



Law & Justice Commission
of Pakistan

Towards a National Policy and Strategy for the Application of Information Technology in the Justice Sector

Situational Analysis & Discussion Paper



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Striving for a rule of law based Pakistan
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Contents

Part – I: Executive Summary and Methodology

Foreword	7
Executive Summary	8
Introduction	9
Methodology and Framework	10

Part – II: Situational Analysis

Automation Initiatives in Justice Sector	13
• Police	13
• Prosecution	18
• Judiciary	24
• Prisons	31
• Wafaqi Mohtasib (Federal Ombudsmen)	35

Part – III: Issues and Challenges

Issues in Automation	39
Key Problems	39
Absence of Policy, Plan and Procedures	39
No Sector Level Integration	39
Ownership in Organisations	39
Internal Capacity	39
Limited External Users	39

Part – IV: Recommendations and Way forward

Detailed Contents

Part – I: Executive Summary and Methodology

Foreword	7
Executive Summary	8

1	Introduction	9
2	Methodology and Framework	10
2.1	Methodology	10
2.2	Framework for Analysis	11
2.3	Limitations	12

Part – II: Situational Analysis

3	Automation Initiatives in Justice Sector	13
3.1	Police	14
3.1.1	Functions of Police Departments	15
3.1.2	Automation of Police	15
3.1.3	Functions automated in Police departments	18
3.2	Prosecution	21
3.2.1	Functions of Prosecution Departments	21
3.2.2	Automation of Prosecution Department	21
3.2.3	Functions Automated in Prosecution Departments	22
3.3	Judiciary	24
3.3.1	National Judicial Automation Committee (NJAC)	25
3.3.2	Superior Courts:	25
3.3.3	Functions Automated in the Superior Courts	27
3.3.4	District Judiciary	27
3.3.5	Functions Automated in the District Judiciary	29
3.3.6	Future Plans for Automation in the Superior Courts and District Judiciary	29
3.4	Prisons	31
3.4.1	Functions of Prison Departments	31
3.4.2	Automation of Prisons	31
3.4.3	Functions automated in Prison departments	33
3.5	Wafaqi Mohtasib (Federal Ombudsmen)	35
3.5.1	Automation of Federal Ombudsman Office	35
4	Reclamation and Probation Departments	37
5	Azad Jammu and Kashmir and Gilgit Baltistan	38

Part – III: Issues and Challenges

6	Issues in Automation	39
6.1	Key Problems	39
6.1.1	Absence of Policy, Plan and Procedures	39
6.1.2	No Sector Level Integration	39
6.1.3	Ownership in Organizations	39
6.1.4	Internal Capacity	39
6.1.5	Limited External Users	39

6.1.6	HR Issues in Automation Teams	39
6.1.7	Placement of Automation Units	40
6.1.8	Disconnect Between Automation and Other Specialists	40
6.1.9	Finances and Financial Powers	40
6.1.10	Compatibility of Laws with Procedures	40
7	SWOT Analysis	41

Part – IV: Recommendations and Way Forward

8	Conclusion	42
9	Recommendations	43
9.1	Towards an Integrated Justice Sector Automation	43
9.1.1	Short Term Plan	43
9.1.2	Long Term Plan	44
9.2	Strengthening the Organizational Automation Efforts	44
9.2.1	Shift from piecemeal approach to a holistic MIS plans	45
9.2.2	Review of Laws, Business Rules and Processes	45
9.2.3	Strengthening Evidence Based Decision Making (Developing Data Culture)	45
9.2.4	Restructuring the MIS Sections	46
9.2.5	Identifying External User Needs	46
9.2.6	Feedback and Improvements	46

Acronym

AJPMU	Access to Justice Programme Management Unit
AMS	Assets Management System
ADPP	Assistant District Public Prosecutor
AFIS	Automated Fingerprint Identification System
AJ&K	Azad Jammu and Kashmir
BHC	High Court of Balochistan
CDR	Call Data Record,
CFMS	Case Flow Management System
CFMS-DC	Case Flow Management System for District Courts
CLMS	Case Law Management System
CPO	Central Police Office
CMIS	Complaint Management Information System
CMS	Complaints Management System
CRMS	Criminal Record Management System
DDPP	Deputy District Public Prosecutor
DC	District Court
DPO	District Police Officer
DPP	District Public Prosecutor
DLIMS	Driving License Issuance Management System
ECAMS	Electronic Case Alert Messaging System
EDMS	Electronic Documents Management System
ERP	Enterprise Resource Planning
FIO	Federal Insurance Ombudsman
FSC	Federal Shariat Court,
FTO	Federal Tax Ombudsman
FTS	File Tracking System
FIR	First Information Report
FSL	Forensic Science Laboratory
GB	Gilgit Baltistan
HRMS	Human Resource Management System
IT	Information Technology
IGP	Inspector General of Police
IVRS	Interactive Voice Response Service
ICT	Islamabad Capital Territory
IHC	Islamabad High Court
ITP	Islamabad Traffic Police
KPK	Khyber Pakhtunkhwa
KPPMIS	Khyber Pakhtunkhwa Prison Management Information System
LHC	Lahore High Court
LUMS	Lahore University of Management Sciences
MIS	Management Information System
NADRA	National Database and Registration Authority
NJPMC	National Judicial (Policy Making) Committee
NJAC	National Judiciary Automation Committee
NJAU	National Judiciary Automation Unit
NPB	National Police Bureau

OCP	Online Court Proceeding
PTZ	Pan Tilt Zoom
PHC	Peshawar High Court
POLCOM	Police Communication
PRMIS	Police Record Management Information System
PROMIS	Police Station Record and Office Management Information System
PMIS	Prison Management Information System
PPO	Provincial Police Officer
PITB	Punjab Information Technology Board
PPMIS	Punjab Prison Management Information System
RMS	Record Management System
SHC	Sindh High Court
SMS	Stationery Management System
SAN	Storage Area Network
SWOT	Strength Weaknesses Opportunities and Threats
SCP	Supreme Court of Pakistan
TA	Technical Assistance
UNODC	United Nations Office on Drugs and Crime
VVS	Vehicle Verification System
Verisys	Verification System



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Foreword

“Towards a National Policy and Strategy for the Application of Information Technology in the Justice Sector” report is based on consultations with justice sector organisations and a review of their respective initiatives. Taking stock of developments, the report seeks to document the application of information technology (IT) and innovation to improve the quality of service delivery in the justice sector.

Whilst the report highlights the effort and investment to develop IT-based solutions to be significant, it also observes that the development is in the main piecemeal, losing the crucial multiplier effect that may be obtained through a “joined-up” governance approach. The solutions are essentially isolated, confined to particular organisations without taking onboard the wider justice supply chain, its objectives and challenges. In some instances, the focus is on operations and in others the emphasis is on performance analytics, which can usefully complement each other to create a more innovative and effective solution. Whilst organisational functions need to be strengthened, it is equally necessary that we develop IT solutions for the sector to address inter-organisational issues such as improving coordination, security and transparency between the different justice sector organisations and stakeholders such as the accused, victims and their families, lawyers and other officials.

Whilst the report supports a focus on strengthening organisational “functions”, it also advocates a “systems” or a sector approach so that we are all aiming for IT-based solutions that connect the various organisations into a seamless system moved by a secure case file. To realise the ambition of an integrated IT-based smart justice system, technology must be able to connect horizontally, with the different justice organisations, and vertically along the organisational hierarchies and functions. We need to learn from each other to find innovative solutions as we shift our thinking from individual functions and organisations to include the wider system/s and sector to realise the “higher” objectives of the justice system. This means, for example, ensuring that organisational performance, transparency, security, reporting and other standards and protocols connect with each other.

At the same, we need to consider the support that may be provided by non-justice sector organisations. For example, the identity-related functions that NADRA may be able to support, learn how to manage and utilise big data, improve the use of mobile technology for capturing and profiling crime scenes and other data, enhancing timely access to critical information.

There is no doubt that technology can be an effective enabler, which we should take advantage of. This report, as a discussion paper, is a first step towards pulling the different initiatives and ideas together under a more coordinated, inclusive and shared ambition and framework. For this, ultimately, we need to develop a national strategy for the application of information technology in the justice sector that builds on a common ambition for a more effective and efficient justice sector that is fair and accessible to all.

We are pleased to forward this report to the respective Provincial Justice Committees to take the lead to strengthen the application of the information technology to improve the quality and reach of justice services.

Executive Summary

The Law & Justice Commission of Pakistan organized three events to initiate dialogues on reforms of the justice sector in the country. The events included an exhibition on the automation in the rule of law sector participated by multiple organizations from across the country. This was followed by a workshop with key officials participating in the exhibition. Earlier the Law & Justice Commission of Pakistan had catalogued the various efforts of automation in the different rule of law sector organizations in the country. This report is a product of all three efforts. It is expected to become the basis for further, more detailed, exploration of the situation and policy options for improvement of automation in the sector.

The findings reveal that automation in the rule of law sector has progressed rapidly over the last decade. Most organizations have some degree of automation that covers various aspects of their service delivery and business processes. The growth of automation owes to different externally supported programmes and internal initiatives on specific aspects of businesses. Irrespective of size, the interventions remain a patchwork not built on a holistic plan integrated into the organizational design, rules and processes. Differences in details exist across organizations. Some have only automated internal interfaces or aspects of delivery while others have also digitized external processes.

Irrespective of the differentials, a number of cross cutting problems exist in the automation process. The whole development has been undertaken in a policy vacuum. This deficit has created a whole set of issues. The automation process has not been built on a wider systems need. The justice sector, as an interlinked process, requires integration of data systems. Linkages need to be developed across organizations within a province, as well as, inter-provincial jurisdictions. Currently these are non-existent.

Systemic approach also lacks within organizations. In most cases automation has not been a part of an overall Management Information System (MIS) model based on organizational needs. In the absence of a strategy for transition to automation, the current interventions face issues of internal ownership and sustainability. Usage remains subject to the interest of individual leadership. Nothing in the rules mandates use of automated systems. In some cases laws do not allow electronic produced information to be used. This, among other factors, makes automation a parallel process and not a medium for improvement of the existing work method.

Solution lies in adoption of a systemic approach. This includes a policy designed nationally through an inter-provincial process and organizational level planning and implementation. Successful development and implementation of policy and plans needs support and oversight of the joint leadership in the justice sector. At the organizational level automation processes have to be compiled into an integrated MIS and establishing access protocols. To allow MIS based interfaces, organizations will need to undergo changes in rules of business and even some laws may need amendment. More importantly, officers and staff of these organizations need to be trained to use data effectively and be able to manage MIS based interfaces.

To enhance the inter-agency co-ordination, the national IT policy has to address the establishment of a central automation unit, restructuring of MIS Sections in every organization, ownership and review of laws and business rules/process. The process will take time to implement but the design at the outset has to be all inclusive. Implementation can be phased into short term and long term.

1. Introduction

The Supreme Court of Pakistan, in its judgment dated 20 July 2015, directed for setting up standards of transparency, monitoring and evaluation frameworks in the rule of law sector. The Law & Justice Commission of Pakistan (LJCP), offices of Ombudsmen and Information Commissioners have been, respectively, assigned the tasks of oversight and implementation of the judgment. As a follow up, the LJCP held a series of consultation and discussions to trigger the reform process. A critical addendum to the talks was collation of the current state of automation in the justice sector and the issues faced by it. This links into the requirements of standards of transparency and monitoring. Automation facilitates both.

The LJCP up till now has executed a three tier exercise to appraise the contemporary state of automation in the Justice Sector. To trigger the process, a document was prepared by the MIS Wing titled Situational Analysis Report. This report was a case study on the current state of automation and was based on information received from the justice sector institutions nationwide.

To add value to the study conducted in compilation of the aforementioned report, an automation exhibition was arranged by the commission in the premises of the Supreme Court of Pakistan. The vision behind this substantial exercise was not only to portray the progress made so far in the field of automation but to let the stake holders to interact and learn from each other.

The Commission furthermore facilitated the stakeholders participating in the exhibition by arranging a Consultation Workshop of the participants on the very next day of the exhibition. This workshop provided the participants, who are the key stake-holders in the justice sector automation, a platform of discussion. The discussion sessions were focused on identifying the key issues faced in the practical implementation and their solutions. This report collates the findings from all three activities with suggestions based on expert opinions to plan a way forward.

The aforementioned three exercises revealed that the

automation in Pakistan's Justice Sector began a decade ago. Over this period most organizations, across the country, have achieved various degree of automation available and operational. A wide range of services from case management to registration of online complaints have been automated. The penetration of automation varies in each organization and major advancement can be seen in operations.

While the progress is impressive and provokes optimism, a number of gaps continue to exist. Growth of the sector has been episodic, triggered by various externally supported and internally driven projects and policies. This means that automation has not been fully integrated into the organizations' processes. More significantly, laws, rules and procedures have not been adapted to automation, which means they sometimes function as parallel structures. The innovations in automation also face issues of ownership within the organizations from other, traditional, specialists. In cases where senior officers have a good grasp of, and inclination towards, use of technology it becomes effective. Unfortunately even in these situations the changes have not sustained as the ownership of individual officers has not been converted into institutional changes in the form of rules, procedures etc.

The most critical gap has been the absence of integration among software installed in the justice sector organizations. This includes integration between various justice sector organizations in a province, as well as, national integration across provinces. Recommendations in this report have been divided into those focusing on national integration and strengthening of the structures within organizations.

The term management information system or MIS has been used to supplant the word automation. A good quality MIS achieves organizational efficiency, effectiveness and transparency. This report has been prepared to function as a base document that will help pan out a process of wider reform.

2. Methodology and Framework

This report has been prepared with help of inputs from justice sector organizations across Pakistan. These include written material, exhibition of their wares and a workshop. The framework for analysis uses an organizational development approach wherein the application of IT supports the overall organization development goals and automation is seen as integrated into the organizational work and not as a separate, parallel, function.

2.1 Methodology

In early 2015, the Law & Justice Commission of Pakistan prepared a "Situational Analysis Report" on the state of automation in the justice sector. The report collated information from all justice sector organizations in the country on their state of automation. Information was collected from the (i) Judiciary, (ii) Police, (iii) Prosecution, (iv) Federal Ombudsmen, (v) Prisons and (vii) Parole and Probation Departments.

On 5 September 2015, an exhibition was held in the premises of the Supreme Court of Pakistan in Islamabad to perceive the status of automation in justice sector. The following organizations participated in the exhibition:

- i. Supreme Court of Pakistan, Islamabad
- ii. Federal Shariat Court, Islamabad
- iii. Lahore High Court, Lahore
- iv. High Court of Sindh, Karachi
- v. Peshawar High Court, Peshawar
- vi. High Court of Balochistan, Quetta
- vii. Islamabad High Court, Islamabad
- viii. District Judiciary of all provinces and Islamabad Capital Territory
- ix. Federal Ombudsman Secretariat, Islamabad
- x. National Accountability Bureau, Islamabad
- xi. National Police Bureau, Islamabad
- xii. Police Department, Punjab
- xiii. Police Department, Sindh
- xiv. Police Department, Khyber Pakhtunkhwa

- xv. Police Department, Islamabad Capital Territory
- xvi. Prosecution Department, Punjab
- xvii. Prosecution Department, Khyber Pakhtunkhwa
- xviii. Prosecution Department, Sindh
- xix. Prisons Department, Punjab
- xx. Prisons Department, Khyber Pakhtunkhwa
- xxi. National Database and Registration Authority (NADRA)
- xxii. Punjab Information Technology Board (PITB)
- xxiii. Anti-Corruption Establishment Punjab
- xxiv. United Nations Office on Drugs and Crime (UNODC)

Following the exhibition, a workshop was held on 6 September 2015 in which representatives were invited to share their views. The workshop started with introduction of the basic framework followed by break up into three groups. Following objectives were laid out for the workshop:

- i. Share the progress of various agencies in the country
- ii. Cross learning
- iii. Identification of gaps
- iv. Opportunity to recommend way forward

Each group was given a similar task: identification of key problems in automation and recommendations for improvement. The Law & Justice Commission of Pakistan (LJCP) coordinated the workshop. Senior officer from the office of the Federal Ombudsman helped in directing the discussions and enriched the process. Eventually the workshop findings were restricted to identification of gaps and recommending way forward. Objective (i) was already achieved through earlier exercises and discussions on objective (ii) remained vague. During the exhibition, cross learning was clearly evidenced but this could not be documented in a structured way.

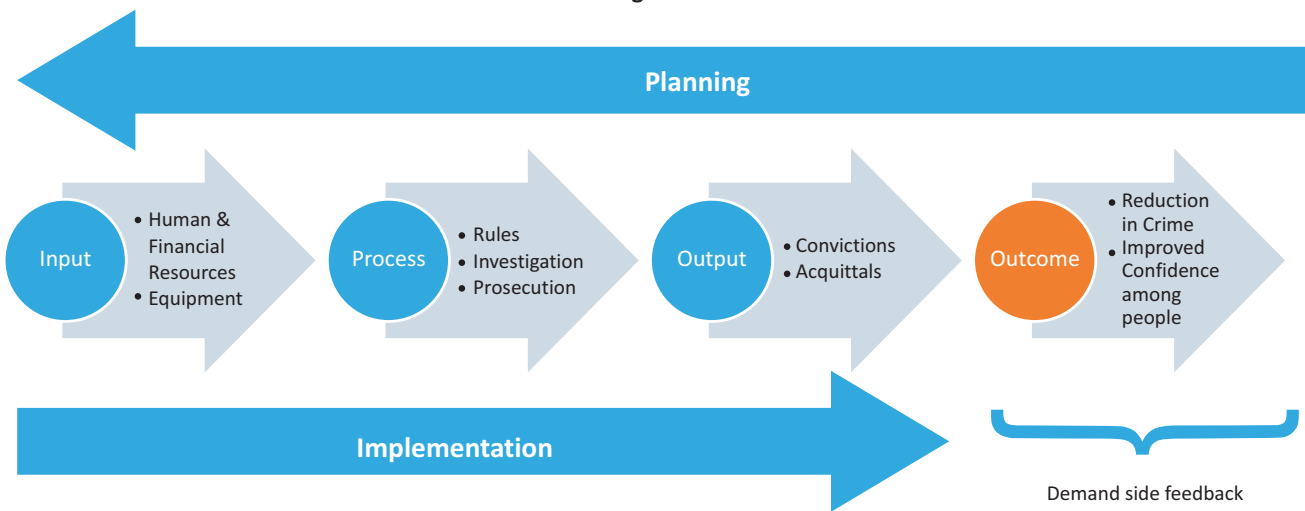
This report uses information from all three exercises. The mapping of automation initiatives leans heavily on the Situational Analysis report but the issues and recommendations have emerged from the workshop.

2.2 Framework for Analysis

The analysis in this report, and the workshop proceedings, predicate on the premise that application of IT facilitates existing organizational needs and processes. IT based process cannot be seen as either a parallel or an additional process. Hence the best approach for the deployment of information

technology is through the Management Information System (MIS). While the information technology focuses mainly on the computer hardware and software, the MIS approach covers management and operational needs and adaptive behavior of an organization. An MIS is built onto the routine processes of an organization, which are divided into inputs, processes, outputs and outcomes (figure-1).

Figure-1



This model can be seen as that of a single organization as well as that of the whole criminal justice system

The degree of automation around the above organizational model defines the state of an MIS. The model given in figure-1 can also be applied to the entire justice sector that consists of police, prosecution, courts, prisons and parole. In addition, specialized policing functions like anti-corruption and administrative justice organizations like Ombudsmen can also be added. The fundamentals of the model will remain the same.

The MIS approach essentially means that automation initiatives should be seen as an integrated combination of functional information systems that are designed to generate useful information and support decision making and results in improved efficiency and effectiveness of an organization. In this context following interlinked parameters have been used:

i. **Depth:** The first parameter analyzes the organizational processes and functions covered in the automation efforts and structuring of the processes of rule of law operations by different component organizations and institutions. To gauge the depth of existing automation, it will be essential

to first identify organizational mandate and specialized and general functions of each organization.

ii. **Span:** The second parameter reflects the coverage of vertical and horizontal structures within the organizations in the automation plans. This parameter also measures the geographical scope of automated systems.

iii. **Horizon:** Finally the third parameter covers the organizations and departments included in the scope of automation. It analyzes the interoperability of automation for all the justice sector component organizations.

The analysis could not be strictly bound to the above parameters (and definitely not in details) but these were shared with participants of the workshop to help them frame their discussions. Implicitly these can be seen in the identification of issues, as well as, the recommendations.

2.3 Limitations

The main methodological limitation arises from the timeframe. There was only one day for the exhibition where the participating officials were involved in responding to a number of visitors and not just the research team. Secondly the workshop was also of one day. The third limitation comes from the 'Situational Analysis Report'. The report was collated only from inputs sent by individual organizations with no gap analysis.

Demand end analysis could not be contemplated in the limited time. Information available in open sources on the web also does not add to the findings already evinced. Finally organization level analysis of gaps could not be undertaken. Only cross-cutting issues agreed to by most participants, but not all, were used. There will be a need to follow up for a more detailed organizational level diagnosis. This has been recommended towards the end of the report.

3. Automation Initiatives in the Justice Sector

This section presents a situational analysis of existing automation initiatives in the justice sector organizations in Pakistan. The section outlines activities and projects initiated or implemented in each organization across provinces. As already stated, under the limitations, the chapter does not delve into a gap analysis due to shortage of information.

In general it appears that most organizations have reasonably advanced automation. In some cases the precepts of MIS are followed more closely than others. Some institutions have automated both the external services and internal processes

like human resource management while others have partial automation of external services only.

During the exhibition it was clearly seen that the organizations participated with a lot of enthusiasm. Officers assigned to the kiosks were knowledgeable about the products. Additionally, they had publicity products like pamphlets highlighting progress. Visitors were generally quite impressed by the technology design models exhibited. The exhibition helped dispel a number of perceptions about the state and quality of automation.

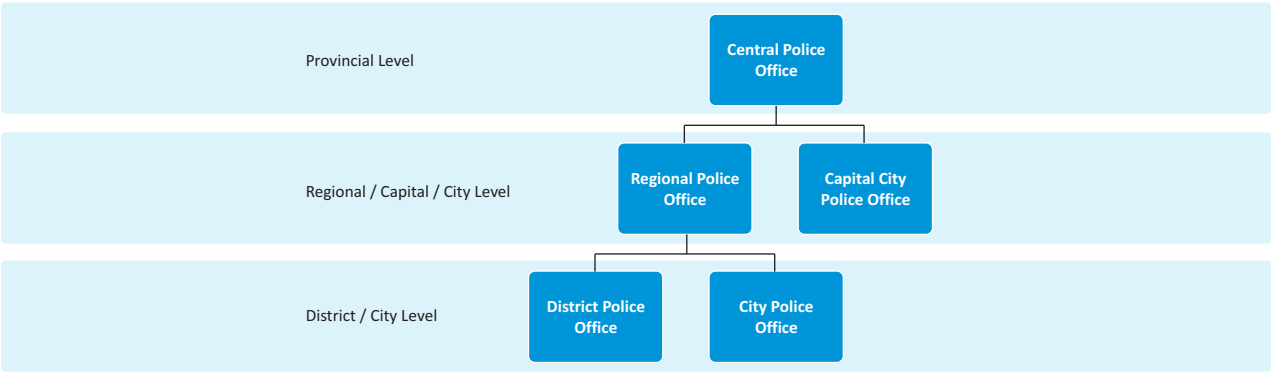
3.1 Police

There are two sets of police organizations in Pakistan¹; provincial/regional organizations and federal organizations. Provincial and regional police organizations are directly under the control of respective provinces and regions while Police in the capital city of Islamabad is under the direct jurisdiction of the Federal Government. Provincial police organizations include Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, Gilgit Baltistan and Azad Jammu and Kashmir Police departments. All provincial police departments are headed by Provincial Police Officers (PPO) or Inspector Generals of Police (IGP). Central Police Office (CPO) serves as the office of PPO/IGP and police headquarters of a province. Excluding provincial capitals each province is divided into police regions which are further divided into districts (figure-2).



Tasked with maintaining order and prevention and detection of crime, provincial, regional and Islamabad Capital Territory (ICT) police share similar structures and uniformly apply major substantive and procedural criminal laws (i.e. the Pakistan Penal Code, the Code of Criminal Procedure, and the Qanun-e-Shahadat Order)².

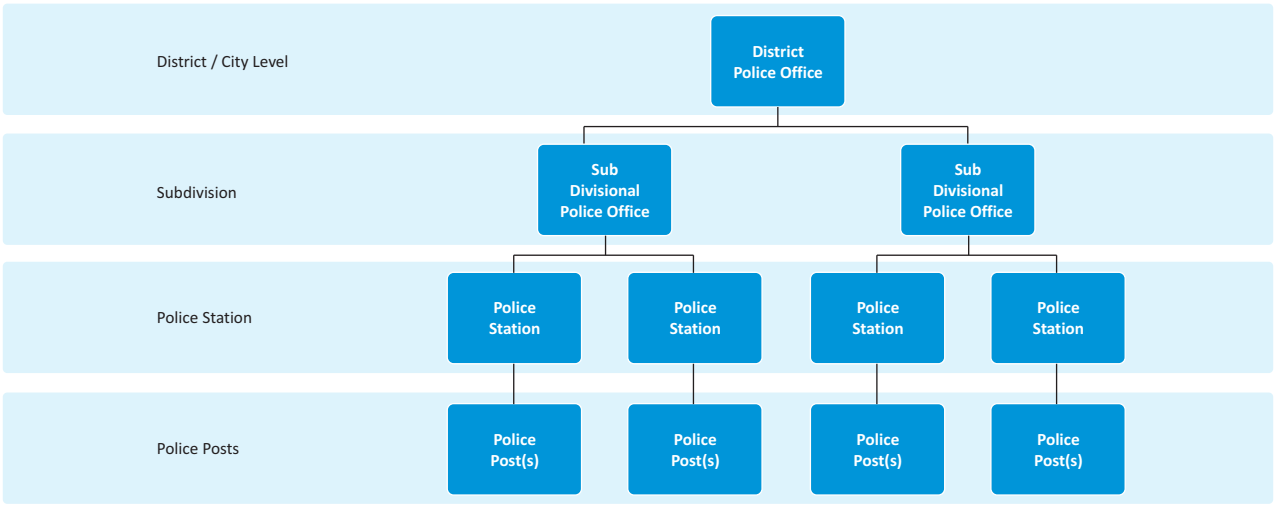
Figure-2



1 Main source of this chapter is Situational Analysis of Automation initiatives in Justice Sector in addition to the relevant laws and service rules of justice sector organizations.

2 For details, see Asad Jamal, Police Organizations in Pakistan (Lahore: Human Rights Commission of Pakistan and Commonwealth Human Rights Initiative), 2010 and Hassan Abbas, Reforming Pakistan's Police and Law Enforcement Infrastructure (Washington, DC: United States Institute of Peace), 2011.

Figure-3



3.1.1 Functions of Police Departments

On functional basis, police departments are organized into branches, divisions, bureaus and sections. Broadly, police functions can be categorize into two categories; Core and support functions.

- 1. **Core Functions**
 - a. Operations or Watch & Ward
 - b. Investigations
 - c. Intelligence & Surveillance
 - d. Traffic Management
- 2. **Support Functions**

Support functions of police are organized to facilitate effective policing and maintenance of law and order in the provinces. Broadly these functions can be categorized into following categories;

 - a. Trainings
 - b. Administration, Finance & Welfare
 - c. Monitoring & Inspection
 - d. Legal Affairs
 - e. Telecommunication & Transport

3.1.2 Automation of Police

The first effort to automate police in Pakistan started in 2005 with the Police Station Record & Office Management Information System (PROMIS) project. The PROMIS project was initiated by National Police Bureau with the help of a private IT firm at the initial cost of 1.4 billion rupees. The project intended to automate police stations in all the provinces and regions. With the objective of building information technology infrastructure within the provincial police departments and

connecting police stations of provinces with their respective provincial police headquarters. The PROMIS software was conceived as a management system including Enterprise Resource Planning (ERP) solutions for police and automation of criminal records based on FIRs.

Initially the project life of PROMIS was set to three years, which later on extended. The increase in project duration warranted enhancing the cost of project however, to accommodate for the increase in project duration, the project scope was reduced instead of enhancing the cost. The project, extended beyond the planned time, had no success beyond piloting in some police stations. The reasons for lack of success of project include lack of authority of National Police Bureau to allocate financial resources to the project and lack of coordination between the executing bodies and contractor. Lack of interest and ownership by the provincial police departments also contributed to the failure of project.

Apparently, the Balochistan, Khyber Pakhtunkhwa and Azad Jammu and Kashmir police departments have abandoned PROMIS project, while in Sindh, only data center of PROMIS is being used and in Punjab, its scope is limited to some police stations. Sindh police department is using police module of case flow management system developed by the High Court of Sindh apart from its own efforts to introduce information technology in some of the police operations. Khyber Pakhtunkhwa police department is also in the process of implementing its own initiatives of introducing E-Police system in the province. The provincial police department of Punjab is expanding the scope and functionality of its automation initiatives with the assistance of Punjab Information Technology Board (PITB). Following sub sections briefly explain the automation initiative in each province, region and Islamabad Capital Territory.

3.1.2.1 Punjab

In Punjab police department, PROMIS is functional only to the extent of feeding FIRs in some police stations. With a number of other automation initiatives in the police domain, spearheaded by Punjab Information Technology Board, the future of PROMIS is not clear. Apart from PROMIS, Punjab police is in the process of developing a new software "POLCOM" with the help of PITB. All the police stations and police headquarters would be networked through POLCOM and it will facilitate in following areas;

1. Police Stations Record Management
2. Human Resource Management
3. Criminals Record Management

The geographic scope of the POLCOM will extend to all the districts in the province but initially it is planned to be deployed in provincial capital Lahore.

Other automation initiatives by PITB include;

- **Crime Mapping:** PITB developed an automated and independent software that could identify and locate the hot crime areas in capital city Lahore. The software assists police in recording daily crimes on their online repository through their mobile phones. The officer and/or the witness record the crime through their mobile phone from the place of incident with a picture, location on the Google Map along with date of incident and the sections of law applicable. Daily reporting on the software creates crime patterns across Lahore identifying the crime pockets, the high time of increased crime rate and the areas that are hotspots. The android based mobile application has been developed in Urdu to make it more user-friendly.
- **Investigation Toolkit:** PITB has developed an investigation toolkit. The toolkit is designed to assist investigating officials in determining the location of mobile phones, searching for criminal records, driving licenses and stolen vehicles.
- **Computerized Criminal Record System:** The system is designed for criminal record management and identification of criminals using biometrics. The main features of this system include digitization of criminal finger prints, data centralization, integration of digital biometric device, Automated Fingerprint Identification System (AFIS) and latent finger print identification. Punjab

Police plans to build a database of the criminals so that they could be tracked on search criterion like name & parentage, modus operandi, finger prints, I.D. card number and DNA.

- **Sketch Making Software:** Punjab police has also acquired sketch making software. The software facilitates police in developing sketches of suspected criminals and terrorists.
- **Handheld Biometric Device for Real Time Person Verification:** PITB has developed a solution for identification of criminals and suspects using handheld biometric device. The solution can be used at check points and public gatherings. The hand held device can verify fingerprint from NADRA and displays name, gender, criminal record, red book and black book record.
- **Biometric Attendance System:** The biometric attendance system has been deployed in some of the model police stations.
- **Driving License Issuance Management System (DLIMS):** The DLIMS automates the processes for driving license issuance, renewal and upgrades. The system is designed to redefine the issuance process of all types of licenses by using a centralized network and it provides quick processing service to public and up to date statistics to the authorities. Centralized DLIMS is already operational in major cities of Punjab province.

3.1.2.2 Khyber Pakhtunkhwa

Khyber Pakhtunkhwa police department has started a number of automation projects under the banner of E-Police system. The software for almost all of the projects is developed in-house. Following projects are being implemented under the E-police system in Khyber Pakhtunkhwa:

- **Web Based Complaint Registration:** The web based complaint registration system has recently been launched in the province. Under the facility complainant can register a complaint on Khyber Pakhtunkhwa police web site including the details and location of incident. The complaint, once registered, is forwarded to a Committee for Online FIR Management; the Committee after verification sends the complaint to the concerned SHO for further action. The SHO decides the admissibility of FIR and inform the decision to committee and complainant. The

facility is designed to facilitate complainants who cannot approach Police Station directly for any reason.

- **Digitization of FIR Records:** Khyber Pakhtunkhwa Police has developed and launched a centralized database of FIR. Initially, record of last five years (2009-2013) has been planned to be digitized. More than 800,000 FIRs have been entered in the system. The system is capable to search online the criminal record using mobile phones, Hand held devices and computers. The new system will automatically generate an alert to the home police station of the criminal when crime is committed in the jurisdiction of another Police station. The project is planned to work in integration with the existing Geo-Tagging project and upcoming Tenant and hotels/Serai databases.
- **Automated Fingerprint Identification System (AFIS):** The police department is in the process to launch Automated Fingerprint Identification System to develop a centralized database of fingerprints of criminals which can be accessible online for comparison of latent fingerprints taken from the scene of crime.
- **Crime Tracking and Analysis (Geo-Tagging):** Khyber Pakhtunkhwa Police has developed and launched a centralized Crime Tracking & Analysis (CTA) database. The database is based on geo-tagging technology and all the pictures of the terrorists and crime scene etc. are stored in the main database using android mobile phones. The data, when captured and submitted to the main server, is automatically plotted on the Google map which can be utilized to analyze crime trends in the province.
- **Vehicle Verification System (VVS):** This Vehicle Verification System is designed to identify fake registration and stolen vehicles. The system works on the basis of database of vehicles information available with police and motor registration authority of province.
- **Tenants Database:** The provincial police department is in the process of development of a centralized database of all the rented buildings and tenants in the province. The database will contain information about the property, landlord, tenants and property dealer. Police stations will be connected with the central site and data about rented buildings and tenants will be fed online into the main server. The system will be capable to search online the tenants record using mobile phones, hand held devices and computers. Tenants database will be integrated with

the criminal database developed under the scheme “Digitization of FIR” and the system will automatically generate an alert to the home Police Station when landlords or tenants data matches the criminal record of the criminal database. It is envisaged that the system will be a helpful tool in tracking the tenants living in the rented buildings.

- **Hotel Tenants Database:** Khyber Pakhtunkhwa Police plans to develop a centralized database of all the hotels and guests staying in the Hotels, Serai and Guest houses. All the hotels will have Verification System (Verisys) installed for verification of the visitors' data from National Database and Registration Authority (NADRA), access to Vehicle Verification System (VVS) for verification of vehicles and Criminal database for verification of criminal record of the guests. All these systems will be integrated at the back end and will be generating alerts to the concerned Police stations in case of any criminal event. The system is under the developmental phase.

3.1.2.3 Sindh

Sindh Police department has adopted the police module of automated Case Flow Management System (CFMS) developed by High Court of Sindh. Apart from the CFMS, Police department of Sindh is implementing following automation projects:

- **Criminal Record Management System (CRMS):** The CRMS project is designed to register profiles of known criminals. Currently, it is in the implementation phase and hardware has been deployed in three zones of Karachi.
- **Surveillance System:** Under the surveillance system project, Central Command Center has been established. The command centers are operational round the clock and monitor video cameras installed at 159 places in Karachi for suspicious activities. Apart from static camera locations, 50 mobile vehicles are equipped with video cameras and camera feeds are also accessible in command center. The data center is capable of storing video data of 30-45 days.
- **E-Driving License:** E-driving license automates the process of driving license issuance, renewal and upgrading. The system is functional only in major districts of Sindh province.
- **Traffic Management Surveillance System:** The system has been established to monitor the traffic flow in important

locations of Karachi city. Under the system, 158 fixed and 40 Pan-tilt-zoom (PTZ) cameras have been installed with fiber-optic connectivity and video recording facility.

3.1.2.4 Balochistan

Balochistan police department is using the police module of the Case Flow Management System (CFMS) developed by the High Court of Sindh. Apart from the CFMS police module, there is no automation initiative for Balochistan police department.

3.1.2.5 Islamabad Capital Territory

Islamabad police was not included in the scope of PROMIS project. Automation of Islamabad Police started in 2007 with the aim to introduce and implement e-powered environment including processes of police stations, issuance of computerized license, human resource and assets management. Police Record Management Information System (PRMIS) was developed to automate police stations record. Key features of PRMIS include central database and interconnectivity. Covering 15 out of 20 police stations, the system is operational in Islamabad and helping the police in entering record, record keeping and searching criminal database based on the FIR records. For data entry, two operators have been posted at each location. The system is fully capable of integrating with any justice sector organization through web service. Apart from this, following modules have been developed by the Islamabad police:

- **Issuance of License:** The module deals with issuance, renewal and upgrades of computerized driving license for

residents of Islamabad. The module is managed and operated by Islamabad Traffic Police (ITP).

- **Human Resource Management:** Human resource module deals with the processes related to hiring, retirement, rewards, punishments and trainings. It also includes posting and transfer record of employees.
- **Criminal Tracing:** Criminal tracing module facilitates call filtering and analysis of Call Data Record (CDR).
- **Database of Residents of Madrassas & Suburban Areas:** Islamabad Police has developed a database of madrasah/mosques and suburban areas residents. The related module is capable of generating variety of reports for analysis.

3.1.2.6 Azad Jammu & Kashmir (AJ&K) and Gilgit Baltistan

In AJK police department, PROMIS was functional only in three police stations and Police Headquarters. In 2005, after earthquake, the system was disrupted and since then it has not been re-activated. Currently AJ&K Information Technology Board is deliberating to initiate automation of AJ&K police department. There has been no IT or automation initiatives in Gilgit Baltistan Police department.

3.1.3 Functions Automated in Police Departments

(A): SECURING IDENTITY

Sr. #	Functions	Punjab	Sindh	KPK	Balochistan	Islamabad	AJK	Gilgit Baltistan	NPB
1	Verification from NADRA (biometric, CNIC or any other)	Yes	Yes	Yes	No	Yes (only Verisys)	Yes	No	No
2	Verification from AFIS (Automated Finger Print Identification System)	Yes (Non-operational)	Yes	Connectivity with the central site (FIA Head Quarter Islamabad) is down since October, 2012	No	Not Functional	Yes	Not Functional	Yes
3	Any other function	No	No	No	No	Criminal Profiling	No	No	No

(B): OFFICE AUTOMATION

Sr. #	Functions	Punjab	Sindh	KPK	Balochistan	Islamabad	AJK	Gilgit Baltistan	NPB
4	Management of FIR in police stations	Partial	Yes	Yes	No	Yes	No	No	Yes
5	Online FIR registration system	No	Yes	Yes	No	No	No	No	Yes
6	Police stations record management	Partial	Yes	No	No	Partial	No	No	Yes
7	Automation of daily crimes diary	No	Yes	No	No	Yes	No	No	Yes
8	Criminal record verification and management system	Partial	Yes	Yes	No	Partial	No	No	Yes
9	Automation of police stations registers	Yes	Yes	No	No	Yes	No	No	Yes
10	Automation of police stations forms	Yes	No	No	No	No	No	No	Yes
11	Witness management	No	Yes	No	No	No	No	No	Yes
12	Case management system	No	Yes	No	No	Partially functional	No	No	Yes
13	Any other function	No	No	No	No	No	No	No	Case diary management, challan management, under surveillance vehicles, gangs records, CRO, Gazette, Workflow management, Copy of FIR from Web Portal

(C): MANAGEMENT

14	Inventory management	Under process	No	Yes	No	Partially used	No	No	Yes
15	Human resource management	Partial	Yes	Yes	No	Yes	No	No	Yes
16	Management of finance and budget	No	No	No	No	Partially used	No	No	Partial
17	File management system	No	Yes	Yes	No	No	No	No	Yes
18	Leave management system	No	No	Yes	No	Partially functional	No	No	Yes
19	Any other function	No	No	No	No	Motor Transport, Uniform store, Biometric attendance, GP-fund automation, email system,	No	No	Police vehicle management, Character certificate automation, textual search engine like Google, Attendance management

(D): COMPLAINT MANAGEMENT

20	Public grievance redressal system	Yes	No	Yes	No	Yes	No	No	Yes
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Sr. #	Functions	Punjab	Sindh	KPK	Balochistan	Islamabad	AJK	Gilgit Baltistan	NPB
21	Any other function	Partial	Yes	Yes	No	Yes	No	No	Online complaint management, legal help, informer information, online character certificate request, public mobile application

(E): OPERATIONAL

22	Automated Finger Print Identification System (AFIS)	No	Yes	Yes	No	No	Yes	No	Yes
23	Registration of foreigners	Partial	In Progress	Yes	No	No	No	No	Yes
24	Surveillance and verification of Afghan refugees	Yes	In Progress	No	No	No	No	Yes	No
25	Database of rented buildings	No	In Progress	Yes	No	Yes	No	No	No
26	Database of hotels	No	In Progress	No	No	Yes	No	No	Yes
27	Schools Security Service	No	In Progress	Yes	No	Yes	No	Yes	No
28	Tagging of Madaris	Yes	In Progress	Yes	No	Yes	No	Yes	No
29	Tagging of Majalis & militants	Yes	In Progress	Yes (Militants Only)	No	No	No	Yes	No
30	Database of the residents of Mosques and Madaris	Yes	In Progress	Madaris	No	No	No	Yes	No
32	Tracing criminals through call filtering	Yes	Yes	No	No	Yes	No	No	Yes
33	Mapping of crime scene and real time data on Google maps	No	No	Yes	No	No	No	No	Yes
34	Management of stolen vehicles	Yes	Yes	Yes	No	Yes	No	No	Yes
35	Vehicle verification system	Yes	Yes	Yes	No	No	No	No	Yes
36	Vehicle verification through mobile/ RFID	No	Yes	Yes	No	No	Yes	No	Yes
37	Vehicle tracking	No	Yes	No	No	No	Yes	No	No
38	Mobile phone tracking	No	Yes	No	No	No	No	Call Data Record (CDR) only	No
39	Traffic management system	No	Yes	Yes	No	No	No	In Progress	No
40	E-Driving license	Yes	Yes	Yes	No	Yes	No	In Progress	No
41	City surveillance system with cameras	No	Yes	No	No	No	Yes	Partial	No
42	Any other function	No	No	No	No	No	No	No	Call detail analysis, feedback management system

(E): OPERATIONAL

43	Video conferencing system	Yes	Yes	No	No	No	No	No	No
44	All police stations inter-connected throughout the province	Partial	Yes	No	No	No	No	No	Yes (Partially)
45	Access to mobile phone data	No	Yes	Call data Record (CDR) only	No	No	Yes	No	No
46	Any other function	No	No	No	No	No	No	No	Integration with courts, FSL, Mobile SIM information

3.2 Prosecution

Historically, the prosecution functions were regulated by provincial police and law departments in Pakistan. Separate independent prosecution services were established in Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan provinces in the year 2006. These services were established under the criminal prosecution service Acts promulgated by the respective provincial legislative assemblies. Mandated to provide effective and efficient prosecution of cases, ensuring prosecutorial independence and coordination in criminal justice system, the provincial prosecution services share similar organizational structures and standard operating procedures. Like provincial police departments, prosecution services uniformly apply major substantive and procedural criminal laws.

Provincial Prosecution departments are headed by Prosecutor Generals (Director General Prosecution in Khyber Pakhtunkhwa). Heads of Prosecution departments are assisted by Additional Prosecutor Generals, Deputy Prosecutor Generals and Assistant Prosecutor Generals. District Public Prosecutor (DPP) heads prosecution service in the districts. DPP is assisted by Deputy District Public Prosecutors (DDPP) and Assistant District Public Prosecutors (ADPP). DPP distributes prosecution work to prosecutors on the basis of territorial and functional jurisdiction.

3.2.1 Functions of Prosecution Departments

Like any other organization, functions of prosecution services can be divided into two broad categories i.e. Core and support functions.

1. **Core Functions**
 - a. Guiding Investigation
 - b. Scrutiny of Police Reports
 - c. Representation in Courts
2. **Support Functions**
 - a. Trainings;
 - b. Monitoring & Inspection
 - c. Administration and Finance

3.2.2 Automation of Prosecution Department



Punjab, Sindh and Khyber Pakhtunkhwa prosecution departments have already developed and implemented their own Prosecution Management Information Systems. The prosecution department of Balochistan has no such information system and all the processes are manual. Following is the brief description of automation initiatives in prosecution services of Punjab, Khyber Pakhtunkhwa and Sindh.

3.2.2.1 Prosecution Department, Punjab

Punjab Information Technology Board (PITB) is implementing Punjab Prosecution Department digitization and computerization project in Punjab Province. The automation project was initiated in 2013 and is expected to be completed in 2016. The training version of software has been launched and office of the public prosecutor Cantonment Lahore has been declared as a model office for training.

At present, one software engineer and three system network engineers are working and recruitment of database administrator is under process. Hardware including 23 desktops computers, 217 laptops, 26 printers and 6 mid-range servers have also been procured and distributed to the district offices.

3.2.2.2 Prosecution Department, Khyber Pakhtunkhwa

Automation of prosecution department of Khyber

Pakhtunkhwa started in 2013. The department has successfully developed and implemented Prosecution Management Information System (PMIS) in all the districts of the province. The Provincial Government has appointed 96 computer operators as project employees working in districts and directorate of prosecution. District information offices send the FIRs registered in police stations to the directorate of prosecution and it is updated on the system. T

he system is capable of storing and distribution of information like name of accused, complainant, date and time of incident, motive of the case and the crux of case. It can generate FIR data connected with all the districts of the province. A monitoring cell has also been established to control and supervise the PMIS.

system started in 2014 and is functional in the head office and two districts (Khairpur and Thatta). Prosecution department is planning to deploy the system in all districts. Apart from the case management system, accounts management system has also been developed and is currently in execution phase. The accounting system will be made functional in all districts. Deployment of both the systems will be completed once the trained human resources are available.

Functions automated in Prosecution departments of all the provinces including Gilgit Baltistan are listed below for comparison purpose:z

3.2.2.3 Prosecution Department, Sindh

The Prosecution department of Sindh is executing online web based Case Management System. The implementation of

3.2.3 Functions Automated in Prosecution Departments

Sr. #	Functions	Punjab	Sindh	KPK	Balochistan	Gilgit Baltistan
(A): OFFICE AUTOMATION						
1	Details of every FIR/Case entered	No	Yes	Yes	No	No
2	Record of cases where challan received from police within statutory period	No	Yes	Yes	No	No
3	Record of cases where challan received from police after statutory period	No	No	Yes	No	No
4	Record of cases where challan/interim report not submitted	No	Yes	Yes	No	No
5	Remarks of prosecution department on challans	No	Yes	Yes	No	No
6	Record of proceedings of every case	No	Yes	Yes	No	No
7	Record of conviction and acquittal	No	Yes	Yes	No	No
8	Monitoring of investigation process	No	No	Yes	No	No
9	Record of private prosecutors	No	No	Yes	No	No
10	Record of court appearance	No	Yes	Yes	No	No
11	Record of evidence/witnesses submitted by prosecution	No	Yes	Yes	No	No
12	Record of FIRs cancelled by court	No	Yes	Yes	No	No
13	If prosecution department not agreed with the court order then challenged at appellate forum	No	No	Yes	No	No

Sr. #	Functions	Punjab	Sindh	KPK	Balochistan	Gilgit Baltistan
14	Record of date of hearings	No	Yes	Yes	No	No
15	Any other function	Website operational	Yes	Yes	No	No
16	Inventory management	No	Yes	Yes	No	No
17	Human resource management	No	Yes	Yes	No	No
18	Management of accounts and budget	No	Yes	Yes	No	No
19	File management system	No	Yes	Yes	No	No
20	Any other function	No	No	No	No	No

(C): COMPLAINT MANAGEMENT

21	Public grievance redressal system	No	No	No	No	No
22	Any other function	No	No	No	No	No

3.3 Judiciary

The efforts to automate the courts in Pakistan started in the year 2002 as a part of project “Strengthening of Institutional Capacity for Judicial and Legal Reforms” funded by the Asian Development Bank's Technical Assistance Loan. The Asia Foundation presented a Court Automation Plan covering the pre-requisites for automation of the Supreme Court, High Courts, Law & Justice Commission, Federal Judicial Academy and Ministry of Law, Justice and Human Rights. The report proposed that for such a large scale automation project, the software development should be out sourced. A Case Flow Management System was developed and piloted in the Supreme Court of Pakistan but it faced implementation problems and was not successful. Subsequently, Access to Justice Program Management Unit (AJPMU) Islamabad developed an automation plan relying on the funding from Technical Assistance (TA) Loan. The plan was based on the results of the previous automation initiatives and diagnostic study conducted in the year 2002. In 2008, the project “Automation of Justice Sector Institutions” was awarded to a multinational firm. The project was to be carried out in two phases but it delivered only two deliverables i.e. system requirement analysis, network plan and architectural design with prototype. The contract expired in the same year due to the closure of TA Loan.

3.3.1 National Judiciary Automation Committee (NJAC)

In 2009, National Judiciary Automation Committee (NJAC) was constituted as a standing sub-committee of the National Judicial Policy Making Committee (NJPMC).

A Judge of the Supreme Court co-opted by the Honorable Chief Justice of Pakistan heads the NJAC as the Chairman. The Law & Justice Commission of Pakistan provides secretarial assistance to the committee. There are two working groups of NJAC;

1. **Core Group:** The Core Group consists of the Chairman and one judge co-opted from each of the following Courts;
 - a. Federal Shariat Court
 - b. Lahore High Court
 - c. High Court of Sindh
 - d. Peshawar High Court

- e. High Court of Balochistan
- f. Islamabad High Court

2. **Expert Advisory Group:** The Expert Advisory Group consists of IT professionals and experts. This expert advisory group assists the Core Group in formulating IT policies and standards. The Expert Advisory Group includes two types of members: ex officio members and nominated members.

NJAC has the mandate to evolve a comprehensive IT vision for the Judiciary in Pakistan. NJAC through its working groups is mandated to develop recommendations for creating and establishing protocols and operating procedures to ensure smooth and efficient coordination between IT departments of various courts in the country. The committee, since its



formation, has reviewed automation initiatives of various courts in the country. NJAC, in its meetings, laid emphasis on the establishment of a centralized unit 'National Judicial Automation Unit' (NJAU), responsible for centralized integrated automation system for the justice sector.

Following are the major actions recommended by NJAC in its meetings held since its formation;

1. Technical audit of the existing systems to determine their quality.

2. Efforts should be made to integrate the Case Flow Management Systems (CFMS) of all the superior courts.
3. Adoption of standard opening sheets for applicants and respondents of judicial matters.
4. Processes and functions already automated in Lahore High Court or High Court of Sindh shall be replicated in remaining High Courts.

The first recommendation of committee has not been implemented yet however efforts are being made to integrate the CFMS of superior courts. The third recommendation regarding adoption of standard opening sheets at the time of institution of case has only been implemented in the Lahore High Court. With regard to the fourth recommendation, the Peshawar High Court, Islamabad High Court and High Court of Balochistan adopted the software of High Court of Sindh with few modifications according to their needs.

Following sub sections briefly describe the status of automation in the superior and district judiciary.

3.3.2 Superior Courts

The Supreme Court of Pakistan, Federal Shariat Court and all the High Courts have developed their own automated systems covering the case flow and other court management processes. Apart from the case flow management systems, the courts have developed separate modules according to their needs.

Following software modules are being used in the High Court of Sindh:

- **OCP:** Online Court Proceeding module displays current case proceeding status on the web and is accessible to all interested parties.
- **eCAMS:** Electronic Case Alert Messaging System auto generates case messages on cell phones and emails. eCAMS module has both 'Push' and 'Pull' features. The module automatically sends case status messages (Push messages) on cell phones and emails of concerned advocates, firms or litigant parties. The system also replies to case status queries (Pull messages) received in a given format from any cell phone.
- **CLMS:** The Case Law Management System is a web-based application to collect, manage and make accessible the judgments & orders of the apex courts. The application

allows users to easily access judgments and orders by using its powerful search engine.

- **eKIOSKs:** eKIOSKs are developed as touch screen machines which can provide access to case information.
- **RMS:** Record Management System keeps record of disposed cases.
- **Case Archiving Module:** Case Archiving Module keeps record of scanned case files.
- **eAffidavit-HC:** Electronic Affidavit and Identity System ensures identity and presence of deponent by Biometric identification and inter connectivity with NADRA for affidavit and sureties.
- **Case Notices Module:** Case Notices Module is currently under development. The Case Notices Module is planned to auto generate notices to case parties.
- **HRM-HC:** Human Resource Management System maintains complete official information of the Judicial Officers and staff of High Court including modules related to their appointment, transfer/postings, promotions, ACRs, complaints, qualification, experience, trainings and seniority etc. It consists of the following sub modules;
 - o **AAMS-HC:** Auto Attendance System records attendance of court staff through face recognition machines.
 - o **Online Job Portal:** The online job portal maintains the process of recruitment by auto eligibility criteria.
 - o **Leave Module:** Leave module maintains leave record of judicial officers/court staff and includes online leave process.
- **Computer Support Management System:** The Computer Support Management System keeps record and tracking of complaints regarding IT support.
- **FTS:** File Tracking System keeps record and tracks movement of 'DAK' and files.
- **CMS:** Complaints Management System is currently in the development phase. Once completed, the CMS will facilitate the public in submitting complaints against

officers of Judiciary and other Government Departments.

- **NMS-HC:** Nazir Management System keeps financial record of case and related account sureties.
- **EDMS-HC:** Electronic Documents Management System archives all types of documents including case files, office files and other office documents.
- **SMS:** Stationery Management System maintains inventory and distribution of consumable items.
- **AMS:** Assets Management System maintains information of the assets of the court.

The automation projects in High Court of Sindh are supervised by an IT Committee which consists of three Hon'ble Judges.

Lahore High Court has also developed several systems in addition to CFMS. Following unique software modules are implemented in the Lahore High Court;

- **Auto Marking of Cases:** Whenever an urgent case is instituted, it is automatically marked depending on the roster, workload of Hon'ble Judges and their specialty. There is no human intervention involved in this process.
- **Docket Management System:** Under this system all pending cases are shifted in dockets in chronological order. These dockets are assigned to sitting Hon'ble Judges in special and constitutional benches for hearing. The core idea of the system was to bring those cases in mainstream, which were not being heard due to lack of interest of the lawyers and the litigants.
- **Court Pendency Counter:** Pendency Check Counter application presents institution, disposal and pendency in the Court and its benches. The counter is updated on daily basis and helps to have quick view on daily statistics.
- **Court Query Manager:** Lahore High Court has established a research Center which deals with the queries received from the Hon'ble Judges. To assist research associates, a web application 'Court Query Manager' has been developed. The research associates analyze and find references regarding any specific query and submit the reply to Hon'ble Courts through software. In future, a data

bank of research on case law and matters related to constitution will also be made available as source of research center.

- **Court Calendar:** It is an application that facilitates the Hon'ble Court to balance daily workload. A graphical representation of court schedule is made available to the Hon'ble Judges to plan in advance the future daily workload.
 - **Opening Sheets:** Opening Sheets were developed to get complete information from the litigants and lawyers. The project is under implementation and recently new computers have been provided to the concerned staff. Data capturing has been started and soon would be available for analysis and decisions making.
 - **Surety Deposit Software:** To automate the surety process of court, following features are available in initial version of this software:
 - o Surety Deposit
 - o Log History of Deposits
 - o Refund from Bank
- With the help of this software transparency and audit of bank balance is endorsed.
- **Interactive Voice Response Service (IVRS):** The Lahore High Court is in the process of introducing a helpline service to facilitate litigants. The service will help public and lawyers to get information of their cases by dialing 1134. Helpline Agents are being trained to handle queries. IVR will facilitate caller with up-to-date case information.
 - **District Courts Progress Monitoring:** This is a web portal used by the computer operators of district courts of all districts of Punjab to enter daily progress of disposal of cases.
 - **Inventory Management System:** It has been developed for finance wing to record the stock position, acquisition of new stock, the issuance of stock items and estimating the need of stock in the next phase of financial year. Moreover, it has the capacity to maintain record of all purchase and bills.
 - **Transport Management System:** It is developed to assist

the transport branch of the high court. At present, following modules are functional at Principal Seat & all Benches:

- o Vehicle & Driver Allocation
- o Vehicle Transfer
- o Sold-Out Vehicles
- o Driver's Leaves
- o Repair & Maintenance Module
- o Fuel Bill Record Management
- o Vehicle Inspection & Classification
- o Official Noting

- **Lawyer Schedule Synchronization Service:** Lawyer Schedule Synchronization Service is first innovative step towards the IT backed integrated collaboration between Supreme Court and Lahore High Court. The Lawyer Synchronization System has been launched by the IT departments of Supreme Court and Lahore High Court. The system automatically fetches schedule of case hearings of the Supreme Court. Fixation of cases of Lahore High Court is then decided on the basis of schedule of the Supreme Court to avoid conflicts in dates of hearing of lawyers.

Apart from these initiatives, Lahore High Court website has also been updated to facilitate litigants by providing updated status of cases and status of approved judgments for reporting.

3.3.3 District Judiciary

On the directions of National Judicial (Policy Making) Committee in 2011, a web based "Case Flow Management System for District Courts (CFMS-DC)" was developed by the High Court of Sindh. It maintains case information and consists of various sub modules for police, prosecution and prison

departments. These modules allow the respective departments to enter their data in relevant interfaces. On the directions of NJPMC, High Court of Balochistan and Islamabad High Court have completely adopted this solution for their district judiciary while the Lahore High Court had reservations to place the information of cases of district judiciary of Punjab on the servers placed in the High Court of Sindh. Recently, the scope of CFMS-DC has been expanded to the special courts in Sindh Province. CFMS-DC is partially adopted by the district judiciary of Khyber Pakhtunkhwa judiciary.

Lahore High Court in collaboration with the Lahore University of Management Sciences (LUMS) developed software to capture details of cases required to generate analytical insights by using online interface. The system "Court Beat" has been piloted in the court of a civil judge of District Sheikhupura. It helps the senior judge in marking of cases on the basis of existing caseload among judges. Dashboards are provided to judges with up-to-date statistics which can help them in self-monitoring of cases assigned to them. The dashboards can also help the judge to view the case history. Color coded flags (green, blue and red) against cases, enable the Judge to self-monitor his/her performance. If a case is adjourned multiple times for a particular number of hearings, red flag appears in front of that case which can catch attention of a monitoring judge. The system also includes a monitoring dashboard for District & Sessions Judge which helps him to view the performance of any Judge. It also helps the monitoring judge to run queries of different types on case age, number of hearings and adjournment reasons.

Functions automated in the Judiciary of Pakistan i.e. superior courts and district judiciary including their future plans are listed below for comparison purpose:

3.3.4 Functions Automated in the Superior Courts

Sr. #	Functions/Areas Automated	SCP	FSC	SHC	LHC	PHC	BHC	IHC
1.	Allocation of unique case # at the time of institution	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2.	Unique advocate code is implemented		Yes	Yes				
3.	Opening sheet is used		Yes		Yes			
4.	Fee counter			Yes				
5.	E-Affidavit counter			Yes				Yes
6.	Case institution	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7.	Cases Docket Management System				Yes			
8.	Objection cases list		Yes	Yes	Yes	Yes		Yes
9.	Auto case marking		Yes	Yes	Yes			Yes
10.	ICA alert (if Intra Court Appeal already pending)							Yes
11.	Generate cause list/ case fixation/ case diary		Yes	Yes	Yes	Yes	Yes	Yes
12.	Case not before me (Hon'ble Court)	Yes		Yes	Yes	Yes	Yes	Yes
13.	Lawyer not before Hon'ble Court(s)	Yes			Yes			
14.	Adjournments record	Yes	Yes	Yes	Yes		Yes	Yes
15.	Court order/decision on website	Yes	Yes	Yes	Yes	Yes	Yes	
16.	Website information	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17.	Online up -to-date case status	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18.	Online court proceedings			Yes				
19.	Delivery of summons/system generated notices	Yes	Yes		Yes			
20.	Electronic Case Alert Messaging system (ECAM)	Yes	Yes	Yes	Yes			Yes
21.	Maintain Case Law Management System		Yes	Yes				Yes
22.	Case archiving			Yes			Yes	
23.	Case record management	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24.	Information desk	Yes		Yes	Yes	Yes	Yes	Yes
25.	Citizen grievance redressal system through SMS					Yes		
26.	E-Kiosk			Yes				
27.	Case Copy desk			Yes	Yes	Yes	Yes	Yes
28.	Status management of appeals in Supreme Court				Yes	Yes		
29.	Handshake with Supreme Court regarding lawyers schedule				Yes			
30.	Court calendar		Yes		Yes			
31.	Court query/ research management			Yes	Yes			
32.	Dashboards of Hon'ble Judges				Yes			
33.	System generated emails to Hon'ble Judges and stakeholders			Yes	Yes			
34.	Case clubbing and auto shuffling utility				Yes			

Sr. #	Functions/Areas Automated	SCP	FSC	SHC	LHC	PHC	BHC	IHC
35.	Process serving through mobile App			Yes	Yes			
36.	Head receipt clerk section			Yes	Yes			
37.	Reports generation	Yes	Yes	Yes	Yes	Yes		Yes
38.	Performance monitoring & evaluation system			Yes	Yes	Yes		
39.	Video Conferencing				Yes			
40.	Library Management System	Yes	Yes	Yes	Yes	Yes	Yes	
41.	Human Resource Management System	Yes	Yes	Yes	Yes			
42.	Accounts/Fund Management System		Yes	Yes	Yes			
43.	Assets Management System		Yes	Yes	Yes		Yes	
44.	Photostat management system			Yes			Yes	
45.	GP Fund management system						Yes	
46.	Printing of service cards		Yes	Yes	Yes	Yes	Yes	Yes
47.	Entry Exit Logging system	Yes	Yes	Yes			Yes	Yes
48.	Transport Management System				Yes			
49.	Online job portal			Yes	Yes			
50.	Online Judgment Search System		Yes					
51.	Official email for Hon'ble Judges							
52.	Official e-mail for judicial officers							
53.	Antivirus used on computers							
54.	Firewall used on computers							
55.	Secure network							

3.3.5 Functions Automated in the District Judiciary

Sr. #	Functions/Areas Automated	Sindh	Punjab	KPK	Balochistan	ICT
1.	Allocation of unique case # at the time of institution	Yes			Yes	
2.	Unique advocate code is implemented	Yes				
3.	E-Affidavit counter (Some Districts)	Yes				
4.	Case institution	Yes			Yes	
5.	Generate cause list	Yes	Yes		Yes	
6.	Maintenance of case diary	Yes			Yes	
7.	Electronic Case Alert Messaging system (ECAM)	Yes				
8.	Case record management	Yes				
9.	Information desk	Yes				
10.	Human Resource Management System	Yes			Yes	
11.	Report generation	Yes				

Sr. #	Functions/Areas Automated	Sindh	Punjab	KPK	Balochistan	ICT
12.	System generated emails to Hon'ble Judges	Yes				
13.	System generated emails to stakeholders	Yes				
14.	Performance monitoring system	Yes	Yes			
15.	Process serving through mobile App	Yes				
16.	Dashboards of Hon'ble Judges	Yes				
17.	Web site information	Yes				
18.	Disposal Performance Evaluation	Yes				
19.	Online Leave Application Module	Yes				
20.	Court management		Yes			
21.	Analysis: delay reasons, bottlenecks, time taken at different stages, intelligent statistics		Yes			
22.	Online up-to-date case information				Yes	
23.	Printing of service cards				Yes	
24.	Duplication alert (if case is already pending. In Quetta only)				Yes	
25.	Court order/decision on System (Quetta District only)				Yes	

3.3.6 Future Plans for Automation in the Superior Courts and District Judiciary

Sr. #	Functions/Areas Automated	SCP	FSC	SHC	LHC	PHC	BHC	IHC
1.	Online case filing	Yes	Yes	Yes	Yes			Yes
2.	Case inquiry through SMS	Yes	Yes	Yes	Yes			Yes
3.	e-KIOSK on touch screens (as ATM machines)		Yes	Yes	Yes			Yes
4.	File tracking system	Yes	Yes	Yes	Yes			Yes
5.	Online court proceedings	Yes	Yes	Yes	Yes			Yes
6.	Case archiving	Yes	Yes	Yes	Yes			Yes
7.	Information desk (district judiciary)			Yes	Yes			Yes
8.	Duplication identifying system (district judiciary)			Yes	Yes		Yes	
9.	Judgment Search System	Yes		Yes		Yes		Yes
10.	Training Management System		Yes	Yes		Yes		
11.	Leave account management system			Yes		Yes		Yes
12.	Dashboards of Hon'ble Judges			Yes				
13.	Disposal Performance Evaluation	Yes		Yes				
14.	Unique advocate code	Yes				Yes		
15.	Electronic Case Alert Messaging system (ECAM)					Yes		
16.	Assets Management System	Yes				Yes		
17.	Performance monitoring system	Yes				Yes		
18.	Court query/ research management	Yes				Yes		
19.	Maintain Case Law Management System					Yes		

3.4 Prisons

The establishment and management of prisons is a provincial subject. The Prisons Act of 1894 and Prisoners Rules of 1900 provide legal framework for prison administration in Pakistan. These Acts regulate the maintenance of prisons, officers and their duties, places for confinement and admission, removal, transfer and discharge of prisoners. The Acts also cover areas of provision of services to all prisoners and ensuring court attendance. Apart from these Acts, special prisons like borstal institution and juvenile/women prisons are also regulated by separate set of legislative instruments. Under the overall legal framework provided in these Acts, the management and

the prisoners. Subordinate prison staff comprises of chief warders, head warders and warders.

3.4.1 Functions of Prison Departments

Core functions of prison departments include handling of all affairs related to prisoners in prisons. Support functions include training, monitoring, inspection and financial administration of prison department and prisons. These functions are performed at provincial and prison levels. Following is the summary of core and support functions.

1. Core functions

- a. Custody of Prisoners
- b. Care of Prisoners
- c. Maintenance of Order & Discipline among prisoners
- d. Correction (Education & Training)
- e. Remission Management

2. Support functions

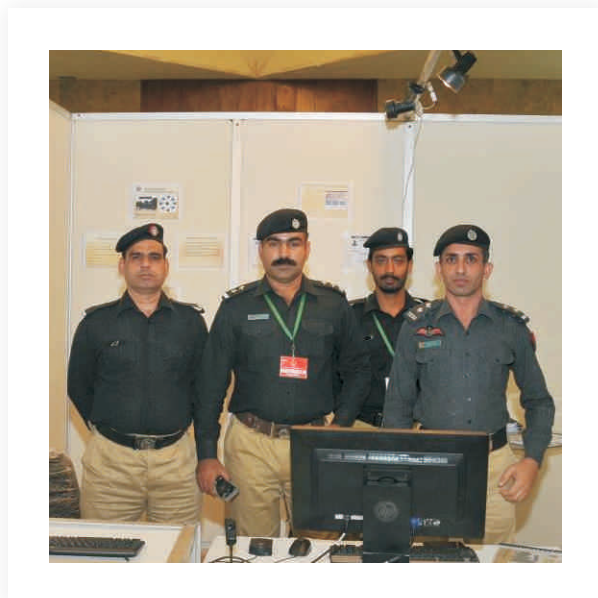
- a. Trainings
- b. Monitoring & Inspection
- c. Administration and Finance

3.4.2 Automation of Prisons

At present, the Khyber Pakhtunkhwa and Punjab provinces have developed prison management information systems which are functional in some of the prisons in these provinces. Punjab Prison Management Information System has been developed in collaboration with United Nations Office on Drugs and Crime (UNODC). The prison department of Balochistan has also opted for the system developed by UNODC. The UNODC plans to deploy the same information system in four prisons of Balochistan province which will be extended to remaining prisons after successful deployment. Sindh prison department is using prison module of the software CFMS-DC developed by the High Court of Sindh.

3.4.2.1 Punjab Prison Management Information System (PPMIS)

The prison department of Punjab in collaboration with the UNODC has initiated an automation project titled "Prison Management Information System (PMIS)". The PMIS was developed in a period of three years based on a study of prison



superintendence of prisons is regulated by Pakistan Prison Rules 1978 also known as the Jail Manual. Chapter 2, Rule 4 of Jail Manual provides four categories of prisons that are established and maintained by provincial governments. These include Central Prisons in divisions, District Prisons, Special Prisons (Women/juvenile prisons and borstal institutions) and Sub-Jails³. Each provincial prison department is headed by the Inspector General of Prisons who is assisted by Deputy Inspector Generals, Assistant Inspector Generals and other administrative officers. In each province, grouping of prisons are made to form circles with one prison as headquarters, headed by Superintendent. The Superintendents deal with appointment, transfer and promotion of warders in their jurisdiction. The prisons are headed by Deputy Superintendents assisted by Assistant Superintendents who are responsible for custody, security, living and health conditions and court production of

³ For details see Chapter 2 Rule 4 to 7 of Pakistan Prisons Rules 1978

operations and functions. The software of the system was developed using industry standard technology and can be deployed on any latest hardware. The system is capable of record keeping and prison management. Data from various endpoints can also be integrated at one point for reports generation.

PMIS was piloted in District Prison (Camp Jail) Lahore and became functional in 2014. Following its successful pilot implementation, PMIS is being scaled-up to 20 prisons in the Punjab with technical assistance from UNODC. Currently the system has been implemented in 9 out of 20 prisons of Punjab province and is also installed in National Academy for Prison Administration (NAPA) in Lahore for training of prison staff. For training, a manual has been developed and trainings are being imparted to prison staff. PMIS includes capturing live data of under-trial and convicted prisoners and visitors. Following broad areas are covered in the system:

1. Prisoner registration including prisoner profile, admissions, releases, FIR(s), classifications, crime types etc.
2. Photo and fingerprint enrolment.
3. Admission and release information.
4. Visitor information
5. Court production
6. Remission management
7. Bail Management
8. Health management including medical information on admission and release, hospitalization, check-ups and tests.

Currently, the software is deployed as a standalone system in each prison with one server and multiple clients. Being a web-based application, it can easily be integrated with other prisons in future with data exchange facility.

3.4.2.2 Khyber Pakhtunkhwa Prison Management Information System (KPPMIS)

Khyber Pakhtunkhwa Prison Management Information System was initially launched at central prison Peshawar in 2012. After its successful commissioning in Peshawar, the scope of the KPPMIS was revised to include all districts of Khyber Pakhtunkhwa province. At present, the system has been deployed at central prisons of Haripur and Bannu and district jail Mardan. Necessary resources like hardware, software and IT staff are available for province level commissioning of KPPMIS. Following are the key features of Khyber Pakhtunkhwa Prison Management Information System;

- **Prisoner Module:** It includes computerized prisoner record, transparent remission system, prisoner authentication mechanism through thumb scan and images, computerized court movement of prisoner and scanned record of warrants, prisoner punishment and 'mushaqat' history, prisoner movement (i.e. hospital, remand, parole etc.). Prisoner module captures each and every detail related to any prisoner from admission to release. The system can provide information like admission, biometrics, location & movement inside jail, health related record, conviction/sentence and remission details.
- **Food Module:** Food module includes computerized food menu and expenditure against food items. Food module ensures proper allocation of food and related expenses for prisoners.
- **Health Module:** Health module captures prisoners' medical conditions, medical history, admission and discharge from jail hospital and record of inmates from other prisons for medical treatment. The module also captures availability and usage of medicines in prison.
- **Visitor Module:** Visitor module schedules the visits including token system on arrival. The module also stores information of all visitors.
- **Human Resource Module:** Human resource module deals with staff information including bio-data, punishment, leaves, transfer and promotions. The module handles computerized rotation system and service book of prison staff.
- **Management Dashboard:** The dashboards provide decision supporting graphical and statistical reports for higher management. Higher management can retrieve history of prisoners and staff and view movement of prisoners among different jails.

Website: The website provides prison rules, information and instructions for general public. It also hosts jobs information with online applications and result.

Functions automated in Prison departments of all provinces including Gilgit Baltistan and Azad Jammu & Kashmir are listed below for comparison purpose:

3.4.3 Functions Automated in Prison Departments

Sr.	Functions	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Azad Jammu Kashmir	Gilgit Baltistan
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(A): SECURING IDENTITY

1	Verification from NADRA (biometric, CNIC or any other)	Yes	No	No	No	No	No
2	Verification from AFIS (Automated Finger Print Identification System)	No	No	Yes	No	No	No
3	Any other function	No	No	Multiple automated finger print identification system	No	No	No

(B): OFFICE AUTOMATION

4	Automated registration of prisoners i.e. prisoners profile, finger prints, images, details of FIR, crimes etc.	No	No	Yes	No	No	No
5	Automated record of admission, release, under custody death etc.	No	No	Yes	No	No	No
6	Automation of registers used in prisons	No	No	Yes	No	No	No
7	Automation of forms used in prisons	No	No	Yes	No	No	No
8	Any other function	No	No	Record of: Children living with female prisoners. Escaped prisoners iii) Dead Prisoners	No	No	No

(C): JAIL INSPECTIONS

9	Automated record of jail inspection (date of inspection, who inspected, jail problems, observations, recommendations etc.)	No	No	Yes	No	No	No
10	Any other function	No	No	No	No	No	No

(D): MANAGEMENT

11	Automated Inventory management	No	No	Yes	No	No	No
12	Automated human resource management	No	No	Yes	Payroll only	No	No
13	Automated management of accounts and budget	Yes	No	No	Yes	No	No
14	Automated file management system	No	No	No	No	No	No
15	Automation of Jail staff information like bio -data, punishment, leaves, transfer, promotion etc.	No	No	Yes	No	No	No
16	Every jail automated? If not, please provide list of jails where automation is	No (only)	No	No (Peshawar, Haripur and Bannu)	No	No	No
17	All jails interconnected throughout the province?	Yes	No	Yes	No	No	No
18	Any other function	No	No	Information regarding duty rosters, suspension, terminations, absconders etc.	No	No	No

Sr.	Functions	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Azad Jammu Kashmir	Gilgit Baltistan
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(E): COMPLAINT MANAGEMENT

19	Automated public grievance redressal system	Yes	No	No	No	No	No
20	Any other function	No	No	No	No	No	No

(F): OPERATIONAL

21	Automated remissions management	No	No	Yes	No	No	No
22	Automated bail management	No	No	Yes	No	No	No
23	Automated court production of prisoner	No	No	Yes	No	No	No
24	Automated scan record of warrants	No	No	Yes	No	No	No
25	Automated visitor information	No	No	Yes	No	No	No
26	Automated token system for scheduling visits	No	No	Yes	No	No	No
27	Automated management of history ticket issued to prisoners	No	No	Yes	No	No	No
28	Automated record of punishments and mushaqat	No	No	Yes	No	No	No
29	Automated movement record of prisoners (i.e. hospital, remand, parole etc.)	No	No	Yes	No	No	No
30	Automated record of shifting/transfer of prisoners among different jails	No	No	Yes	No	No	No
31	Any other function	No	No	ii) Standing medical board record of prisoners iii) Visitors record of high profile, condemned and female prisoners, hospitalized prisoners iv) Deportation record of refugees	No	No	No

(G): HEALTH

32	Automated medicine inventory system	No	No	Yes	No	No	No
33	Automated medical history of each prisoner (i.e. tests, check-up, hospitalization record etc.)	No	No	Yes	No	No	No
34	Prisoners received from other jails for medical treatment etc.	No	No	Yes	No	No	No
35	Automated admission and discharge record of prisoners	No	No	Yes	No	No	No
36	Any other function	No	No	i) Medicine stock detail. ii) Vendor information iii) Food allocation. iv) Record of those prisoners who is admitted outside jail hospital for treatment	No	No	No

3.5 Wafaqi Mohtasib (Federal Ombudsman)

There are nine ombudsman offices in Pakistan including Federal and four Provincial Ombudsman offices and one Ombudsman for Azad Jammu and Kashmir.

1. **Federal and Provincial Ombudsmen:** The first Wafaqi Mohtasib (Ombudsman) at Federal level was appointed in 1983. The Ombudsman has headquarter in Islamabad and regional offices in Lahore, Sukkur, Quetta, Faisalabad, Multan, Dera Ismail Khan, Peshawar and Karachi. The measure of success achieved by Wafaqi Mohtasib led to the creation of Provincial Ombudsmen in the provinces of Sindh, Punjab, Balochistan, Khyber Pakhtunkhwa, Azad Jammu and Kashmir.
2. **Federal Tax Ombudsman (FTO):** Due to growing nature of corporate sector grievances related to inequitable application of taxation laws and the Government's desire to promote a just and equitable business environment in Pakistan, an independent FTO was established in the year 2000.
3. **Federal Insurance Ombudsman (FIO):** The office of Federal Insurance Ombudsman was established in the year 2006. The institution is meant to provide analysis, investigate, redress, and rectify any injustice done to a person through maladministration by any of the insurer in the private sector. The key role of the FIO is to provide timely and cost free redress of the public grievances against alleged maladministration in an insurance company.
4. **Banking Mohtasib:** The dis-agreements and differences between banks and consumers led to the establishment of Banking Mohtasib. The role of Mohtasib is to mediate between the two parties so that an amicable and acceptable solution can be found and complaints minimized over time.
5. **Federal Ombudsperson for Protection against Harassment of Women at Workplace:** The Federal Ombudsperson was appointed in the year 2011 for protection against harassment of women at work place.

6. **Azad Jammu & Kashmir Mohtasib:** The Mohtasib Secretariat was established in 1991 through an ordinance. Its mandate is to undo the injustice done through maladministration and to redress the grievance of aggrieved ones.

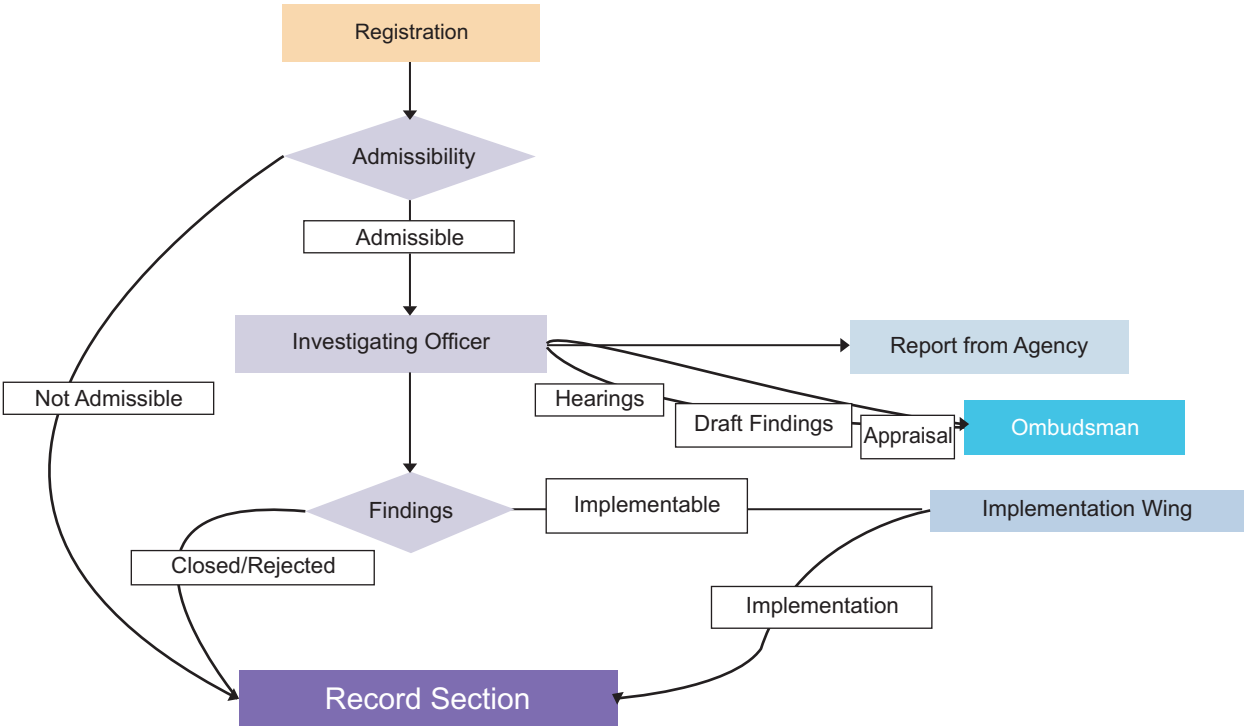
3.5.1 Automation of Federal Ombudsman Office

The online Complaint Management Information System (CMIS)



of Federal Ombudsman facilitates in rapid processing of the complaints and reduces the communication gap. Through CMIS, the complainant can register his/her online complaint and check current status of complaint from the website. It also includes service like SMS for complaint tracking. A data center has been established at the Headquarter which handles complaint record since 1998 onwards.

Figure-4
Case Flow Management



The CMIS is a multilingual supported software which includes Arabic, Urdu, French and English. Complaints against mal-administration of federal agencies may be lodged in a number of ways e.g. online, email, post, fax or in person. Upon receipt, the Registrar processes the complaint in CMIS and allocates a unique complaint number to each case. With the help of CMIS,

different reports can be generated for monitoring and evaluation of the performance of ombudsman secretariat. Different dashboards are available for Federal Ombudsman, Registrar, Investigating Officers and others. CMIS is also installed in two provincial ombudsmen offices i.e. Punjab and Khyber Pakhtunkhwa provinces.

4. Reclamation and Probation Departments

The Reclamation and Probation departments are one of the most under resourced departments of justice sector throughout the country. These departments are functional in each province, but the information of convicts released on parole and probation is available only in registers. No automation, no website, no internet facility and even no official email is available with these departments. These departments provide

information of probationers and parolee to the Law & Justice Commission of Pakistan on monthly basis with effect from June 2009 whereof, sufficient numbers of convicts have been released on probation and parole. The performance of these four provincial departments could have been improved by introducing information technology for administration, record keeping and other tasks.

5. Azad Jammu & Kashmir and Gilgit Baltistan

For Supreme Court of Azad Jammu & Kashmir, the Information Technology Board of AJ&K initiated a project titled “Automation of Judicial System & Connectivity of Supreme Court Offices at Muzaffarabad, Rawlakot & Mirpur” at a cost of Rs. 62 million. The project was outsourced and started in 2013. The scope of project includes official website, SMS notifications service, IVR system (Interactive Voice Response), online case tracking and court case registration.

The requisite equipment has been procured and technical staff has been recruited. The official website of the Supreme Court and SMS notification service has been launched. The court case registration software is in testing phase at the Supreme Court Muzaffarabad Bench while the deployment of IVR service is still pending. Future Planning includes connectivity of all Benches of the Supreme Court and its connectivity with the High Court & lower courts of AJ&K.

In Police department of AJ&K, PROMIS project was confined to

three police stations and office of headquarters. In 2005, it was affected by earthquake and since then could not be re-activated. The AJ&K Police requested National Police Bureau to rectify the issues of PROMIS but no response was received. Now, the Information Technology Board has initiated the automation of police department. To avoid duplication, IT Board has stopped working and waiting for the response of National Police Bureau. In Prison department, nothing has been automated and there is no separate prosecution department in Azad Jammu & Kashmir.

In Gilgit Baltistan, the Supreme Appellate Court, Chief Court, Police, Prison and Prosecution departments were contacted and it was learnt that none of the justice sector organization is computerized. However, the prosecution department has shown its willingness to adopt a software being used by the prosecution department of any province. Non-availability of budget and human resource for such information system is also reported.

6. Issues in Automation

To get a more in-depth understanding of the issues in automation, a one day workshop was organized on 6 September 2015. Professionals from the automation units of respective organizations participated in the workshop and discussed various problems. This section summarizes these discussions in conjunction with the analysis in the earlier sections.

6.1 Key Problems

The problems identified in the workshop flowed primarily from a lack of institutionalized approach to automation. Many of the issues flow from this gap which threatens to jeopardize sustainability. Internal issues within organizations, in the sector and inter-provincial all flow from this vacuum. The problems can be seen as overarching across the organizations and provinces. As eventually the national framework is built on organizational issues and vice versa, all problems identified here have to be seen as interdependent and related.

6.1.1 Absence of Policy, Plan and Procedures

As already mentioned, automation of various organizations is owed to variety of initiatives internal to organizations as well as externally supported e.g. the Access to Justice Programme. The changes have been piecemeal (or patchy) even as the net progress has been positive. The main deficit has been an overall policy vacuum. Most of the problems discussed below need a policy-based response, which then converts into a plan and gets implemented in a structured manner. No holistic policy has been developed within organizations to shift to a well thought out and planned automation which integrates into the extant systems rather than as a parallel functions. Similarly, no sector wide, provincial and national policies exist.

6.1.2 No Sector Level Integration

The justice sector functions as a systemic continuum. It begins with the police, followed by prosecution, courts, prisons and parole. The path is not simple and linear even as most processes in the initial state would follow this direction. Simultaneous role of the various agencies continues. The functional continuum and complex nature of the interaction of these organizations necessitates an integrated automation process across them.

Equally important is the need for integration across provinces. Crimes are often organized inter-provincially and criminals

move freely across provincial boundaries. This requires systemic data sharing and integration of systems across provinces. The participants informed the workshop that efforts at integration have also been made in the past but these have failed.

6.1.3 Ownership in Organizations

The participants of the workshop revealed varying degrees of ownership within their own organizations. Use of automation depends on the leadership of the organizations and various individuals in important positions. Overall the ownership remains weak. The automation sections are often seen as separate from the organization. This results into a number of problems including that of regular data provision.

6.1.4 Internal Capacity

Automation can only be integrated into organizational processes if the personnel who provide inputs and utilize the information have the capacity to use the automated systems. Automation serves the internal and external clients within and outside the organization, respectively. If the client does not have the capacity then the usage remains sub-optimal. The issue was highlighted by most participants. It was stated that at the officer level the use is sporadic depending on the capacity and interest of individuals while at the lower levels this capacity is extremely low. No trainings on data use and computers have been introduced as part of the automation process. This results in sub-optimal usage.

6.1.5 Limited External Users

Systemic analysis of use of the systems by external clients has never been made. The interfaces provided to the public have been designed internally and no feedback mechanism exists on actual use and its effectiveness.

There was a general agreement that the spread to grass root levels has been very slow. Without a proper feedback mechanism on usage, the systems will remain supply oriented and do little to relieve problems of the public.

6.1.6 HR Issues in Automation Teams

Professional and career structures of Automation teams either do not exist or have been introduced in an ad hoc manner.

6.1.7 Placement of Automation Units

Some of the participants stated that automation units were placed in places distant from headquarters which adds to their difficulties.

6.1.8 Disconnect Between Automation and Other Specialists

Personnel responsible for automation do not always have a good grasp of the organizational needs. Conversely many of the personnel in the other specialized functions do not have a good comprehension of automation so a general disconnect exists because of gaps on both sides.

6.1.9 Finances and Financial Powers

Some of the participants complained of lack of financial autonomy. The automation units have to depend on other sections for financial allocations, releases and expenditure.

6.1.10 Compatibility of Laws with Procedures

Effectiveness of automation has been curtailed by legal requirements on documentation that exclude electronically generated data.

This remains a major limitation that not only impacts effectiveness and expansion but also creates cynicism about the process within organizations.

7. SWOT Analysis

The software developed and deployed at provincial and federal levels provide different operational and analytical facilities. Being piecemeal efforts, the information generated by the solutions is not homogeneous. Following are the deficiencies and benefits of the existing system in terms of SWOT analysis:

i)- Strength of the existing systems

1. Developers are familiar with the working of existing systems.
2. Years of good relationship amongst IT members.
3. Permanent and dedicated team with years of experience.
4. The deployed systems are functional and need no testing.
5. Minimum resources are used
6. Free of cost development, deployment and training.

ii)- Weaknesses of existing systems

1. No common reporting standards defined.
2. All the systems are developed in a piecemeal manner.
3. Systems developed without proper documentation.
4. Backend of the systems are selected without considering the load of data.
5. Documentation of the functionality and procedures has been overlooked.
6. Single person initiative which puts sustainability in question.

7. Technical audit needs to be carried out to assess the scalability and stress handling
8. A blind eye has been given to the most important aspect of data security.
9. No data handshake protocols defined.
10. Non-availability of domain based emails.
11. Most of the organizations don't have their own websites.

iii)- Opportunities in existing systems

1. Nothing is useless. We can reap benefits from the existing system. The existing system can be used as a foundation for unified integrated automation system.

iv)- Threats to existing systems

1. No centralized point for co-ordination and implementation
2. Non-availability of monitoring and evaluation tools.
3. Implementation handicap for infrastructure in far flung areas
4. Non-standardization of platforms
5. Non-familiarity with the recent computer development tools.

8. Conclusion

Automation levels vary across organisations. Some are more advanced than others. The situation portends optimism and displays capacity within organisations. Despite the progress, automation in the sector has a number of gaps. Though the individual organisations are making efforts for automating specialized functions, the general functions like human resource development and management and finances are not integrated into the automation. Even the automation of specialized functions carry gaps by leaving some of these functions out of the scope of automation. Moreover, the span of the existing automation initiatives is also very limited especially in case of agencies having larger field presence (Police, Prosecution and district courts). In most of the cases, the data entry operations are centralized which places extra burden on the organisation. Instead of reducing the paper work and improving efficiency, the automation runs in parallel to the traditional method of carrying out the routine business functions.

Every organisation needs to have its own domain for website and E-mails. The ownership of software, appointment of focal person and fund generation by the software are the major aspects which need to be considered to avoid future failure. The organisations having no achievement in the field of automation, may adopt a software already being used; particularly, Gilgit Baltistan where all the justice sector organisations are working manually and nothing has been computerized. To develop a country wide horizontally and vertically integrated system, it is essential to integrate organisations of every province and then eventually integrate them with their corresponding ones on the

national level. With the help of monitoring and evaluation of available data, future needs and surplus resources/efforts may be identified in every organisation throughout the country.

These depth and span related gaps in the automation are primarily due to two reasons i.e. absence of holistic automation plans and absence of supporting business rules and processes. These reasons also explain the existing piecemeal approach towards automation. Another issue, highlighted during the consultative meeting and automation workshop, is the lack of ownership.

The issues of motivation of human resource, poor response from other parts and lack of legal cover for automated processes all flow from an absence of policy. There have been past sporadic efforts at integration which have all failed. Automation continues to function in the absence of a holistic assessment at all levels: organisational, provincial-sector wise and national.

The purpose of automation is to increase transparency and improve efficiency and effectiveness. To ensure this, systems will have to be transformed from ad hoc standalone arrangements to policy based institutionalized structures. Recommendations in this report focus this objective and call for sustainability within organisations through designing a dynamic, coherent and user focused MIS. It calls for integration within organisations, across the sector and nationally. This has to be deliberated and inclusive process to be planned and implemented within an overall policy framework.

9. Recommendations

For an effective integrated automation system in the justice sector, it is imperative to consider two pronged approach;

(1) Developing and implementing national justice sector automation plan with a roadmap for inter organizational integration at district and provincial levels extending up to superior courts at federal level and (2) Removing the gaps and strengthening the existing organizational automation efforts and building holistic approach towards the automation of business functions. A systemic approach will need to be adopted for both approaches.

9.1 Towards An Integrated Justice Sector Automation

9.1.1 Short Term Plan

To proceed towards an integrated automation system, we need to consider one of the four option:

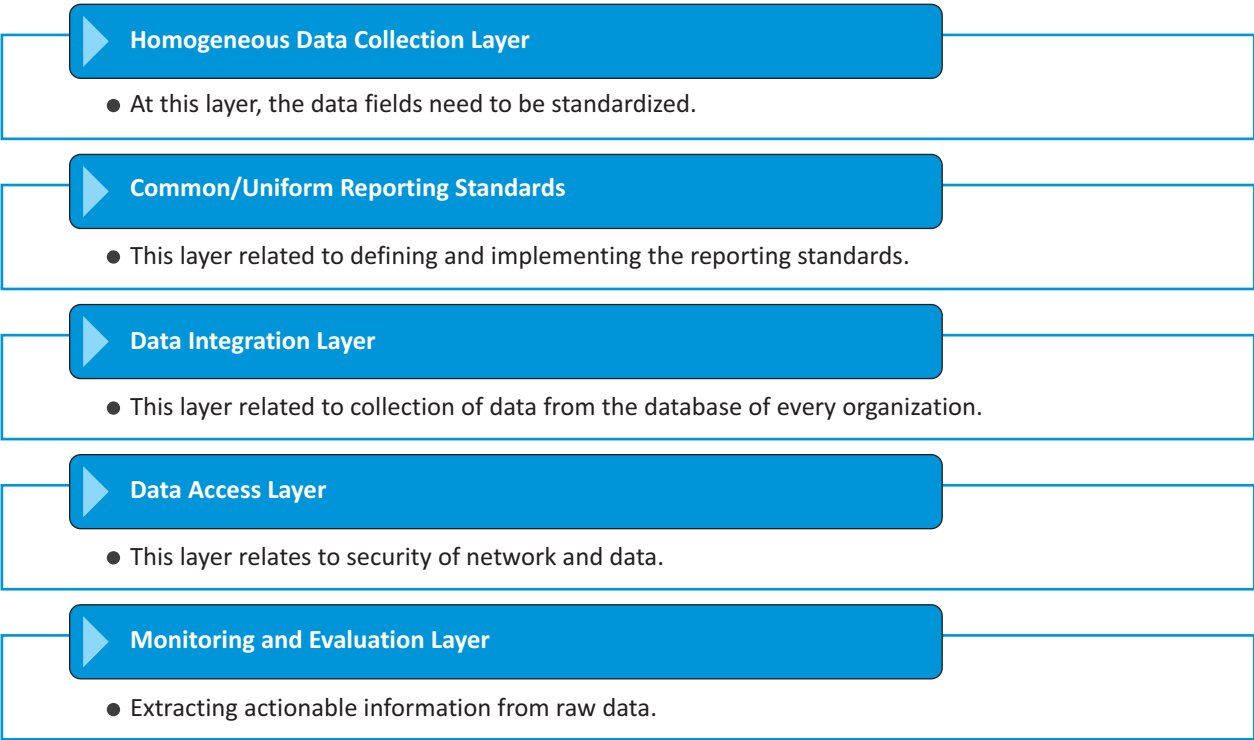
- (a) choose the best systems to be replicated across the board
- (b) identify the best modules from amongst the existing ones
- (c) scrap all the existing systems
- (d) use the existing systems.

As majority of the systems are mature and their concerned stakeholders are satisfied, therefore, need not be disturbed.

Therefore, keeping in view the best use of resources and SWOT analysis, it would be feasible to opt for option “d” and implement the following five layers to achieve the objective (Figure-5).

The order of these layers is not static and may be change during adoption.

Figure-5



The dilemma of non-integrated environment is that we have been working in reverse order as primary focus was an independent automation system without giving any importance to integration at the time of designing the database. The data

sharing mechanism for all the justice sector organizations needs to be reengineered and availability of emails and website for every organization may be ensured as an effective tool of communication.

9.1.2 Long Term Plan

An integrated justice sector automation process will have to be designed in three steps. Firstly development of a national policy, secondly preparation of a national automation plan and finally implementation of the plan.

9.1.2.1 National Policy on Automation

The first step will be development of an automation policy at the national level prepared by all the provinces jointly. Effectively, the policy will be an integration of the organizational and sectoral policies in each province. The national policy will address the bare minimum needs of procedures, organizations and standards required for national integration of automation. This will leave room for details to be settled at the provincial level and across various organizations.

The national framework may cover some of the following:

- i. Standards for data collection, reporting and sharing
- ii. Protocols for safeguards in misuse of data-sharing
- iii. Proposals for changes in provincial laws to allow electronic information to be used legally across jurisdictions.
- iv. Operationalisation process of the policy

The above list is not exhaustive but the bare minimum that will be required. The national policy on automation will provide space for the National Plan on Automation. It should be developed using the following process:

A forum for national policy should be developed with representatives of all relevant organizations including those indirectly linked to the rule of law sector. The latter include National Database and Registration Authority (NADRA), provincial land revenue departments, Excise and Taxation, Federal Board of Revenue and others. A detailed list should be developed at the outset.

In the first step, a meeting of the leadership of these organizations be held which will decide on the process and contours of the national policy. This would be followed by detailed work by nominees of these organizations. It will be extremely important that representation of organizations is not limited to personnel in the automation sections. Senior management level individuals should be part of the process.

Parallel to the national policy development, provincial forums should be set up. These forums will not only provide the relevant inputs into the national policy but also draw out details of the

provincial policy in areas not covered by the former. Similarly, each organization should develop internal policy based on the national and provincial frameworks.

The recommendations that emerge from the processes should be reviewed with the top leadership and the National Policy should be finalized through the forum. It should be signed off by all heads of organizations. A secretariat to oversee implementation of the policy should be set up at the federal level. This can be undertaken in the office of the Law and Justice Commission. The decision can be finalized during the discussion on preparation of the policy. The secretariat will develop a plan for consultations, document the discussions and provide a resource center. The resource center will have collection of international practices, conventions and experiences in addition to other relevant material for discussants. Material on information will be prepared by the Secretariat before each session. Documentation from the sessions will be used by the Secretariat to draft the policy. At least one representative from each province and federal level will be part of the drafting process.

9.1.2.2 National Automation Plan

A natural corollary to the national policy will be a national automation plan. While the broad framework for the plan will be decided in the national policy, the integration planning will require its own detailed discussions. Again it will be important to use a similar procedure and set of personnel to that of policy development. Many issues of legal lacuna and procedural difficulties will arise during this period. A national coordination committee will be formed to ensure early redressal of these issues to allow development of an effective plan.

9.1.2.3 Implementation of the National Automation Plan

National Automation Plan will be implemented over a prescribed period. Federal coordinating agency will oversee the implementation process with periodic reporting to a national body consisting of senior leadership of the justice sector. Provincial and organizational focal persons will be appointed for the process.

9.2 Strengthening the Organizational Automation Efforts

Organizational efforts and improvements will need to be undertaken in parallel to the national integration process. Some of the main issues to be addressed in these are as follows:

9.2.1 Shift from piecemeal approach to a holistic MIS plans

As evident from the discussion in previous sections, the existing efforts for automation are incremental in nature. Several interrelated functions are being treated independently in almost all the initiatives. Given the situation each organization in the justice sector needs to shift from existing piecemeal approach to a holistic plan. As opposed to current bottom up approach, the development of plans will require top down approach where senior management will provide framework for automation. These will guide the automation process of different functions and branches of individual organizations in a coordinated manner.

The automation plans and development of frameworks will essentially translate into increased depth and span of existing automation initiatives and inclusion of all specialized and general functions. Currently, as explained in previous sections, the automation initiatives in most of the cases only cater to some of the specialized operational requirements of individual organizations. To increase the depth, the individual organizations will need to cover general functions like HR management and development, payroll, financial management, accounting and procurement. To increase the geographical span, district offices will be covered. This will require automation of district offices and providing customized two way interfaces at that levels. However, it needs to be carefully evaluated in terms of the initial investment required to equip the field offices with a computer, connectivity to interface, the human resource aspects and training needs of the duty bearers at district levels who will interact with the interfaces.

It is critical to see automation as development of a holistic management information system. By definition this will be driven by requirements identified by the top leadership of the organization. In the first phase only internal users may be involved. Ideally the MIS should include cross-cutting internal functions like human resource management and development, financial management, inventory and resource management and others, as well as specialized functions. The plan for implementation of MIS should have the following components:

- i. **Identification & Prioritization of Functions & Branches:** As stated, ideally all the branches and business functions of each component organization of justice sector needs to be automated. This will not only enhance the efficiency and effectiveness of respective organizations but also make them more accountable. The automation plans, it is

envisaged, will identify and prioritize the functions and branches to be automated. A phased approach may be adopted for the automation where prioritized functions are automated in the initial stage followed by other functions.

- ii. **Quality Standards & Management:** The efficiency and effectiveness of automation will depend on the quality standards. The automation plans will need to elaborate quality standards for information capturing, data processing, analysis and data driven decision making. Apart from setting quality standards, the plans for each organization will need to delineate the quality assurance and quality control mechanisms.
- iii. **Internal & External Dissemination and Distribution:** The plans will need to identify internal and external users. The internal users may be listed based on the information requirements of each user level. This will necessitate development of information processing and distribution protocols for each user level. Similarly the plans will identify external users and data requirements of each category. External users can be other justice sector departments and institutions, complainants, lawyers, research institutes and general public.

9.2.2 Review of Laws, Business Rules and Processes

Review of existing business rules and processes is essential for automation to take its roots in the justice sector organizations. During the consultative sessions, the participants pointed out gaps in business rules and IT processes which lead to automated functions being used in parallel to the manual functions. This makes the whole automation process a futile exercise. Moreover, the automation objective is not only to automate business processes but also to improve the functional and business workflows.

To address this gap each individual organization will be required to conduct detailed assessments of laws and procedures that require amendment to improve functionality and compatibility with IT processes. Each justice sector organization will need to develop detailed procedural laws and business rules to provide supporting environment to the automation.

9.2.3 Strengthening Evidence Based Decision Making (Developing Data Culture)

Effectiveness of automation depends on actual use. This includes both internal and external users. In case of internal users, the starting point has to be ownership. It will begin with inclusion of these users in workshops to design the MIS. This has

to be followed by specialized workshops with each section on the MIS. As already seen above, distribution and dissemination will remain the key. In addition, following steps will be required;

a) Awareness of Senior Management

Effectiveness of MIS, similar to any new process, depends on the awareness and ownership of senior leadership. A starting point has to be sensitization of the senior leadership to the importance, effectiveness and capabilities of a good MIS. Unless this is understood at the senior most level, automation will remain, at best, a piecemeal process.

b) Building User Capacity

All existing personnel will have to be trained on use of the MIS. All new entrants will be required to get training in computers and use of the MIS. These trainings should also be made mandatory for promotional trainings and examinations for all cadres.

c) Rules on Use

Internal rules to mandate usage will have to be developed. This will allow information procurement and delivery through electronic mediums and not a parallel and additional exercise.

d) Hardware Provision

MIS usage cannot be centralized with only few users in IT offices and computer bureaus in justice sector organizations. All users need access to the respective dashboards within authorization as per their ranks. This will, essentially, mean provision of computers, software and LAN connections on a larger scale than available at present. Given the situation of electricity, additional equipment like UPS may need to be included.

9.2.4 Restructuring the MIS Sections

While usage of MIS is decentralized, its management remains a very centralized process. Its placement in the organization, the qualification of its personnel and motivation are important to effective use of the MIS.

a) Placement of MIS Structures

MIS structures have to be housed in the head offices and main branches reporting directly to the senior most leadership. Unless they are seen as flowing from the top they will not be taken seriously. Secondly, management of MIS requires decisions that require easy access to senior leadership.

b) Structure of MIS

MIS cannot be seen as a function of expertise in computers. It requires a mix of an MIS specialists, system analysts, computer software experts and area specialists. Unless the MIS team comprehends the specialized processes of the organization, its effectiveness will remain sub-optimal.

c) Human Resource

Policy will have to be laid down to attract and retain quality human resource in the MIS sector. This will include clearly laid out policies on selection, promotions and other incentives. A career structure will need to be built.

d) Finances and Financial Autonomy

Budgetary allocations for MIS will be provided in the non-salary part of the recurrent expenditure to meet the maintenance need of IT. A degree of financial autonomy will need to be provided to the MIS section to allow them to prioritize and implement their procurement needs.

9.2.5 Identifying External User Needs

Part of the problem seems to arise from a failure to identify needs and capacity from the demand side. As the MIS expands, part of the process will be to increase the interface for external users of various services. This will require a structured mechanism for survey and feedback.

9.2.6 Feedback and Improvements

A structured feedback process should be designed for both internal and external users to ensure dynamism in the MIS design and implementation. This has to be an ongoing part of the work of the MIS sections.

