB stated (November 2010) that investigation module of these categories of cases was not according to procedure prevalent in Rajasthan Police. Reply was not acceptable because data entry regarding missing person and unnatural death in investigation module in test checked four PSs[44] was being done.

[43] Dausa-Kotwali: 1, Bandikui: 1, Sikar-Fatehpur Kotwali: 2, Jodhpur City- Pratap Nagar: 2 and Udaipur-Ambamata: 2.

[44] Aravali vihar (Alwar); Kotwali; Pratap Nagar (Jodhpur) and Ambamata (Udaipur).

∗ There was a provision to enter the value of stolen property in the FIR in registration module but it was observed that no such entries were made in test checked PSs. SCRB explained (November 2010) that value of stolen property were not being entered only in cases where such information was not available in the complaints. Contention of the Department was not acceptable because in four test checked PSs[45] the value of stolen property was shown in the complaint but not entered in the module.

∗ Though there was a provision in the software to store photographs/fingerprints, but the same was not scanned and stored by any of the test checked PSs. Director, SCRB informed (November 2010) that there were some problems in photograph scanning in phases II and III of CIPA. However, finger prints were being separately maintained in "AFIS Software"

∗ The details of criminals were not entered in information module thwarting the objective of maintaining a criminal data base. Director, SCRB replied (November 2010) that information module being output module, the details of criminals are auto generated from the "Arrest Forms and Investigation Module". Entry is made only when some special information is to be included. However, the test checked PSs had informed that no such report was being generated from CIPA software for want of training.

2.2.8 Constraints and achievements

Despite weaknesses, there have been some commendable steps taken by the state police institutions. Although no funds were provided separately under CIPA for training to SCRB, it organised training programmes for different levels of personnel with its available resources. It also prepared the Hindi version of the CIPA manual for circulation to other Hindi-speaking States. There was constant monitoring by the SCRB of data entry progress at PSs through regular reports and inspections.

Director, SCRB stated (November 2010) that for monitoring of CIPA software, CIPA progress report was being called from concerned districts every month and necessary instructions issued after evaluation of reports.

2.2.9 Conclusion

CIPA project is yet to deliver its envisioned outcomes for better e-governance due to weaknesses in certain aspects of scheme implementation, software development, connectivity and supervision. Delay in instalation and under-utilisation of hardware has adversely affected the shift towards electronic data-keeping. Due to non-renewal of AMC, hardware items remained idle for want of repair. The password policy was not clearly defined and followed which raises concerns about data security and reliability. The lacunae in software were creating hurdles in proper data entry and generation of reports in certain cases. Since the connectivity envisaged from police station to NCRB level was yet to materialise, the objective of information sharing for better decision-making was not achieved. While comprehensive training had not been

[45] Kotwali (Dausa); Amber (Jaipur North) and Kotwali; Fatehpur Kotwali (Sikar).

imparted, there were instances of trained personnel not working on the software. As a result of the above deficiencies, there was no significant reduction in manual records which caused duplication of work. There was no business continuity planning or disaster recovery policy in place to guard against losses of data in unforeseen circumstances. Due to non-establishment of connectivity between institutions, incomplete database and training deficits, the critical objectives of the project are a long way from being achieved.

2.2.10 Recommendations

∗ Efforts should be made to ensure that instalation and commissioning of hardware and software are not delayed and services should be provided by vendors within the prescribed time. Execution of Annual Maintenance Contract of the hardware should be ensured before expiry of warranty period.

∗ Clearance of backlog of data entry work should be ensured. The System needs to be properly utilised by the authorised personnel and password policy needs to be framed and implemented stringently. Disaster recovery and business continuity plan must be clearly laid down and implemented. Back-up policy should be followed in police stations.

∗ The lacunae in software must be filled up through regular feedback from the users and timely rectification through application developer (National Informatics Center). Connectivity must be established so that electronic data can be shared for facilitating crime prevention and detection through a national database.

∗ The training aspect has to be focused upon in order to have adequate trained manpower for entering data, generating MIS reports and effective monitoring at various levels.