



## **An Uphill Journey in the Police Stations from Traditional System to Modern System: CIPA in Rajasthan<sup>Ⓚ</sup>**

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### **ABSTRACT**

*The Electronic Governance wave has received a tremendous interest, curiosity and a sense of anticipation world-wide. Significant amount of efforts and resources in terms of money, time and manpower has been pumped into making e-Governance a reality for the various stakeholders of the Government like the Government, Citizens and the Businesses. The present study is based upon E-Governance initiative in Police Stations through computerizing their key processes like Registration, Investigation and Prosecution under CIPA project. The paper revolves around analyzing the use of ICT in bringing efficiency, effectiveness and transparency in the Police Stations to make available the right information to the right person at the right time and in the right format through e-Governance. The study is undertaken to analyze how this ambitious project has shaped till date, what are the objectives that have been realized and what are the ground realities obstacles that are giving sleepless night's to the implementers. It also suggests and outlines multiple parallel solutions for consideration and discussion for the seminar attendee, project champions, owners, researchers and project implementers.*

**Keywords:** Business Process Reengineering, CIPA, FTP, ICT, Intranet, MIS, Mission Mode Projects, NeGP, Online Analytical Processing (OLAP), Open Technology, RDBMS, Software Engineering & Stakeholders

### **1. Introduction**

The police are primarily responsible for the prevention, detection and investigation of crime. If the police organization is efficient, effective and competent, crimes cannot only be detected timely but could be effectively preventive. It is a fact that police in India have failed to come up to a reasonable standard of efficiency and professionalism. The police reforms therefore, have become the necessity of the day. A reformed, restructured and revised police alone can meet the rising expectations of the people, by combating and controlling the rising tide of the crimes in the country. The police in India are a negative and a muscle-oriented force, which have emanated from a paramilitary philosophy of the colonial rulers. They are identified as coercive agents of the party in power. Their organizational structures, powers and functions have grown from various enactments made by imperial rulers. The outmoded apparatus is thoroughly unsuitable to fulfill the rising expectations of the people in a democratic society. Organizational shortcomings, personnel deficiencies, procedural anomalies and behaviors inadequacies have seriously

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hindered the effectiveness of the police in combating the crime in India. A well-planned strategy of police reforms, therefore, is a prerequisite for instilling competence and efficiency in the police and also to keep the crime wave under arrest in a crime-prone society of India's magnitude (Sarolia, 1987).

**An Initiative** – We are firmly of the view that this department is vital to the safety, security and thrust of the social fabric. Whatever be the legacy of the earlier century and the British rule regarding their existing procedures, time has come to rejuvenate and overhaul the system. In this direction, the roles of existing ICT technology must be utilized and resorted to fully. The present system, as it is today in the department, is cumbersome and obsolete when compared with advanced countries. To keep up to the tune of the latest technological advancements in the department it becomes a necessity that the project reaches its desired objectives. On the whole, with the induction of the new IT system in the Police Stations, there will be psychological impact. A new feeling of things being done in a scientific way will enhance the confidence of the department and the public. No room for individual eccentricities and tempering with records. So in our view this is going to be a big change. We cannot stick to old methods when better alternatives are available. This will be a part of change that is going on in other departments as well. Those who have fallen in the rut of routine will have to get out of it and realize the changes required. Work in the department needs acceleration that will be in the interest of all. Pending work is ever on the increase and the staff is to be made aware of necessity of doing routine work speedily, efficiently and in a transparent way. It is often found that people are not prone to change. A change in attitude is the prerequisite of success. Our aim should be to improve the working of the system and keep on modifying till it reaches perfection and flawless level.

A number of Mission Mode Projects under the National Electronic Governance Plan (NeGP) have been taken up on priority and with a sense of mission both by the Central and the State Governments. CIPA (Common Integrated Police Application) is a key initiative for Police Stations which is vital in view of the changing scenario of the Society and the country as dynamic changes have become imperative in the department. CIPA, a National level project was initiated with the bottom line to improve the internal processes or system of recording, storing and dissemination of the vital data related to Registration, Investigation, Prosecution & Information for effective usage in terms of management, planning, organizing, controlling, feedback and preparation of strategies to combat crime & criminals and to improve the citizen interface by providing the relevant information when it is required through the use of electronic medium like Internet.

**Functionalities of the CIPA application** - The key areas of the Police Functioning in the Police Stations like Registration, Investigation, Prosecution, Information and Queries/reports have been taken up initially in the CIPA initiative. To begin with all the Registrations like FIR would be through the CIPA system. The complaints would be lodged & registered through the CIPA system. Initial external output to the citizen would be computerized FIR which would be signed & given to the complainant. Registration database would then be built up slowly and over the period of time as the investigation in the case goes on. As the Investigation proceeds, events related to the case would be entered into the system. The future holds the integration of the Police Stations horizontally and vertically for consolidation of data district wise & state wise. The consolidated data can be used for forecasting, monitoring, decision-making and dissemination of relevant information to the citizens through Internet on 24x7x365 basis. The key functionalities covered in the CIPA application are:-

**Registration:** This module facilitates the Duty Officers (DO) in Registering a Case by capturing the details of the Complainant, Accused, Properties stolen/involved, Victims, and place & time of occurrence etc.

**Investigation:** This module allows the Investigating Officers (IO) to record the events of developments/progress as and when taking place/made by the IO from time-to-time in the Case e.g.

Arrest/Surrender of Accused, Seizure of Properties, Witness Statements recorded etc., and also facilitate entering the text of his Case Diary.

Prosecution: This module allows the Investigating Officer (IO) to record the Events of developments/progresses as and when taking place from time-to-time relating to the Prosecution stage in the Case e.g. Hearing of the case, Summons/Warrants issued by the Court etc.

Information: This module facilitates in maintaining the various details of the Criminals within the jurisdiction of the Police Station, and the Listed Organized Gangs, and updating it time to time based on the information received from various sources e.g. Modus Operandi, details of Known, History of Involvements etc.

State Specific Requirements: Any additional Inputs and/or Outputs requirement developed by individual States are made available through this module.

General/Daily Station Diary: This facilitates capturing the information recorded by the Police Stations in its Daily Station Diary.

Reports/Queries: Generates various registers, periodic and Queries required by different levels.

Software Administration – Various options and features available in this are New Staff/Update User, Backup, Restore, Add Beat, Registration Sequence, Courts, Data Transmission to CCIS and De-freeze Case.

## **2. Project Implementation and Monitoring**

IT has certain risks attached to it. Controls in an IT project should address issues such as supervisions, personnel, segregation of duties, project monitoring and security management. Effective Project Management is not a luxury. Most public sectors IT projects often fail because of the low quality of Project Management. For example, if a Government institutions website project is properly managed, the web site must contain current information, which is updated regularly. It follows that there must be prompt responses to enquiries, questions and views. It has to be informative and responsive; otherwise it will simply be a 'dead-man-walking-site' (Budhiraja, 2003). The e-Governance implementation leader should be strong in Technical, Project management and Man management. The leader will be required not just to direct but to also act as mentor, coach and guide. More than any other issue it is management of change that is of prime concern. Organizations, by their very nature are conservative (Hall, 1987). They actively resist change. The reasons for resistance to change amongst employees could be threat to established power relationships, threat to expertise, threat to established allocation (Robbins, 1998), possibility of redistribution of authority, expected changes in work schedules requiring change in habits, fear of unknown or resistance to computerization due to 'retrenchment fear'. These apprehensions may be diluted by communicating clearly to the employees about the reasons for change, where possible involving them and informing them about decisions made and training them to adopt themselves to changed conditions.

**Implementing Committees** - For implementation of the project in the State, 3 committees have been formed. These committees are:

- State Level CIPA Implementation Committee
- State Level Customization Committee &
- District Level CIPA Implementation Committee

State Level CIPA implementation Committee has been constituted under the Chairmanship of the IG/DIG

In-Charge of Police Modernization in the State/Head of the SCRB, with SIO NIC State Unit as one of the member.

State Level Customization Committee has been constituted under the Chairmanship of the DIG, SCRB and Project Coordinator, CIPA Implementation in the State along with Resource Persons from SCRB.

District Level CIPA implementation Committee has been constituted under the Chairmanship of the Police Head of the District (S.P), with DIO NIC District Centre as one of the member.

**Leadership and Project Monitoring Committees** - Leadership is defined as the ability to influence a group toward the achievement of goals. Organization needs strong leadership and strong management for optimum effectiveness. Leaders establish direction by developing a vision of the future; assign people by communicating this vision and inspire them to overcome hurdles. Leaders challenge the status quo. They not only see what's possible; they persevere what's impossible. Implementing change requires strong leadership and excellent management skills (Thornton, n.d.). We also need managers to formulate detailed plans, create efficient organizational structures and oversee day-to-day operations.

The strong and inspirational leadership in the project has come from Dr. B.K. Gairola, Director General, NIC, Dr. Ambreesh Kumar, Deputy Director General, NIC, Dr Sudhakar Johri, Inspector General of Police & Director, SCRB and Smt. Indu Gupta, State Informatics Officer, Rajasthan State. The charismatic leadership, clear vision and long term view of these Officers in the project has been marked by the successful implementation of the project in the 320 Police Stations within the stipulated time period.

For the success of any project, the management must sit together to chart out the targets, get it implemented and review it again for its completion. The Project Monitoring Committee (PMC) has been responsible for implementing the role envisaged for these institutions under the roadmap. The PMC is responsible for framing of policies and charting out targets, reviewing progress, measuring milestones & shortfalls in the project and suggesting future course of action to be taken in case of deviations. Detailed minutes of the meetings are drawn and posted on the website (<http://cipamms.raj.nic.in>) for reference.

### **3. Present Status of Progress/Key Milestones Achieved**

Phase I of the CIPA project in Rajasthan was launched in October 2005 covering 103 Police Stations in four districts (Alwar, Bharatpur, Bhilwara and Jaipur Rural) with the following objectives: (1) Significant reduction in manual records/register maintenance at Police Stations, (2) Elimination of duplicate and inconsistent record keeping, (3) Facilitate maintenance of details of Criminals, (4) Keep track of the Status of Cases, (5) Introducing element of transparency in the working of Police, (6) Facilitating Investigating Officer with availability of Records, (7) Facilitating supervision by the Senior Officers, (8) Generate various reports required from time to time, (9) Faster Response to Public, (10) Open Source software tools for Rollout at Police Stations and (11) Ownership of Application with Government for onwards supports.

Till date 320 Police Stations (see Table 1, for Number of Police Stations selected Phase wise & see Table 2, for Phase Wise number of Police Stations) covering 15 police districts (Ajmer, Alwar, Bharatpur, Bhilwara, Bikaner, Ganganagar, Jaipur (Rural), Jaipur City (East), Jaipur City (North), Jaipur City (South), Jodhpur (City), Jodhpur (Rural), Kota (City), Kota (Rural), Udaipur) have been covered under Phase I & Phase II implementation.

**Funding Issue** - The projects should be initiated, conceived and implemented in such a manner that they can be sustained after the initial investment is made. The Government and the private sector have to work in harmony to utilize the resources in an optimum manner and provide the requisite services to the

stakeholders. The entire funding for the hardware's, software's, training, deployment of the handhold manpower, development, testing and implementation of the CIPA application has been done by Ministry of Home, Government of India under their e-Governance initiatives. Funds for Site preparation for the Police Stations have been provided by the State Government. Furniture including chairs, tables & storage media has been provided by Police Headquarters, Government of Rajasthan.

**Table 1:** Number of Police Stations selected Phase wise

Total Number of Police Stations	Phase I	Phase II	Phase III (In-Progress)	Remaining
741	103	217	246	175

(Source: SCRB, Jaipur)

**Table 2:** Phase Wise number of Police Stations

Phase I (103)							
Alwar	29	Bharatpur	23	Bhilwara	27	Jaipur (Rural)	24
Phase II (217)							
Ajmer	32	Bikaner	21	Ganganagar	24	Jaipur (East)	13
Jaipur (North)	15	Jaipur (South)	14	Jodhpur (City)	13	Jodhpur (Rural)	17
Kota (City)	14	Kota (Rural)	15	Udaipur	38	SOG, Jaipur	01

(Source: SCRB, Jaipur)

**Infrastructure Creation** - For the success of any ICT project, it is necessary to procure the right blend of Hardware and Software's. Equally important is the place to house these vital infrastructures and making proper sitting arrangement for the working staff. The site preparation includes activities like Identification of the CIPA Cell, Minor Civil & Electrical changes, Earthing and Electrical & LAN Cabling. Detailed specifications and necessary guidelines have been made available by NIC & SCRB to every Police Station and covers aspects related to the size of the room, earthing specifications, the positioning of the electrical & LAN point and the positioning of systems and printers. Infrastructure facility has been created at all the Police Stations for Phase I & Phase II. A room of 10X20 feet has been selected for creating a CIPA cell. Necessary civil work and electrical fittings have been done in the cell. Since all the systems are interconnected, LAN cabling has been done in the cell. One of the systems has been made a server where all the data is securely stored. Two numbers of printers – Laser & Multifunction printers have been connected on the Network. This will ensure that printouts can be generated from any system.

**Common National Infrastructure** - It is important to provide nationwide secure infrastructure and associated hardware, software and hosting facilities with easy access at all levels. This infrastructure should be based on user-pays principle and Public-Private partnership in investments and mutual accountability and efficiency. This infrastructure creation should be led by the Central Government to enforce a high level of security, uniformity and standards at every interface, regardless of State language, culture, legacy and financial health (Budhiraja, 2003). The concept has been amply implemented in the CIPA initiative. The hardware, software and even the functionalities of the CIPA application remains same nation-wide.

The CIPA application is developed in JAVA, and implemented under Open Source environment viz. LINUX (Operating System), PostGreSQL (RDBMS). The design consultant is hired from SUN Microsystems, the creator of JAVA. The development is undertaken by NIC. The development center is established with necessary hardware, software, networking and furniture etc., at the NIC Headquarters, New Delhi. A "Centrally Development Team" is constituted, consisting of the professionals taken from NIC, officers/officials from NCRB and Delhi Police, and the SUN-Certified JAVA programmers hired from the market.

**Preparation of Quality Resource Persons** - One of the reasons for the CIPA project in the state to be on the right track has been the picking up of resource persons having technical background from various wings of the Police Department and grooming them technically through NIC. Hence they have been able to provide the requisite technical support to the officials of the Police Stations right from site preparation, to installation of hardware & software, trouble shootings and usage of the CIPA software.

**Role of Local Language** - The access to information must be permitted in the language most comfortable to the public user, generally the local language. This is a critical component contributing to the success of e-Governance. Use of Regional language will increase the efficiency in effective dissemination of information mechanism. There is also a need to use the application in the language that can be used easily and effectively by the user. In the state of Rajasthan most of the Government work is done in Hindi. Initially all the options of the CIPA applications were developed in English, it was felt that this might prove to be difficult proposition for the officials of the Police Station. They would not like to use the English version of the system and this might lead to resistance in acceptance of the system and would cause hindrance in the implementation. With that background, all the property files of the CIPA system have been converted from English to Hindi. This means that all the labels, options and heading of the options of the whole system have to be converted from English to Hindi. This facilitated the officials of the Police Station to use CIPA application in Hindi and enter data in the language they understand better i.e. the local language. In true sense, CIPA system using the local language becomes a multilingual product.

**Web Based Services/Internet Presence** - The CIPA project is yet to provide citizen services on the Web. NIC Rajasthan has developed a Project presence on the Intranet – CIPA MMS (Management & Monitoring System) based on the concept of “Anything & Everything about the project at one place”. This site is hosted on RAJ server located at NIC Rajasthan, Jaipur. Some of the salient features are:

- About Project – Brief Overview of the CIPA initiative, Action Plan to be adopted for implementation of the project, various deliverables of the project, core groups (committees) formed under the project and complete list of Police Stations covered in various phases
- Circulars – All the scanned circulars/important guidelines generated from SCRB or Police Headquarters, Government of Rajasthan
- PMC Meetings – Project Monitoring Committee meetings are held regularly to establish, review and monitor the progress or the targets of the project. Minutes of the meetings are linked to this option as guidelines to various stakeholders
- Training Programmes – details all the training programmes conducted at SCRB
- Technical Talk – covers Infrastructure details at each Police Station, Installation notes of Operating System, RDBMS and CIPA system, CIPA English and Hindi Manual, Version details of the CIPA system, Frequently Asked Questions (FAQ), Specifications of various hardware infrastructure provided under the project, site parameters and guidelines for site preparation, hardware call logging methodology and Do’s and Don’ts related to hardware
- Media Talk – covers CIPA related clippings which have appeared in media
- Support Matrix – section gives the name, telephone & e-mail numbers of officers related to CIPA Implementation team from NIC Headquarters, New Delhi, NIC Rajasthan Jaipur, SCRB and escalation matrix of HCL & vendors related to this project
- Manpower Details – section gives the names & telephone numbers of handhold support posted in various Police Stations.

Responsive service organization look at complaints as a stream of information that can be used to help monitor productivity and quality and highlight improvements needed to improve service design & execution. Complaints about slow service or bureaucratic procedures, for instance, may provide useful documentation of inefficient & unproductive processes. For complaints to be useful as research input, they

should be funneled into a central collection point, recorded, categorized and analyzed. Compiling this documentation requires a system for capturing complaints whenever they are made – without hindering timely resolution of each specific problem – and transmitting them to a central location where they can be recorded in a companywide complaint log (a detailed record of all customer complaints received by a service provider). The most useful roles for centralized complaint logs are (1) to provide a basis for follow-up and tracking all complaints to see that they have in fact been resolved, (2) to serve as an early warning indicator of perceived deterioration in one or more aspects of service, and (3) to indicate topic & issues that may require more detailed research (Lovelock, 2001). NIC Rajasthan has formulated a mechanism to lodge complaints on the web site for unhappy customers to complain about service failures and effective problem resolution. Effective service recovery requires thoughtful procedures for resolving problems and handling disgruntled customers. ‘Hardware Complaints Monitoring System’ – is a site where user can lodge hardware, software, manpower or miscellaneous complaints. All the complaints from the various Police Stations are reported through this Web site nicknamed as CIPA-MMS-CMS (CIPA Monitoring & Management Site – Complaints Monitoring System). Earlier the complaints were lodged directly with the vendor and the procedure was found to be unsatisfactory and hence the manual system was done away with the new system of lodging complaint on the web site. The Police Stations lodge the complaints on this site directly through Internet or through S.P Offices. A login ID and the password has been given to the hardware vendor who has to make a login in the Complaints System, note the pending problems, get them resolved and file the report on the site itself. A Committee at SCRB holds regular meetings with the vendor and reviews all the problems & their rectification after generating reports through this web site. This process has proved to be more effective in handling complaints of the hardware as compared to the manual system. The system is transparent and helps keep log of all the transactions of the problems for all the Police Stations. The hassle of calling the help desk and pursuing the vendor time and again has been eliminated in the system. The problems are categorized on the basis of the vendors and down dates, down time and penalties are calculated. Similarly the problems pertaining to System software, CIPA & manpower are lodged which are reviewed and analyzed by NIC & SCRB respectively for providing solutions to the Police Stations. The process has proved to be transparent, effective and help monitor productivity & quality of the service providers.

**Training and Development** – Training and acclimatization of the officials at all levels more so at the lower rung of Government organizations are required. It is essential to train all employees in basic computer usage and CIPA application. An ad interim training center has been created at SCRB. Continuous training and capacity building programmes have been in progress for all the officials of the Police Stations & S.P Offices (see Table 3, for Number of Officials Trained at State Crime Records Bureau, Jaipur). These training programmes have been conducted by the Resource Persons of the SCRB and by CIPA Implementation Team of NIC Rajasthan. All the trainings are formal training, that’s planned in advance & has a structured format. These training programmes have been operational since the inception of the project in the State. The duration of the training programme varies from 3 to 10 days and besides exhaustive coverage of the theory, focus is more towards hands-on sessions so that the participants are well versed about the IT onerous and CIPA functionalities.

**Table 3:** Number of Officials Trained at State Crime Records Bureau, Jaipur

CI	SI	ASI	HC	CT	STA	TA	Others	Total
32	276	147	59	598	32	320	38	1502

(Source: SCRB, Jaipur)

(CI: Circle Inspector, SI: Sub Inspector, ASI: Assistant Sub Inspector, HC: Head Constable, CT: Constable, STA: Senior Technical Assistant, TA: Technical Assistant)

**Recruitment of Handhold Persons** - The process of recruitment of Handholding persons and Technical

Supervisors for all the districts under Phase I & II have been completed. Exhaustive training programmes for five days have also been conducted for the new recruits. They have been provided with the elaborate training material which will help them in providing day-to-day support to the officials of the Police Stations.

**Performance Measurement** – On-going feedback from all the Police Stations where ever CIPA is implemented is taken on monthly basis by SCRB. The feedback comprises of monthly & cumulative figures pertaining to Registrations, Investigation, Prosecution and Information (see Table 4, for the Progress of 2008 up to September 2008 and see Table 5, for the Aggregate Data entered in the CIPA application).

**Table 4:** Progress of CIPA in 2008 (Till September 2008)

District Name	Case Registered	Registrations	Investigations	Prosecution	CS/FR
Ajmer	5665	5529	4754	1527	4251
Alwar	7029	7320	7018	1608	5526
Bharatpur	6824	6585	2037	991	1609
Bhilwara	5008	4903	3984	2871	3908
Bikaner	3863	3863	3400	2548	N/A
Ganganagar	6465	6278	6080	646	5654
Jaipur (Rural)	7820	7820	6372	2670	5517
Jaipur City (East)	5505	5505	2726	94	1940
Jaipur City (North)	3627	3634	3300	1721	5369
Jaipur City (South)	4619	4619	2650	49	2325
Jodhpur (City)	3358	3358	3084	362	3092
Jodhpur (Rural)	2526	2526	2187	584	2012
Kota (City)	4167	4167	3359	365	3179
Kota (Rural)	1951	1951	1689	564	1601
Udaipur	6185	6164	5525	2085	4742
Total	74,612	74,222	58,165	18,685	50,725

(Source: SCRB, Jaipur)

**Inauguration of 1<sup>st</sup> Police Stations in Rajasthan** – The first Police Station of the State Kalwad Police Station of Jaipur Rural was jointly inaugurated by Director General of Police & Director General of NIC on 18-12-06 in a glittering ceremony. The ceremony and the introduction of computers in the Police department attracted a large media persons and a battery of police officials besides a large number of public representatives.

**Role of various stakeholders** – Project Stakeholders are individuals and organizations that are actively involved in the project, or whose interests may be affected as a result of project execution or project completion (Project Management Definitions). An e-Governance project is meant to deliver benefits to its various stakeholders. There would be an individual or an organization, the internal and external, direct and indirect stakeholders. Various stakeholders of the CIPA project are MHA, NCRB, SCRB, DCRB, NIC, Police Stations, Private Vendors and Citizens. Various stakeholders have been working in close coordination and with an iron will to succeed in Rajasthan. The project has been funded by MHA,

Government of India and is implemented by NCRB and SCRB. NIC (National Informatics Centre) has been entrusted the responsibility to analyze, design, codify, test and implement the whole system. NIC Headquarters is implementing the project nationally. The NIC State Unit has been responsible for implementing the system in the States along with SCRB, DCRB and NIC District Units. HCL has been responsible for delivering the hardware and getting the hardware installed at the Police Stations. They are also responsible for maintenance of the hardware which comes under the 3 years AMC contract. The bottom line for the whole exercise of the CIPA initiative is the Citizen. They are the vital stakeholders who are to be benefited by this system. At present they are getting the computerized FIR. In days to come they can expect their queries related to their cases done through Internet.

**Table 5:** Aggregate Data entered in the CIPA Application

District Name	Case Registered	Registrations	Investigations	Prosecution	CS/FR
Ajmer	27176	27040	24176	12372	4251
Alwar	38964	38439	36737	14545	13227
Bharatpur	38303	38061	5021	3644	1609
Bhilwara	29604	29604	28634	27285	3908
Bikaner	17852	17852	16072	9529	NA
Ganganagar	28430	28313	27998	8951	5654
Jaipur (Rural)	34008	34008	31183	20367	5517
Jaipur City (East)	24852	24568	10145	1886	3305
Jaipur City (North)	18980	18987	18132	13418	9543
Jaipur City (South)	15909	15909	8256	1815	3107
Jodhpur (City)	17470	17470	16419	3895	3092
Jodhpur (Rural)	9353	9353	9293	4762	2012
Kota (City)	19459	19459	13330	4811	3179
Kota (Rural)	10418	10412	9940	5606	1601
Udaipur	29345	29271	26842	22897	4742
Total	3,60,123	3,58,746	2,82,178	1,55,783	64,747

(Source: SCRB, Jaipur)

(CS/FR: Charge Sheet/Final Report)

Shakespeare, one of the world's greatest dramatist, has said, "All the world's a stage, and all the men and women merely players." Using the same metaphor, all group members are actors, each playing a role in the implementation of the CIPA initiative in the State and at the Headquarters.

**State Specific Reports** - In Rajasthan, Monthly Crime Registers that are prepared by every Police Station have been developed through hired manpower by CIPA development team of NIC Rajasthan. All the reports have been thoroughly tested by NIC Rajasthan and SCRB with data from Police Stations. It would be incorporated in the CIPA application very shortly by the development team of NIC Headquarters. This would facilitate the officials of the Police Stations to generate the Monthly Crime Reports using the CIPA Software.

**Hindi CIPA Manual** – A detailed Hindi CIPA user manual covering all the data capturing screens related

to Registration, Investigation, Prosecution and Information have been developed by SCRB and NIC Rajasthan. The manual has been printed by NIC Headquarters. The manual is distributed to every participant of the Police Stations and Resource Persons of the S.P Offices. The manual has proved to be very user friendly to the participants.

#### **4. Measures to Improve Progress**

There are many hindrances in implementing e-Governance. These are inadequacy of funds, infrastructural issues, inadequate manpower, citizen readiness, data backlogs, legal framework readiness, maintenance and so on (Jayaradha and Shanthakumar, 2003). A NASSCOM report puts e-Governance in India as a rapidly growing segment with three Southern States (Andhra Pradesh, Karnataka, and Tamil Nadu) making significant progress. It however, suggests that to achieve desired benefits, several pro-active steps need to be taken by government to address the operational, economic, personnel, planning and implementation issues, which are the bottlenecks to effective implementation of e-Governance (Rao, 2003).

A number of e-Governance projects do not get the desired outcome or fail to achieve the desired objectives. Some projects end up being partial failure while others are complete failures. Only a fraction of projects are actually successful i.e., they achieve the stated objectives and lead to satisfaction of the stakeholders. Survey of success and failure in E-Governance projects indicate that E-Governance initiatives in developing/transitional countries have to be better planned and executed. Following are some startling findings (Heeks, 2002):

- 15% are successes – most stakeholder groups attained their major goals and did not experience significant undesirable outcomes.
- 50% are partial successes/failures-major goals for the initiatives were not attained and/or there were significant undesirable results.
- 35% are total failures-the-initiatives were never implemented or was implemented but immediately abandoned.

The key reasons for project failures are identified in poor planning (not following 3Ps; i.e. Planning, Planning and more Planning), keeping unachievable targets and keeping inflated expectations from the projects. There is a difference in creating a vision and objectives and getting it work perfectly on the ground level. Some of the issues which are not anticipated when the project is conceived crop up as we go on implementing the project. With a project size as large as CIPA and implementing under the ever turbulent environment it becomes even more important to analyze, evaluate and record the findings which could become a stepping stone not only for this project but can act as benchmarks for other projects as well. To be successful, any e-Governance initiative requires strong planning, coordination, facilitation, availability of resources, guidance, feedback and assessment of potential barriers and challenges. Proper assessment of this project gives us crucial learning on the kind of changes needed to be done in the project to make them more acceptable and successful. The learning will not only help the implementers overcome the hurdles in this project, but it will help overcome hurdles in other projects as well.

***Government process reengineering before any Computerization*** – The Business Process Reengineering method (BPR) is described by Hammer and Champy as “the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service, and speed”. E-Governance is distinct from computerization as automation by itself will not eliminate all sources of errors, duplication of records, avoidable cost delays. It may even add to its share of errors and costs. Therefore process re-engineering must precede the computerization.

At present the e-Governance efforts are primarily based on computerizing age-old processes left behind by British Raj and compounded by a plethora of new layers and silos by Indian Bureaucracy, each working within departmental boundaries and pet-priorities. As a result we are computerizing cumbersome processes and hence not commensurately benefiting from it. Simply digitizing the existing governmental processes

merely adds an additional layer of expense, complexity, delay and confusion. In our judgment, now is a unique opportunity in the history of India to leave behind the British Raj and re-engineer and modernize Government processes to build a new India of the 21<sup>st</sup> century. Hence it is essential that we first redesign the government processes keeping the citizen at the center, providing hassle-free enablement of citizens, businesses, producers and consumers, replacing the old mistrust and control regime from the British Raj. This redesigning of governmental processes will drastically reduce the numbers and duration of successive steps required to obtain services. It will also provide traceable records; enable enforcement of individual performance, accountability, efficiency, productivity as well as transparency of policies and processes” (NKC, 2007). Not much of the internal processes of the Police Stations have been reengineered. All the existing functioning has been incorporated in the CIPA functioning. Successful implementation of e-Governance projects requires re-engineering of the age old administrative processes. Computerization traditionally in the departments means designing a system which is basically a photo-copy of the existing manual system. Redefining of administrative procedures or changes in the formats for the reports finds resistance in almost all the departments and at all the levels. Meaningful e-Governance would happen, if the changes in the processes are done to eliminate useless and less productive layers of processes. As on date, Gazette Notification has been done to provide CIPA generated FIR to citizens and generation of Charge sheet. As a part of State Specific generation of reports NIC Rajasthan has developed the Monthly Crime Reports (MCR) to be used by Police Stations. There is a need to restructure the Monthly Crime Reports format. Too much of information is printed in one page, and it becomes very difficult to interpret the reports. It becomes even more tedious and time consuming to consolidate reports across districts or state level. It is suggested that, a committee should be formed at the Police Headquarter level that will identify the relevant fields and change the formats of the MCR to be made more IT adoptable.

***Lack of IT literacy and awareness regarding benefits of e-Governance*** - There is general lack of awareness regarding benefits of e-Governance as well as the processes involved in implementing successful e-Governance projects. The administrative structure is still not geared for maintaining, storing and retrieving the governance information electronically. The general tendency is to obtain the data from the files (may be word or excel or process the data from the MIS) as and when required rather than using the latest technological tools like the Document Management and workflow technologies. Of late, through the use of Relational Database Technologies, data of the department is being entered into the database systems. The use of SQL has thus resulted into better structured & ad-hoc reports and analysis of the data where there has been some sort of adoption of the IT.

Around a world a growing gap between those who are able to access and use ICTs, and those who cannot, is being identified. It is being called the ‘Digital Divide’. The Digital Divide, or the digital split, is a social issue referring to the different amount of information between those who have access to the Internet (especially broadband access) and those who do not have access. The Term became popular among concerned parties, such as scholars, policy makers, and advanced groups, in the late 1990s. Broadly speaking, the difference is not necessarily determined by the access to the Internet, but by access to ICT and to media that the different segments of society can use. With regards to the Internet, the access is only one aspect, other factors such as quality of connection and related services should be considered. Today the most discussed issue is the availability of the access at an affordable cost (Internet World Stats – Usage and Population Statistics: The Digital Divide, ICT and the 50X15 Initiative). Right now, in the Police Department, this gap exists, and we risk widening rather narrowing it. This can be reduced with more & more tutelage on IT. CIPA has been implemented in the Police Stations by providing 5 days training programme to the officials of the Police Stations besides providing a Technical handhold person for a period of six months. It is suggested that number of basic training days and training programmes must be increased. Refresher training programmes should be made mandatory after a stipulated time period so as to eliminate the element of fear, reluctance towards adoption of IT and refreshing the contents already learnt. The top management should make it compulsory for all the officials to attend the IT based trainings for ‘n’

number of days on a yearly basis. Yearly calendar should be prepared and strictly monitored.

**Quality of Resource Persons associated in the implementation of the project** - There is scope of technical skills up gradation for the resource persons of SCRB on Software Engineering, Open Technology, RDBMS and other latest technological tools and techniques. Provision of training at Professional training institute should be initiated, as technical training has become increasingly important for two reasons – new technology and new structural design. Training would help to add to their skills, abilities and knowledge and ultimately better Project Management.

**Web-enabled Application** – The web is about empowerment, easy-of-use, and value. It's everywhere and it's now. But most of all, it's about freedom. A key advantage of the web environment is the universal accessibility and worldwide availability of centralized application and data. The only software needed to access and execute your application is your favorite web browser. Some more advantages are: log onto your system from anywhere and from any computer with a connection to the Internet, whether at office, at home or away on business – you have the security of knowing that you are just a web browser away from logging into your application, input your data in real-time, and search your knowledge base immediately in real-time, security and data backup no longer has to rely on your staff, no installations on your staff's computers, no programming, no downloads to interfere with your PC/Mac configurations (Helpdesk Pro: The Benefits of 100% Web-based accessibility for your helpdesk). At present the CIPA application is working as desktop application. A web-enabled application is the need of the hour. It will eliminate many hurdles like repetitive installations of the updated CIPA application, data backups and restorations, and above all consolidations of the data.

**Permanent Training Center at SCRB Rajasthan** - A need is felt to create a permanent training infrastructure at SCRB. After the initial usage of the CIPA and the computerization activities, there will be a need for Refresher training from some of the participants or from some new participants on a regular basis. The training center at SCRB would be an ideal location where training programmes can be organized as and when a need is felt. The training infrastructure could also be extensively used for Officer level training programme whereby the Officers can be well equipped to learn the intricacies of the IT and latest concepts of the industry. The training infrastructure can also be used to conduct workshops on a need basis. The workshop could be an ideal platform to discuss the various issues pertaining to the computerized application systems. The sheer bulk of training programmes and the immediate need of the training programmes also highlight the necessity of the Training Division at the SCRB along with the infrastructure building process. This would help the department achieve the objective of implementing the computerization programme effectively around the state. Training programmes can be conducted round the year as and when the need arises. Critical to successful execution of training programs are the state of the art training division equipped with LCD projectors, Laptops, White Board, computers, printers, scanners and laboratory for hands-on for the participant are suggested.

**Benefits to Citizen** - The strategic objective of Electronic Governance is to support and simplify governance for all parties; government, citizens and businesses. The use of ICT's can connect all three parties and support processes and activities. In other words, in electronic governance electronic means support and stimulate good governance. Therefore the objectives of electronic governance are similar to the objective of good governance. Good governance can be seen as an exercise of economic, political & administrative authority to better manage affairs of a country at all levels (Backus, 2001). The moment to e-Governance, at its hearts, is about changing the way various stakeholders like people/citizen and businesses interact with government. The key concern is to find out what exactly they want, expect, don't want, worry about and their various grievances. At present through the use of CIPA only the computerized copy of the FIR is provided to the citizen. The strategic objective of the e-Governance would be met when the information pertaining to the progress of the registered case is provided to the citizen with electronic

means, such as Internet. This initial and basic information would provide immense benefits in terms of convenience and shorter waiting periods, eliminating the hassles of visiting or queuing Police Station and that too on 24X7.

**Web-enabled Complaints Monitoring System** - It is suggested that National level problem complaints monitoring system be developed so that all the complaints of the vendors are recorded by all the states & evaluated through a Centre level committee of the project owner's. This will enable the top management of the Ministry take corrective and stringent decisions regarding the hardware complaints not resolved timely by the vendors in spite of several perusals at State.

**Connectivity Issue** – “Miles to Go – New Technologies are shrinking the world, but a huge percentage of the world population has been left out”. Today, the dividing lines between the rich and the poor, between the North and the South, are the fibre-optic and high speed digital lines (The Hindu Online edition, 20-Nov-2005). The need of the hour is transmission of the e-mail, usage of Internet, FTP, News and host of other benefits of the Internet. For utilizing these facilities there is a need for Internet Connectivity. At present, 50% of the Police Stations (see Table 6, for % of Police Stations having Internet Connection) covered under CIPA Phase I & II are blessed with the Internet Connection. The department should take a note and make it mandatory for all the Police Stations to go for the Internet Connection. This would facilitate speedy transmission of the information from one place to another, would allow people to better organize their time, reduce the cost of flow of information and exchange of information would also no longer depend on both parties being next to their phone/fax at the same time.

**Table 6: Internet Connections**

Police Stations covered under CIPA (Phase I & II)	Police Stations having Internet Connections	% of Police Stations having Internet Connection
320	162	50%

(Source: SCRB, Jaipur)

**More Usage of CIPA by SHO & Investigation Officer's** – Although continuous training programme's have been conducted for the officials of the Police Station, a need is felt to conduct the training and seminars for SHO and Investigation Officers so that they too can use the IT tools for their day-to-day responsibilities. They are the link between the Implementers and the actual user who will articulate visions, embodying values and create environment for the things that can be accomplished (Leadership: Wikipedia-Making Life Easier).

**Data Consolidation and Analysis** - The project is related to automate the internal workings of the department and henceforth to capture all the transactions in the Police Stations. Various reports would be generated at the Police Stations. There is no provision of data consolidation of the Police Stations across the Districts or State. To analyze the data across the State, it is suggested that the databases of all the Police Stations be consolidated at the State level so as to enable effective analysis of data which would aid Decision Makers of the State and at the National level. This would also help the Decision Makers in keeping a vigil on the key data that is helpful to take speedy decision using the information. Data analysis techniques can be useful for virtually any department to gain greater insight into the trends within their processes. Data analysis tools can combine all the functionality of query tools, reporting tools, and OLAP (Online Analytical Processing) into a single powerful solution with one common interface, so department analyst can perform analysis, slice and dice the data, and see business processes and results in a new way.

**Hindi typing issue** - The CIPA application has been converted for usage in Hindi. All the transactions in the Police Stations related to Registration, Investigation, Prosecution and Information are entered in Hindi. The officials using the CIPA are aware of the Remington keyboard layout while the keyboards in the CIPA project comes with the in script keyboard layout. They are finding it difficult to adjust to this new format.

This is also one of the reasons for the delay or slowness by officials in entering various events. There is a need for continuous motivation to make them use the system and/or conduct specialized training on in script keyboard layout.

**Data Backlog** - Piled up historical data has to be archived initially. Often, this mammoth task makes people hesitate to take the first step. Ideally the process can be outsourced as a one-time activity (Budhiraja, 2003). In the present scenario the old FIRs and events related to Investigation are being entered into the CIPA application by the officials of the Police Station who have been trained at SCRB. They are provided support by the handhold persons who are temporarily posted for a period of 6 months at each Police Station. Old FIR's from 2005 onwards are being entered into the CIPA application. With the paucity of the manpower, it was not possible to enter all the old data pertaining to Investigation and Prosecution events of the cases. The cost of converting or entering old data in a system should be built as a component cost in the project cost. Alternatively one Data Entry Operator (DEO) could be provided to every Police Station to complete the entire data backlog within a stipulated time frame. At present one handhold person for 6 months is proving to be a too short period to make officials of the Police Station conversant with the IT. If the tenure of technical handhold person is raised from 6 months to 1-1<sup>1/2</sup> it could make officials of the Police Station learn and master the intricacies of the IT and CIPA more effectively.

**More Recurring Funds** - The entire funding for the hardware's, software's, training, deployment of the handhold manpower, development of the CIPA system and other miscellaneous expenditure for all the Police Stations of the entire country has been done by Ministry of Home, Government of India under their e-Governance initiatives. Site preparation including procurement of the furniture and recurring expenditure has been incurred by the State Government. This includes activities like Earthing Work, Electrical & LAN Cabling. Minor Civil and Electrical work has been done wherever there was a necessity. Furniture including chairs, tables & storage media has been provided directly by Police Headquarters, Rajasthan. It is suggested that substantial amount of recurring funds on annual basis be allocated for every Police Station so that the officials working on the CIPA project do not face crunchy situation in situation like refilling the printer cartridges, procurement of papers for Printers or minor work related to computers and computer centre. The tentative amount can be worked out by taking feedback from the Police Station.

**Inflated Expectations** - Gartner cautions that Indian e-government initiatives have reached the peak of "inflated expectations", adding "insufficient increases" in service levels and difficulties in managing constituent relationship will push e-Governance initiatives towards the "trough of disillusion". There are inflated expectations from the large quarter of the department. They expect everything from the initiative all at once. They should be made to understand that even the CIPA software and the project would be able to fulfill their requirements slowly, in iterations and with the passage of time.

**Reward System** – The management need to be innovative in designing a reward system for officials who are dedicated and committed to the implementation of the project. Any positive behavior towards the success of the project, any outstanding efforts, suggestions, innovations, output or any substantial contribution should be recognized or rewarded to boost morale of the officials.

**New Work patterns** – In times to come, department needs to employ new work patterns in the Police Stations where creativity and commitment towards the project where output becomes more important than procedures.

**Permanent Hardware Engineer for the project** – There is a need to station a permanent full time hardware engineer for trouble shooting at SCRB who will coordinate with other engineers in the districts for resolving the hardware related complaints generated by the Police Stations. As on date, the complaints are not resolved on time, requires lot of perusal with the hardware vendor and creates an element of resentment and dissatisfaction. Sufficient inventory of hardware accessories required during the trouble shooting

should be kept centrally so as to avoid unnecessary delays.

**And finally Sustainability & Maintenance Challenges** - It is important to ensure that e-Governance initiatives, once deployed, do not lose steam along the way and become ineffective or get phased out (Budhiraja, 2003). As regard sustainability, CIPA in Rajasthan has been in action for nearly 3 years and has covered 320 out of 741 Police Stations. The third and the subsequent phases would cover all the Police Stations. If the initial response were of any barometer to success, the project would be implemented timely in rest of the Police Stations. Sustaining the interest levels till the critical mass is achieved is a maintenance challenge. Effort levels and monetary support tend to wane after the launch and initial visibility. We get myopic considering IT as an end whereas it is only a means to achieve the objective of e-Governance. It is meant to complement and not completely replace the traditional service delivery methods (Jayaradha and Shanthakumar, 2003). On the basis of discussions held with senior officers of the Police Department and IT professionals, the CIPA project has got off very well. The sustainability of the project depends upon many factors. It has been observed that many successful e-governance projects fail in long-term due to lack of financial stability and technological suitability (lack of upgrading leading to obsolescence, which is a result of absence of financial self sustenance) of the project. Other challenges which need to be tackled are:

- Too much dependence on the vision and initiative of a single charismatic leader
- Lack of interest due to lack of motivation or incentives to the Resource Persons
- Overburdened users
- Lack of adequate infrastructure viz., electricity, Internet facility, communication facilities like telephone etc,
- Lack of initiative and participation from the top management
- Absence of scalability and adaptability in the application
- Too much of hype associated with the projects than what can be achieved
- Pressure from vested interest groups which continuously hampers the progress

## 5. Concluding Remarks

E-governance wave has started around the globe. As discussed in this paper, while the initiatives of the government (both centre & state) in the country in the field of e-governance have been commanding, continuing and augmenting them have to be strengthened. Implementing e-Governance is difficult at any time, at any place and in any department. This paper has outlined the progress made in the Police Stations and suggested simple solutions that can be put in place to address the technical and non technical challenges. The experience of implementing this ambitious project in the state drives home the challenges being faced by the implementers based on the ground realities. The elimination of the challenges would benefit the officials, citizens and the department. In conclusion it can be said that the CIPA project has ambitious goals and objectives which will only be realized over time. There is a lot of creditable work already done in the project and much more to be done – and we must give serious thought to what and how to do and curb the challenges that would only benefit the project and the various stakeholders in the long run. We must work to overcome challenges and find ways to ensure that the enormously powerful tools that we now possess, in the form of new Information Technologies are used to make better standards of life to the officials and to the department. Any new concept faces hostility but the dedicated are never cowed down and go on till the objective is met. It has been well summed up in the following lines by Robert Frost as:

“The woods are lovely, dark and deep,  
But I have promises to keep,  
And miles to go before I sleep,  
And miles to go before I sleep”.

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