e-Governance in Punjab
भूग राज दी दी-बाल्टेम में देखते हिंदी भविष्य लक्ष्य तथा उन दिन शुभ व्यवस्था की पत्रिका है। भूग राज दे देख सूचीबद्ध देख हिंदी अपने महत्त्वपूर्ण अथवा विश्वास लक्ष्य भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि भविष्य दृष्टि...
It gives me immense pleasure to present the great initiatives by Punjab State in the field of e-governance. The people of Punjab are famous world over for their welcoming and warm behavior. The State of Punjab has historically been a favorable and friendly destination for people and industries alike. The State of Punjab has been called the Granary of India as the State led the Green Revolution in the country in 1960s. It continues to contribute over 50 percent of food grain to the national kitty.

The State Government is committed to provide transparent and effective governance to the citizens of the State. The common man is the focus of our e-Governance programmes and schemes. State of Punjab has established State of Art single window front end delivery channels like SUWIDHA Centers, Fard Kendras (Land Records), Saanjh Kendras (Police services) which have been instrumental in providing across the counter citizen services. Citizens have been immensely benefitted with the setting up of these centers as they are able to get services of various Departments from these single-window centers.

With the setting up of core infrastructure, the State of Punjab has laid down very strong foundation for implementation of e-Governance Project in the State. State has also implemented many e-Governance Programmes like Backend Computerization of various Departments, Online Service Delivery using State Portal and State Service Delivery Gateway, e-Sarkar, e-District, etc which have improved the functioning of the Government to provide all Services in an efficient and hassle-free manner and identified services on an On-line basis.

I am happy that Department of Governance Reforms has taken initiative of compiling various e-governance initiatives of State of Punjab and came out with a compendium.

(Parkash Singh Badal)
Message

S. Sukhbir Singh Badal
Deputy Chief Minister, Punjab State

e-Governance is about redefining the vision and scope of the entire gamut of relationships between citizens and government. By doing so, it attempts to rework the socio-political setting of our civilization. e-Government is the use of IT & communication technologies, to deliver public services in a much more convenient, customer-oriented, cost-effective and altogether different and better way. But it has to be noted that it is not all about technology, but to use it as a facilitator to modify, and in turn make our processes better.

Good governance and people’s participation are the most important factors responsible for bringing about development and societal revolution. I have always believed in the power of ICT and advantages that it offers in terms of efficiency and effectiveness. Use of ICT has transformed the way in which citizens interacted with the Government. Today, Punjab Government is providing almost all citizen centric services successfully using ICT, alike in all parts of Punjab-urban as well as rural.

The e-Governance Programmes like e-District, State Portal and State Service Delivery Gateway empowered Citizens by providing efficient Citizen Service Delivery. The Other e-governance Programmes like Integrated Financial Management System, Integrated Workflow & Document Management System, Computerization of offices of Divisional & Deputy Commissioners etc of the State have improved the internal efficiency of the Government which has further resulted in agile response by the Government to the citizens. The e-Governance Programs of various State Departments like Transport, Excise & Taxation, Police, Revenue, Food & Civil Supplies, Health, Home, Social Security etc have resulted hassle free and timely delivery of citizen services in the State. Our Projects have figured among “India's Best projects” of year 2013 after independent assessment of national level agencies.

I take pride in sharing the Golden Chapters of "Punjab’s e-Journey" in this book and hope it would enlighten the readers with the glimpses of our award winning e-Governance initiatives, infrastructure and applications.

(Sukhbir Singh Badal)
Directorate of Government Reforms, Punjab

**Message**

Government of Punjab has been progressing in its journey towards creating a knowledge society, by harnessing the power of Information and Communication Technology (ICT). To achieve this objective, Punjab has enunciated many initiatives in the ICT sector, which will deliver significant benefits to the citizens and businesses and also improve the efficiency of Government functioning. It is our stated vision of pioneering e-Governance initiatives in India that serve as a benchmark for others to follow.

State of Punjab has been a pioneer in the e-Governance field with the establishment of State of the Art Suwidha centers in year 2002 till Sub-division level. Further the front end delivery channels were established by Department of Revenue and Department of Home to take the citizen services of these departments closer to the citizens. Currently the focus of all the Departments of the State is on backend computerization which includes providing computing infrastructure in the field offices, connectivity with Punjab Wide Area Network, Data Digitization, Capacity building etc. The backend computerization shall pave the way for online service delivery to the citizens.

The effective role played by State e-Governance Apex Committee to provide guidance & direction to all Departments for their e-Governance programmes has resulted in smooth implementation of e-Governance projects in the State. The enactment of Right to Service Act Punjab 2011 for timely delivery of citizen services across the State has infused a fresh thrust to e-Governance programmes of the State.

Our citizens appreciate this form of governance as they acknowledge it to be more convenient, resource saving and transparent. With the technological advancements, we will continue to find newer ways to serve our citizens by delivering unified e-governance experience. This book has glimpses of Punjab’s journey in the field of e-governance.

*(Sarvesh Kaushal)*
Information and Communication processing technologies are developing faster than ever before and these aid the process of development and good governance. As the ultimate goal of good governance is the betterment of the lives of the citizens the advancement in the technological fields are useful for good governance if people could be provided with prompt, adequate and timely services through information technology, Governments must be able to avail the unique opportunity of interacting with the people effectively. Information technology should ensure openness and accessibility to the citizens. It should take public services and the government literally to the doorstep of the citizens through information technology. E-governance shall facilitate the delivery of government services to the masses through procedural simplicity, speed and convenience.

The Framework for ICT e-Governance in Punjab was laid out in 2002. With continuous improvements throughout our e-journey in various phases ranging from informative, interactive, Transactional, and Transformational, we are now in the phase of convergence depicting leading ICT growth in the entire country.

The Government of Punjab has taken many important steps like Integrated Financial Management System, Integrated Workflow & Document Management System, Computerization of offices of Divisional & Deputy Commissioners etc. towards using Information Technology for improving the efficiency and transparency of various Departments. To bring transparency in various policy matters related to departments, Department of Governance Reforms has also issued policies like Laptop Policy, Policy for Providing IT Equipment's in Punjab Government Offices, E-Mail policy and Policy for Standardization of Punjab Government Websites.

The ambit of e-governance has been expanded to most of the Departments that have a substantial public interface. A range of services are being provided to people in rural and urban areas through Citizen Service Delivery channels like SUWIDHA centers, Fard kendras, Gram SUWIDHA kendras, Saanjh kendras etc.

The e-governance is not just about providing computers, it is about changing people's mindsets, procedures and the way in which the government functions. This shift is taking place in Punjab and this book highlights journey of e-governance in Punjab.

(C. Roul)
Message

"e-Governance ensures accurate, speedy, transparent and effective mode of service delivery to the citizen. Such utopian concept is no longer a dream but a reality in Punjab, where citizens have begun to experience and enjoy the benefit of technology.

ICT has enabled citizen’s participation in e-Governance through effective interaction between the Government and the citizen and thereby developing a close partnership between the two. Punjab has laid a strong foundation for e-governance in various fields such as Education, Health, Home, Food and Civil Supplies with the aim of providing efficient services to its citizens; the result of which is already being felt through the higher rate of growth."

We are aware that ICT can only be harnessed if appropriate capacity for technology absorption is built. The 'supply side’ of e – Governance ecosystem has to be at par with the 'demand side'. We have taken steps for capacity building of government personnel across the State. Our efforts in this direction have been recognized at national as well as international forums and Punjab has been acknowledged as a leading State in e-governance. The results of this have been heartening. Punjab has recently won laurels at the National level by getting prestigious awards like Award of Recognition for e-District Punjab in CSI Nihilent e-Governance Awards 2012-13, SKOCH Awards 2013-2014 for e-District Punjab listed in India’s Best 2013 Projects for improvement in Public Service Delivery, Dataquest-CMR e-Readiness 2013 Gold Award to Punjab State for “e-Governance Impact on Improving Healthcare Service Delivery – Highest Reduction in Female IMR”. We will take this to newer heights in the years to come.

I would like to emphasize that Punjab has an immense potential to emerge as one of the most developed States in the country. This compilation on e-governance in Punjab exhibits the initiatives that are being taken in the area of Information and Communication technology by different Departments in the State Government. I hope that you will find it informative as well as enriching.

(H.S. Kandhola)
Under the capacity building Scheme of Government of India, National e-governance Division has set up State eGovernance Mission team(SeMT) in all states and union territories. In Punjab, SeMT was established in 2011 and at present has a strong presence with 12 members. In the last 3 years, this team has contributed in implementation of core infrastructure projects like PAWAN, eDistrict, State Portal and state Service delivery gateway and Gram Suwidha kendra's. This team has experts in Program Management, Technology, Financial and Change Management areas. In addition to core projects, this team has been providing consulting support to various state departments in conceptualizing egovernment projects and preparation of Detailed Project Reports and Request for Proposals. With complete support from Principal Secretary and Director Governance Reforms, this team has performed and is committed to bring change in the lives of all Punjabis in the area of Government to Citizen (G2C) services.

(Rajnish Malhotra)
Introduction

The “e” in e-Governance stands for ‘electronic’, ‘efficient’ and ‘effective’ in terms of outcome of implementation.

Thus, e-Governance is basically associated with carrying out the functions and achieving the results of governance through the utilization of what has today come to be known as ICT (Information and Communications Technology).
The primary **purpose of governance** is the **welfare of citizens**. While one aspect of governance relates to safeguarding the legal rights of all citizens, an equally important aspect is concerned with ensuring equitable access to public services and the benefits of economic growth to all. It is expected that e-Governance would enable the government to discharge its functions more effectively.

**e-Governance** is, in essence, the application of Information and Communications Technology to government functioning in order to create **Simple, Moral, Accountable, Responsive and Transparent (SMART) governance**. This would generally involve the use of ICTs by government agencies for any or all of the following reasons:

- Exchange of information with citizens, businesses or other government departments
- Speedier and more efficient delivery of public services
- Improving internal efficiency
- Reducing costs / increasing revenue
- Re-structuring of administrative processes and improving quality of services

**The goals of e-Governance are:**

- Better service delivery to citizens
- Ushering in transparency and accountability
- Empowering people through information
- Improved efficiency within Governments
- Improve interface with business and industry

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**e-Governance in Punjab**

Directorate of Government Reforms, Punjab
Government of India has approved National e-Governance Plan (NeGP), comprising of 27 Mission Mode Projects (MMPs) on May 18, 2006. Later on the number of MMPs increased to 31 by adding four new MMPs i.e. Education, Health, PDS & Post.
These MMPs have been divided in three categories according to their nature & implementing strategy of the project as below:-

<table>
<thead>
<tr>
<th>Mission Mode Projects (MMPs)</th>
<th>State MMPs</th>
<th>Central MMPs</th>
<th>Integrated MMPs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. e-District</td>
<td>1. Passport</td>
<td>1. India Portal</td>
</tr>
<tr>
<td></td>
<td>2. Agriculture</td>
<td>2. MCA-21</td>
<td>2. CSC</td>
</tr>
<tr>
<td></td>
<td>3. Commercial Taxes</td>
<td>3. UID</td>
<td>3. e-Procurement</td>
</tr>
<tr>
<td></td>
<td>4. CCTNS-Police</td>
<td>4. Insurance</td>
<td>4. e-Biz</td>
</tr>
<tr>
<td></td>
<td>5. Land Record</td>
<td>5. Banking</td>
<td>5. e-Courts</td>
</tr>
<tr>
<td></td>
<td>7. Treasuries</td>
<td>7. Pensions</td>
<td>7. NSDG</td>
</tr>
<tr>
<td></td>
<td>8. Panchayat Raj</td>
<td>8. e-office</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. Municipal Corporation</td>
<td>10. Immigration, Visa &amp; Foreign Registration &amp; Trade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11. Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12. Health</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>13. PDS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Apart from these MMPs, **NeGP has also approved two common and support infrastructure projects i.e. State Wide Area Network (SWAN) & State Data Center (SDC)** that can allow information to be shared electronically between different agencies of the government and with citizens. These both projects are considered as the converged backbone network for data, voice and video throughout a state and the State Data Centers (SDC’s) which can provide common secure IT infrastructure to host state-level e-government applications and data.

However, the approval of NeGP does not constitute financial approval(s) for all the Mission Mode Projects (MMPs) and components under it. The existing or on-going projects in the MMP category, being implemented by various Central Ministries, States, and State Departments are suitably augmented and enhanced to align with the objectives of NeGP.
Core Infrastructure e-Governance Projects

These projects are directly undertaken & implemented by Department of Electronics & Information Technology (DeitY) GoI. Following are the five core projects:-

- e-District
- SWAN State Wide Area Network
- SDC State Data Centre
- CSC Common Service Centres
- SSDG State Service Delivery Gateway

In Punjab, the five core projects are being implemented by Punjab State e-Governance Society (PSeGS), Department of Governance Reforms.
PAWAN
(Punjab State Wide Area Network)
Punjab State Wide Area Network (PAWAN) is a converged fiber network for data, voice and video communications throughout the State of Punjab with the following salient features:

- Dedicated state owned fiber Network infrastructure to connect Government offices at State, District & block levels.
- Designed to cater to the Governance information and communication requirements of whole State of Punjab.
- Aims to create a dedicated Closed User Group (CUG) network among State’s Civil Secretariat, Departments, Corporations, Boards, District offices and Block offices.
- Dedicated e-mail service for official use by employees of State Government.
- HCL Infosystem is the PAWAN operator and Bharat Sanchar Nigam Limited (BSNL) Punjab is the bandwidth provider for PAWAN.

**PAWAN Connectivity**

![Diagram of PAWAN Connectivity]
Network under PAWAN

Vertical CONNECTIVITY

A total of 193 Point of Presence has been created at State, each District and Sub-Division / Block Headquarter.

State Headquarter (SHQ) has been connected with District Head Quarter (DHQ) with a bandwidth of 16 Mbps on optical fiber cable.

District Head Quarter (DHQ) has been connected with Subdivision/Block Head Quarter (BHQ) with bandwidth of 4/2 Mbps.

Backup link of 2 Mbps has been connected to all District Head Quarters (DHQ).

PAWAN Vertical Connectivity Architecture

173 Sub-Divisions/Blocks
PAWAN has been extended to CM Residence, Punjab Civil Secretariat I and II and **20 State Departments** with more than **400 Field offices.**

| ✔️ Food, Civil Supplies and Consumer Affairs | ✔️ Finance |
| ✔️ General Administration | ✔️ Personnel |
| ✔️ Programme Implementation | ✔️ Removal of Grievances |
| ✔️ Governance Reforms | ✔️ Information Technology |
| ✔️ Industries and Commerce | ✔️ NRIs Affairs |
| ✔️ Parliamentary Affairs | ✔️ Planning |
| ✔️ Punjab Police | ✔️ Election |
| ✔️ Revenue, Rehabilitation and Disaster Management | ✔️ Jails |
| ✔️ Rural Development & Panchayats | ✔️ Courts |
| ✔️ Employees and Pensioner Database Cell | ✔️ Treasury and Accounts |
PAWAN network has secured infrastructure to protect data and information against external attacks:

1. Firewalls
2. Intrusion Detection System (IDS)
3. Antivirus
4. Spam mails and Junk mails protection.

PAWAN NOC

PAWAN NOC is operational at Mahatma Gandhi State Institute of Public Administration (MGSIPA), Sector-26, Chandigarh. The NOC operates 24x7 with team of engineers continuously monitoring the network.

A dedicated help line no. 1-800-180-2036 is being used to register user complaints.

Also complains can be registered on mail.support@punjab.gov.in

A total of 70+ engineers are deployed across state of Punjab to Manage and Monitor PAWAN POPs.
Service Level Agreements (SLA)

Two Separate SLAs have been signed under PAWAN as below:

1. **PAWAN Operator**

<table>
<thead>
<tr>
<th>Network Segment</th>
<th>Prime Business Hours (PBH) 8AM to 8 PM</th>
<th>Extended Business Hours (ESH) 8PM to 8 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Network Center</td>
<td>99.50%</td>
<td>95%</td>
</tr>
<tr>
<td>District Network Center</td>
<td>99%</td>
<td>90%</td>
</tr>
<tr>
<td>Block Network Center/ Sub Divisional Network Center</td>
<td>95%</td>
<td>85%</td>
</tr>
</tbody>
</table>

2. **Bandwidth Provider (Bharat Sanchar Nigam Limited)**

<table>
<thead>
<tr>
<th>Uptime of Link</th>
<th>Tier-1 Links</th>
<th>Tier-2 Links</th>
<th>Tier-3 Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>For MLLN Circuits</td>
<td>99.50%</td>
<td>99%</td>
<td>98%</td>
</tr>
<tr>
<td>For non MLLN Circuits</td>
<td>98%</td>
<td>95%</td>
<td>92%</td>
</tr>
</tbody>
</table>

However, the above service levels can further be improved with the involvement of additional funds, if required by any department(s) for any specific application. To regularly monitor the performance of PAWAN, Third Party Auditor (TPA) M/s TCIL has been appointed by the State.
Advantages of using PAWAN

- A dedicated state owned **Network infrastructure** which can be shared by all Government department, boards, and corporations.
- **Secure closed user group**, with capability of facing external intrusions/cyber-attacks.
- **Better Integration of Services** provided by various government departments, once PAWAN is connected with **State Data center (SDC)**.
- No need to replicate same infrastructure (Routers, switches, Power Backup, manpower) at **SHQ, DHQ's and BHQ's** by different departments. Instead the state may invest further to strengthen existing infrastructure.
- **Huge cost savings** due to use of PAWAN hardware at SHQ, DHQ's and BHQ's by different departments.
- **PAWAN Vertical bandwidth** along with internet is provided **free of cost** to state government departments as, it is funded by Government of India. However, the horizontal (last mile) connectivity from the existing PAWAN POP has to be funded by State government.

Way Forward

- Upgradation of Vertical Bandwidth from 16 Mbps to 24 Mbps for SHQ-DHQ link and 2 Mbps to 4 Mbps for DHQ-BHQ link.
- Upgradation of links between DHQ-BHQ from Copper to Optical Fibre Cable.
- Connectivity of 139 Offices of all Departments, Boards, Corporations and Commissions of Punjab Government in Chandigarh & Mohali.
- Connectivity of 1000-1500 Offices under e-District State wide Roll out Project.
- Connectivity of 242 offices under CCTNS Project.
e-District project envisages integrated and seamless delivery of citizen services by district administration through automation of workflow, backend computerization, data digitization across participating departments. The initiative has provisions for seamless integration of various offices situated at District, Sub-division, Tehsil and Block level etc. for providing services to the citizens through a common delivery interface. SUWIDHA Centres and Gram SUWIDHA Kendras would be the primary front end channels.

In Punjab, e-District project has been implemented in two pilot districts of Kapurthala & SBS Nagar. The Project aims at electronic delivery of identified high volume citizen centric services, at district and sub district level, with a view to improve the efficiency and effectiveness of the service delivery. The project envisages leveraging and utilizing the four pillars of e-infrastructure namely, State Data Centres (SDCs), State Wide Area Network (SWANs), State Service Delivery Gateways (SSDGs) and Gram SUWIDHA Kendras (CSC Scheme), optimally to deliver public services electronically to citizens at their door steps. New services will be added to the portfolio subsequently, once the demand for the initial set of e-enabled services increases.
In the **Pilot phase**, project has been implemented in 2 districts of Punjab namely **Kapurthala & Shahid Bhagat Singh Nagar (Nawanshahr)** with total approved outlay of Rs. 600 lacs.

All the **47 services** under the scope of project have been made **live in both the pilot districts** of Kapurthala and SBS Nagar and more than **2,30,000 citizen requests** have been **processed electronically** since 6.2.2012.

After the phase one i.e. pilot implementation of project in two districts namely Kapurthala & Shahid Bhagat Singh Nagar, as part of second phase the eDistrict project is to be rolled out across the entire state covering remaining 20 districts of the State. For the roll out of project in remaining 20 districts, Department of Electronics and Information Technology (DeitY), Government of India (GoI) has already approved a total project outlay of Rs. 53.34 Cr for the State. Department of Electronics and Information Technology (DeitY), Government of India (GoI) has already selected M/s Wipro ltd. as State Project management Unit for the project implementation and two resources are deployed in the Department of Governance reforms.

**Current Status**

- For effective implementation of project, District e-Governance Societies (DeGS) have been formed in all the Districts. For this, the scope of existing Sukhmani societies operational at district level has been modified to include implementation of e-Governance projects.

- As per the project guidelines, one e-Governance coordinator is to be placed on remaining 20 or 22 districts under the project. Hiring for e-Governance Coordinators at district level has been completed by National Institute of Electronics & Information Technology (NIELIT) and all the eDistrict coordinators have joined on 3.6.2013.

- The agreement for the State Wide Roll out of e-District Project has been signed with M/s H.P. India Limited on 30.01.2014.

- The State Data Center hardware has been delivered at Temporary State Data Center Mahatma Gandhi State Institute of Public Administration (MGSIPA), Sector 26 Chandigarh.

- State Wide Roll out of e-District Project in Mansa District was inaugurated by Hon'ble Deputy Chief Minister Sh. Sukhbir Singh Badal on 14.02.2014. All 47 services are expected to Go-live by December, 2014.
Broad Objectives of e-District are as below:

- Undertake back end **computerization of district and tehsil level offices** to ensure electronic delivery of high volume citizen centric services at the district level.
- Efficient delivery of services with improved service levels by **undertaking extensive Government Process Re-engineering (GPR) of identified services.**
- **Extensive capacity building and training of field level functionaries** to ensure smooth migration to electronic delivery of e-District services and phasing out manual delivery of services.
- **Delivery of services through Gram SUWIDHA Kendras (CSC Scheme)** by leveraging the common infrastructure of SWAN, SDC, and SSDG.
- **Development of applications** to be hosted at the SDCs for delivery of services.
- **Delivery of all public services at district/ sub district level in electronic form** through state portals by using the SSDG.
- **Providing easy, anywhere and anytime access to government services** (both information & transactional) to ensure reliability, efficiency, transparency and accountability.
- **Reducing number of visits of citizens to a government office / department** for availing the services and thereby **eliminating harassment.**
- **Reducing administrative burden** and service fulfillment time and costs for the government, citizens & businesses.
- Reducing direct interaction of citizen with the government and **encourage ‘e’-interaction and efficient communication through portal.**
- **Enhancing perception & image of the Government** and its constituent Departments.

**Easy access to government services**

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**Existing**

1. Citizen
2. Suwidha
3. Through desk
4. Government Department
5. File through desk

**e-District**

1. Citizen
2. Suwidha/CSC
3. Through Internet
4. Government Department
5. Through Internet

Deputy Commissioner SBS Nagar has been awarded by magazine “Engineering Watch” for playing leading role in e-Governance for e-District project.

“India's Best Projects 2013” by Skoch Group.

“Award of Recognition” by CSI-Nihilent eGovernance Awards 2013
<table>
<thead>
<tr>
<th>S.No</th>
<th>Department Name</th>
<th>Service Name</th>
</tr>
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<tbody>
<tr>
<td>I.</td>
<td>Personnel Department</td>
<td>1. Residential Certificate</td>
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<td>II.</td>
<td>Social Welfare Department</td>
<td>2. Caste Certificate (SC/OBC)</td>
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<td>3. Old age pension</td>
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<td>4. Financial Assistance to Disabled Persons</td>
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<td>5. Financial Assistance to Widow &amp; Destitute Women</td>
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<td>6. Financial Assistance to Dependent children</td>
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<td>7. Senior Citizen Identity Card</td>
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<td>8. Issuance of Birth / Death / Not Found certificate</td>
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<td>9. Addition of Name in Birth certificate</td>
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<td>10. Correction of Name in Birth / Death certificate</td>
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<td>11. Late entry of Name in Birth / Death certificate</td>
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<td>12. New/Renewal of Agriculture Licenses</td>
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<td>13. Issuance of Duplicate Agriculture license</td>
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<td>16. Issuance of New Ration Card for APL/ BPL/ Antodaya</td>
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<td>17. Modification in Ration Card</td>
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<td>20. New Arms License</td>
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<td>28. Cancellation of License</td>
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<td>32. Permission for deposit of weapon in death Case</td>
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<td>33. Permission for sale / transfer Weapon in Death Case</td>
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<td>34. Extension of Cartridges</td>
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<td>35. Issuance of Marriageability certificate</td>
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<td>36. Solemnized marriage</td>
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<td>37. Registration of Marriage under HINDU marriage act</td>
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<td>38. Registration of Marriage under special Marriage act</td>
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<td>40. Listing of cases</td>
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<td>41. Issue of notices / updation of treasury receipts</td>
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<td>43. Countersigning of documents</td>
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<td>44. Attestation of affidavit / indemnity bond / surety bond</td>
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<td>45. Rural Area Certificate</td>
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<td>46. Right to Information Services</td>
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<td>47. Grievance Redressal system</td>
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<td>48. Address of District</td>
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<td>59. Listing of cases</td>
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<td>60. Issue of notices / updation of treasury receipts</td>
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<td>61. Copying service</td>
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<td></td>
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<td>66. Grievance Redressal system</td>
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</tbody>
</table>
State Data Centre (SDC)

State Data Centre is one of the core infrastructure components of National e-Governance Plan (NeGP) and is being set up across 35 States/UTs under the National e-Governance Plan of Department of Information Technology, Government of India. This project was approved by GoI for Punjab with total outlay of Rs. 5014 lacs for five years. State Data Centre has been planned to provide following key functionalities:-

- Central Data Repository of the State
- Secure Data Storage & Online Delivery of Services
- Citizen Information/Services Portal
- State Intranet Portal
- Disaster Recovery
- Remote Management
- Service Integration etc.
SDCs would also provide better operation & management control and minimize overall cost of Data Management, IT Resource Management, Deployment and other costs. In Punjab, the site for State Data Center has been finalized in Mahatma Gandhi State Institute of Public Administration - Punjab Sector - 26, Chandigarh and Request for Proposal for selection of Data Center Operator has been approved by GoI. The Bidding Process for selection of Data Center Operator is in progress and State Data Center Punjab is expected to be operational by March 2015.

Once the proposed SDC comes in operations, State shall be benefitted by having:

- **Guaranteed service levels**: SDC is designed for an uptime of 99.749% on a quarterly basis i.e. 364 days & 2 hrs of availability in a year. Higher availability of system and data – 24x7x365.

- **Increased citizen satisfaction**: Reduced processing time and waiting time. Bring transparency and speed to governance by automating the application process.

- **Cost Reduction**: Common utilization of entire (IT & Non IT) SDC infrastructure. Reduced cost of infrastructure creation, monitoring, management for Punjab and its constituent departments.

- **Increased transparency & efficiency**: Better management of security and access control. Easy dissemination of information to people on government policies and programs.

- **Secure Data**: Lower risk of data loss. Trustworthy and managed environment.

- **Better Monitoring & Administration**: Instant MIS reports for planning, budgeting, monitoring and evaluation. Instant identification of delay points, enabling prompt administrative action.

- **Faster Service**: Web-based delivery model, accessible anywhere and anytime.

- **Availability of “IT infrastructure on demand”**: to various state departments and agencies. Optimal utilization by sharing of IT infrastructure resources to meet individual peak loads.

- **More effective inter-departmental collaboration**.

To meet the immediate data centre requirement of various departments; Department of Governance reforms has set up Temporary State data Centre in Chandigarh and Following Mission Critical applications shall be hosted on State data Center which are currently hosted at Temporary State Data Center:
The SSDG/ Electronic Delivery of Services project aims to achieve a high order of interoperability and facilitate G2C services delivery.

It would enable citizens to submit their applications electronically through a common gateway and collect the certificate/service from the same location.

The State Portal (SP) along with State Service Delivery Gateway (SSDG) is being developed and implemented so that citizens are provided with outlets where they can access the services under a single interface mechanism in the form of the Portal.
The project entails delivery of the services through Gram SUWIDHA Kendras by leveraging the common infrastructure (SWAN, SDC etc.) and develops the applications and infrastructure required for deployment of State Portal and State Service Delivery Gateway (SSDG) for the State. This will enable citizens to download forms and submit their applications electronically through a common gateway. This important initiative facilitating Electronic Service Delivery will provide significant benefits to the citizens especially in the form of a single gateway to citizen for service delivery. Thus holistic and harmonious use of the Gram SUWIDHA Kendras along with the common infrastructure (SWAN, SDC) and technology across the state for all application and services shall be achieved. Total approved outlay of this project is Rs. 1011 lacs.

Objectives of SSDG project

- Providing easy, anywhere and anytime access to Government services (both information and transactional)
- Reducing the number of visits of a citizen to a Government Office/Department for availing the G2C services.
- Reducing the administrative burden as well as service fulfilment time and costs for the Government, citizens and business.
- Delivery of services through Gram SUWIDHA Kendras (GSKs) by leveraging the Common infrastructure (SWAN, SDC, etc.) and development of the applications and infrastructure required for deployment of State Portal and SSDG for the State.
SSDG Project has been awarded to the Implementing agency M/s HP India Pvt. Ltd. to design, develop, test, implement, operate and maintain for 3 years for “e-forms application, State Portals and SSDG” along with installation, commissioning and maintenance of IT infrastructure. 32 services of 8 departments are covered under the project. Software Requirement Specifications for 32 services have been approved by respective departments. The data center hardware has already been installed. The State Portal has been made live by Hon'ble Deputy Chief Minister Sh. Sukhbir Singh Badal on 22.02.2014. All 32 services are expected to Go-live by December, 2014.
## Services provided through SSDG Portal

<table>
<thead>
<tr>
<th>S.No</th>
<th>Department Name</th>
<th>Service Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Health &amp; Family Welfare</td>
<td>1. Issuing Birth Certificate in Rural Areas</td>
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<td>2. Issuing Death Certificate in Rural Areas</td>
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<td>3. Issuing Disability Certificate</td>
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<td>4. Addition of Name in Birth certificate</td>
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<td>5. Correction of Name in Birth / Death certificate</td>
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<td>6. Late entry of Name in Birth / Death certificate</td>
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<td>II.</td>
<td>Local Government</td>
<td>7. Issuing Birth Certificate in Urban Areas</td>
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<td>8. Issuing Death Certificate in Urban Areas</td>
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<tr>
<td>III.</td>
<td>Food &amp; Civil Supplies</td>
<td>9. New Ration Card</td>
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<td>10. Addition/ Change/ deletion of names in Ration Card</td>
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<td>11. Old Age Pension Scheme (Urban areas)</td>
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<td>12. Widow Pension Scheme (Urban areas)</td>
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<td>14. Handicap pension Scheme (Urban areas)</td>
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<td>15. Old Age Pension Scheme (Rural areas)</td>
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<td>17. Dependent Children Scheme (Rural areas)</td>
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<td>18. Handicap Pension Scheme (Rural areas)</td>
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<td>19. National family benefit Scheme</td>
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<td>21. Issuance of Marriageability Certificate</td>
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<td>V.</td>
<td>Rural Development &amp; Panchayat</td>
<td>25. Ashinwad/Shagun to Scheduled Caste, Christian girls and daughters of widows of any caste at the time of their marriages</td>
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<td>VI.</td>
<td>Home Department</td>
<td>26. Post Matric Scholarship to OBC students</td>
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<td>27. Post Matric Scholarship to Minorities</td>
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<td>28. Term loan scheme for SC</td>
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<td>29. Term Loan Scheme for BC</td>
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<td>VII.</td>
<td>SC/BC Welfare</td>
<td>31. RTI (Right to information)</td>
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<td>VIII.</td>
<td>Governance Reforms</td>
<td>32. Residential Certificate</td>
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<tr>
<td>IX.</td>
<td>Personnel Department</td>
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</table>
Front End Service Delivery Channels Currently Operational

In order to deliver various services across the counter, following channels are currently operational in Punjab:-

**SUWIDHA (Single User Window Disposal Help Line for Applicants)**

This is one of the early initiatives of e-Governance in Punjab to provide G2C services in a time bound manner. This project was conceived and implemented in 2005 with the sole purpose of providing citizens single point receipt and delivery of various services related to various departments. The government fee for the respective services is accepted at the counter and services are delivered in a pre-defined time period. Presently 115 SUWIDHA Centers are operational to provide more than 35 Public services at District/ Sub Division level.
Web SUWIDHA

Web SUWIDHA Project has been implemented across the State of Punjab in all 22 districts. The Web enablement of Suwidha Software has been done for anywhere access of the application and centralized monitoring of citizen service delivery under Web Suwidha Project. This replaced the current client-server technology based software used in Suwidha Centers. The project has been implemented as Centralized application with centralized database and requires minimum configuration to operate. It is more secure, uniform across the state, having facility to generate State level MIS, easy to upgrade with better administrative control.

The data center hardware for Web-SUWIDHA has been installed in Temporary State Data Center at MGSIPA, Chandigarh and software development has been completed by NIC Punjab. The Project has gone live on 23rd December 2013.

This project has lead to Standardisation of outputs and services across all districts. More than 500 Citizen Services/ Sub services are being delivered through this project. Approximately 300000 citizen requests per month are being processed through Web Suwidha.
An initiative by Punjab Police to provide an access point to the citizens to lodge a complaint or to find out the status of their complaint. Under this project, more than 500 Saanjh Kendras are already operational and are providing more than 20 services of police department to citizens.
Fard Kendras

Punjab Land Record Society (PLRS) was formed by department of Revenue with the objective of computerizing land records and make these accessible to the citizens. The society has setup 163 FARD Kendras in Public Private Partnership to facilitate citizens to collect their documents across the counter after paying nominal fee. Record of Rights of about 12780 villages has been computerized.

The data of all 22 districts has already been put on the website for Public access. Currently citizens can get the copy of FARD (nakal) across the counter by paying a very nominal fee on the same counter. PLRS is planning to deliver more land record services though these Kendras in near future.
Department of transport has setup service delivery counters at District Transport Offices & SUWIDHA Centers to provide smart card based Driving licenses, permits and learners licenses.

Apart from above front end windows, some departments have also created their low end front window channels to provide services to citizens cases.
Gram Suwidha Kendra
(under Common Service Centre (CSC) scheme)

This scheme envisaged by the Government of India and adopted by the Punjab State Government aims to establish and operating 2112 rural CSCs under the state's brand name “Gram SUWIDHA Kendra” (GSK) with total approved outlay of Rs. 3349 lacs.

All the planned 2112 GSKs are already operational.

Currently B2C and G2C Services are being offered by all the Gram Suwidha Kendras.

Following Elections related services have been started on pilot basis in District Mohali.

- Addition of name in the electoral rolls
- Deletion of name in the electoral rolls
- Modification of name/other details in the electoral rolls
- Transposition of name in the electoral rolls
- Printing of EPIC card in color (New or Duplicate)
- Printing of Electoral roll (Per Page)
- Search Services
- Registration of Complaint
- Issue of Replacement of Elector’s Photo Identity Card (EPIC)
In Punjab the following services are being provided to citizens through Gram Suwidha Kendras.

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### e-Vidya

Service centre Agencies (SCAs) in 4 Districts of Punjab (Patiala, Gurdaspur, Jalandhar, and Hoshiarpur) have provided Computer training through Gram Suwidha Kendras to more than 6000 Women under e-Vidya Project under National Mission for Empowerment of Women (NMEW) under Ministry of Women and Child Development, Government of India. The objective of e-Vidya project is to provide e-literacy to 25000 women and empower them by enhancing their technical skills and increase their chance of getting employed.

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### Electricity

**Bill Collection**

Punjab State Power Corporation Limited has signed Agreement with 1 SCA namely M/s BASIX and for remaining 4 SCAs agreement signing is in process. Citizens can pay their electricity bills through Gram Suwidha Kendras in seven districts of Punjab.

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### UID

(Aadhaar) Enrolment

All SCAs have initiated the services of UID (Aadhaar) enrolment on pilot locations and for rest of locations SCAs are in process of acquiring bio-metric kits / equipments for UID enrolment of citizens.

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### Online

Grievance Redressal application on Pb-PGRAMS portal

Gram Suwidha Kendras are registering Citizen Grievances on PB-PGRAMS portal on behalf of citizens. The PB-PGRAMS is the Punjab Public Grievance Redress and Monitoring System which provides 24x7x365 web based system (http://shikayatnivaranpb.gov.in or http://publicgrievancepb.gov.in) available to one and all for lodging grievances to the State of Punjab.

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### Other

G2C/B2C services

All SCAs are providing G2C/B2C services like PAN Card, BSNL Bill related services, Computer education, insurance etc. to the citizens.

All the citizen services which are covered under State Service Delivery gateway project (SSDG) to be provided through gram Suwidha Kendras by October, 2014.
Projects under Implementation by Line Departments
Commercial Taxes

Excise and Taxation department has implemented COVIS (Computerization of VAT Information System) across State of Punjab since 2005 and new system COTIS (Computerization of Tax Information System) is under pilot and development.

Status

COVIS (Computerization of VAT Information System)

**Modules** available and operational under this system:

- Dealer management, ICC management, Refunds management, Returns management, Investigation, Front Window, Excise and Forms Inventory

**e-Services** available and operational under this system:

- e-Filing of Returns, e-payment through SBI, e-Registration (Online submission of registration application), e-Refunds (Online submission of registration application), e-Billing, e-ICC and e-Pass

COTIS (Computerization of Tax Information System).

The system envisages implementing the following modules:


As on date the following modules are under pilot testing:

- Dealer Management, Returns, e-payment, ICC, Dispatch & Receipt and Document & Record Management System UAT of the following modules has been completed or at very advanced stage of completion

- Excise, Disputed Questions, Casual Trader, CAG Audit and Internal Audit UAT of all other modules is under progress

The Project is being executed to improve upon its Business processes, resolve the bottlenecks of the existing system; ensure end to end visibility of each and every Tax process, the Department has embarked on a key initiative aimed at the establishment of Systems and Processes to provide simplified, convenient, anytime and anywhere services to various stakeholders. Currently the front windows have been set-up and are operational at the pilot locations i.e. Head Office, District office Patiala and Sub-office Rajpura. ICCs are operational on COTIS at Banur and Zirakpur.
Land Records

Punjab Land Records Society is a society established (under Registration of Societies Act, 1860) by the Government of Punjab to formulate strategies, polices, plans and to assist the State Government and Government of India in the effort to provide efficient and prompt services in the public matters; relating to land and revenue, through the use of Information Technology and its related fields.

The primary objective of the Punjab Land Records Society (PLRS) is to oversee, monitor the implementation of computerization and digitization of Land Records and related documents in Punjab for the overall benefit of the citizens and to provide Land Records related services through multiple common access infrastructures like Sukhmani Centres to the public. This Society is a State level body being constituted specifically to manage the Land Records in all its dimensions and would work under the overall policy framework of Punjab State e-Governance Society (PSEGS).

**Objectives of Land Records MMP**

- Completion of data compilation for digitization of land records
- Provisioning of Legal sanctity to computerized Records-of-Rights (RoRs)
- Setting up computer centres at Tehsils
- Enabling Web access and stopping further issue of manual RORs

**Current status of the project**

- Land Records data digitized for 12780 villages.
- Copy of Land Records (Fard) is being delivered across the Counter at in 163 Fard Kendras till sub-division level across State of Punjab.
- 2,2.5 Lakhs average citizen service requests of Copy of Land Record (Fard) processed per month.
Road Transport

Punjab Transport Department is pioneer in using Information Technology for providing citizen centric services. Computerization of department started 10 years ago with the implementation of VAHAN and SARATHI along with computerization of all the managerial functions of the Transport Department. Gradually all the processes of the Transport Department are being computerized which includes but not limited to issuance of smart card based driving licence, Certificate of Registration, paper based learner Licence, Permit and fitness etc., and the data is made available through Internet or SMS for access by citizens. There are 22 DTO’s and 52 SDM’s distributed geographically in the state of Punjab keeping the public convenience in mind and vehicle population within the region.

The major programs initiated under this scheme are Learner Driving Licence for college students, Driving Licence test for college students, Online Registration of vehicles at the Dealer Point and Online payment of fees and taxes.

Milestones achieved

- **100% Registration**
  - 1st state for implementation of Registration at dealer desk system

- **Fully implemented**
  - LDL and DL for College Students across the state

- **Online Service Requests**
  - About 5 lakh service requests processed per month
CCTNS
Crime and Criminal Tracking Network System

The CCTNS programme is conceived as a Mission Mode Project (MMP) fully sponsored by the Government of India under the National e-Governance Programme (NeGP). Ministry of Home Affairs and National Crime Records Bureau (NCRB) are implementing the project across the country with the help and support of State Governments and Union Territories. NCRB is the central nodal agency that would manage CCTNS at Central Level.

With the launching of CCTNS, the erstwhile Common Integrated Police Application (CIPA) programme would be subsumed into it. The broad objectives of the CCTNS project are streamlining investigation and prosecution processes, strengthening of intelligence gathering machinery, improved public delivery system and citizen-friendly interface, nationwide sharing of information across on crime and criminals and improving efficiency and effectiveness of police functioning.

In Punjab a total of 504 sites will be covered under CCTNS project, out of which 351 are the police stations. M/s TCS has been selected as system integrator at a total cost of Rs 29.3 Crores. M/s KPMG has been appointed as State Project Management Unit (SPMU) to assist Punjab Police in monitoring the entire project. Agreement with TCS was signed on 24th December' 2012 and that with KPMG on 14th February' 2013. For connectivity a service level agreement (SLA) has been signed between Punjab Police and BSNL.

Key
Milestones achieved

- Site survey has been completed for 390 sites
- Site Preparation completed for 375 sites
- PAWAN Connectivity provided at 445 locations
- 38381 personnel trained under capacity building
- Hardware installation has been completed at 182 sites
- Data Digitization has started in 7 police stations
In a step towards bringing transparency in the tendering process, the Punjab Government has decided to implement e-tendering system for various types of procurements of goods and services in its various Departments / Organizations. The Decision for implementation of e-Procurement was taken by Empowered Committee on Governance Reforms in its 5th meeting held on 1st June 2010. The Threshold value of e-Procurement is Rs. 5 lakhs and above.

However, in Punjab, apart from ASP Model of Punjab InfoTech and ITI, e-procurement applications of NIC and n-Procure are being used by Punjab PWD and PSPCL respectively.

The implementation has been successfully completed in 31 Departments of Govt of Punjab using a phased approach and approx. 32,000 no. of tenders have been uploaded till June 2013 on centralized GoP e-Tendering portal viz. www.etender.punjabgovt.gov.in. State Government is also utilizing this portal for e-auction of Sand / Gravel Mines and Cattle fairs in the state. Approximately 350 sand mines and all Punjab Cattle Fairs have been e-auctioned using this portal. To facilitate online payment of EMD, Tender document and Vendor Registration fees, e-Payment gateway services have also been integrated.

In the e-Procurement process, it is mandatory for users to obtain a Digital Signature Certificate (DSC). Punjab InfoTech has also setup facility for issuing DSCs to Government Officials. 1794 Digital Signatures have been issued to officers. Over 1,500 officials are using this application and over 5,300 contractors are registered with the portal.

**Punjab InfoTech has also setup 12 X 7 e-Procurement Helpdesk for assistance of department officials / vendors.**
**e-Sarkar**

e-Sarkar is a turnkey project which meets the entire requirements of Software, Hardware, Network, data Centre, technical Support, Operation and maintenance of helpdesk for a period of five years after successful implementation.

In order to streamline and improve upon its functioning, bring efficiency, transparency and accountability in its operations and to put effective delivery of services to its stakeholders Government of Punjab is implementing e-Sarkar constituting:

- Integrated Workflow Document Management System (IWDMS) in Punjab Civil Secretariat &
- Integrated Financial Management System (IFMS) in Department of Finance.

These projects would automate the core functioning of the State Government and covers all the transactions under the Department of Finance, various planning schemes under the Department of Planning and the entire requirements of various administrative departments within the Punjab Civil Secretariat I and II.
IWDMS
Integrated Workflow & Document Management System

IWDMS, an Integrated Workflow Document Management System, is a multilingual solution for automating the functions at all levels of the administrative hierarchy of any governmental department/office. IWDMS provides document management, workflow management, collaborative environment and knowledge management in an integrated fashion and delivers an electronic workplace.

IWDMS, currently under implementation in Punjab Civil Secretariat – I and II enables an effective informational exchange and builds knowledge base for information which aims to replace existing manual systems of paper based working in the Punjab Civil Secretariat departments. IWDMS is a multilingual solution for automating the functions at all levels of the administrative hierarchy of Government departments. IWDMS provides Document Management, Workflow Management and Knowledge Management in an integrated fashion and delivers an Electronic Workplace. The solution shall help bring more transparency and accountability by providing dashboards and MIS to furnish progress reports, statistical reports and other facts & figures which help in the overall decision making process. Payroll through system has been implemented and all the employee information is being made available online. The system provides for an online repository of various Circulars, Acts, Gazette Notifications, Reports etc. As on date, more than 10000 documents have already been uploaded on the Knowledge Management System. IWDMS also provides for Court Case monitoring system for tracking and management of the cases through its various stages and reminding the next date of hearing.

e-Sarkar also provides for Department Specific Applications automating their internal requirement and particularly focusing upon various MIS Reports which are currently being collected from the field offices manually, replacing the manual registers being maintained at the Secretariat level with electronic databases and other specific requirements of the Departments amenable to automation.

With the attaining of a critical usage level ensuring unhindered regular usage of the system, it is now planned to move to the next logical usage level by initiating all Government to Government communication in electronic form. It has been envisaged to extend the IWDMS to the Directorates and attached offices of the Departments. As a first step, e-correspondence, a web based software service has been developed to enable directorates send correspondences to the administrative departments electronically.

Key Milestones
I. Alignment of all 47 departments to IWDMS.
II. 180 departmental applications have been implemented
Integrated Financial Management System (IFMS) is an integrated solution which provides consolidated and consistent information about the state government expenditures and receipts across the state. IFMS integrates the major function carried out by Finance Department and Treasury, Directorate of Pension and Provident Fund, Treasury and Sub Treasury offices spread across the state. The proposed IFMS will have certain general services inbuilt into all functional components. The major services provided by the system are workflow, audit trail, access control, ad-hoc reporting, Monitoring and management, document management, employee information system (centralised Employee database management), Alerts and notifications and e-payment covering payment through electronic clearing system (ECS) and Payment Gateway.

IFMS has not only automated the entire functioning of the Finance Department which includes the Budget Preparation and allocation but it also covers entire 21 District, 74 Sub Treasuries for whole receipt, disbursement and accounting, Department of Planning for plan preparation and other Administrative departments including the Works Departments for payment authorization and raising online Bills / Claims. Tata Consultancy was engaged by the government to implement the project in the state is claimed to be the fastest implementation of such kind in the country.

Apart from automating the core functioning Department of Finance, GoP is ardent and keen to introduce major reforms in the system through IFMS. The first to be introduced is the Electronic Clearing System (ECS) or direct credit facility to streamline the government disbursement, under this all government payments will be directly credited into party (Employees, Departments, and Vendors etc.) accounts. It has being successfully implemented in the entire state since 1st April 2013. It has been decided that Treasuries will not issue cheques in the next Financial Year hence all government disbursements which includes payments to various departments and all vendor payments will be online. Punjab is one of the prime states in the country to automate the complete financial cycle (Planning Budgeting and Disbursement) with key focus on data capturing at source to minimize manual interventions and errors.

Finance department started reaping the benefits of the project since the preparation of Budget for FY-2012-13 and is now certain to extend the same for public by providing online payment facility of all challan through the cyber treasury portal. The portal is already live with for Banks throughout the state as they are processing Treasury payments via cyber treasury portal.

The treasuries have been integrated with the Excise and Transport Department in order to eliminate the tedious manual reconciliation process between the departments, moving ahead the Finance department will host all the challans on the cyber treasury portal and Banks, DDOs, Departments and above all citizen will be able to harness the benefit of the system very soon. This is an initiative of Finance department to provide the services at the doorstep and to make government processes simple and available to all.

More than 400000 transactions per month are being processed through IFMS.
Directorate of Government Reforms, Punjab

e-Governance in Punjab

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**e-PRI**
(Panchayati Raj)

The Government has formulated a project namely e-Panchayat Mission Mode Project (MMP) for e-enablement of all the Panchayats which will make their functioning more efficient and transparent. The Project received in principle approval from the Planning Commission in August 2007.

e-Governance in Panchayats is sought to be achieved through the ePanchayat MMP under the National e-Governance Plan (NeGP). Under the e-Panchayat MMP, 11 Core Common Software applications are planned.

In Punjab, 7 all live Core applications i.e. PriaSoft, Planplus, Local Government Directory, National Panchayat Portal, Area Profiler, Panchayat Asset Directory & Training have already been adopted out of 11 and are live in 142 blocks. Rest of the 4 applications are also under development.

**PICTES**
Punjab ICT Education Society

The primary objective of the Punjab ICT Education Society (PICTES) is to administer the Information & Communication Technology (ICT) Education, Course contents and MIS System for providing compulsory Information & Communication Technology (ICT) / computer education to the Students of Government Schools across the State in a phased manner.

It helped in providing computer education to more than 15 lakhs of student population of Punjab in Government schools. The total number of schools covered in this scheme is 6143 and the total computer teachers working across Punjab in government schools are 6852. The total number of computers supplied in Govt. Middle Schools, Govt. High Schools and Govt. Sr. Secondary Schools is 49519.

It gave tremendous confidence and competitive advantage to the students of Government schools and especially SC’s and poor students to enable them to bridge the digital divide.
The project has been devised following the report submitted by the e-committee on national policy & technology in the Indian judiciary.

The project will be implemented in 3 phases spread over a period of 5 years.

1. In the first phase, computer rooms & judicial service centers would set up in all 2500 court complexes. About 15,000 judicial officers would be provided with laptops. Digital inter-connectivity would be established between all courts from the block level to the apex court. The project also aims at creation of e-filing facility in the Supreme Court & high courts. The first phase also envisages development of comprehensive & integrated customized software application for the entire judicial system with regional languages support.

2. In the second phase, it would be possible to provide ICT coverage of judicial process from filing to execution level & also of all administrative activities.

3. In third phase, it would be creating of information gateways between courts & public agencies & departments. The project is expected to lead to complete demystification of the adjudicatory process thereby ensuring transparency, accountability & cost-effectiveness.

In Punjab all 57 courts are connected under this project.

Under this initiative for expediting the administration of criminal justice, the Government of Punjab launched the e-governance initiative of linking Courts and Prisons in Punjab State via Video Conferencing. The project aims at connecting all prisons in the State with courts by providing a mechanism to conduct trials without the physical appearance of under-trials in courts. Once completed, the Video Conferencing facility will enable the trial of any prisoner without their physical presence in courts.

e-Courts
PSTEN
Punjab State Technical Education Network

Department of Technical Education is under process for implementation of Project "Punjab State Technical Education Network (PSTEN)". The Detailed progress Report (DPR) for PSTEN is being prepared by NIC. The purpose of PSTEN would be to provide seamless communication between all the participating institutions in terms of live transmission of classroom teaching in one institution to all the other institutions, facilitate interactive learning wherein students across the institution shall be able to ask question to the instructor, support peer learning, co-share learning resources, hand-outs and digital book, write online examination. The network's e-learning module would help in overcoming acute shortage of trained and qualified faculty member. Further students studying in institutions with inadequate staff of inadequate trained staff shall have the unique opportunity of listening to experts and high quality lecturers being taught in other institutions. These services shall be boon to about 6.5 lacs student studying in 700 educational institutions of the state.

Key achievements

Tech Education Placement Portal launched in which 108 Govt ITIs and More than 7000 Students are registered

Website Portal of All Govt. Approved Pvt. ITI's of Punjab launched on 11/11/2013

Online Admission/Counselling of Govt. & Govt. Approved Pvt. Industrial Training Institute started for all ITI's
Aadhaar

The Government of India has setup Unique Identification Authority of India (UIDAI) with the mandate of providing a unique identity (Aadhaar) number to all residents of India. Aadhaar is a 12-digit unique number which the Unique Identification Authority of India (UIDAI) is issuing for all residents in India. The number is stored in a centralized database and linked to the basic demographics and biometric information – photograph, ten fingerprints and iris – of each individual.

In Punjab Aadhaar journey got wings on 23rd June 2010 with the signing of MoU between the Government of Punjab and UIDAI that flagged State vide Aadhaar Enrolments. During the first phase of enrolments, state achieved the man month target of enrolling more than 1 Crore residents engaging State as well as non-state machinery. The Phase II commenced in March, 2012 with more than 500 State and Non State Registrar enrolment stations operating to capacity with a target to enrol the entire state by Feb 2014. November 2013 the total site enrolments stand close to 90% of targeted population - Foreseeing the on going enrolments to reach saturation gradually, 737 permanent enrolment centres are being set up to benefit the left out population which will also help finish the left out enrolments. Total enrolled population in Punjab is 25091071 crores

In Punjab Suwidha Centres with their network spanned across the state geography, have been further engaged for the delivery of e-Aadhaar and Aadhaar KYR updates to ensure easy access to Aadhaar services to the common man.

Punjab is one of the forerunners to create a repository of Residents' Aadhaar Demographic information called State Resident Data Hub (SRDH) created to assist line departments in Aadhaar enablement. Currently departments such as education, revenue, transport and food are working for Aadhaar enablement of their services.

For Direct Benefit Transfers (DBT) where Aadhaar forms the core engine, Punjab has lead the chart at national level by benefit transfers to Aadhaar linked bank accounts through various Govt. Schemes. UID Punjab has also developed a web based portal to assist in the smooth implementation of (DBT) schemes in Punjab. The portal will standardize the process for the fulfilment of pre-requisites for the execution DBT transfers.

In Punjab the project is implemented by Registrar, UID Project, and Department of Food & Civil Supplies Punjab. UIDAI proposes on-line identity authentication which have the potential to bring about the transformation in the method of service delivery.

Following schemes are covered under Direct Benefit Transfer:

- Janani Suraksha Yojna
- Dhan Lakshmi
- NSAP
- Post Matric Scholarship for SC Students
- Pre Matric Scholarship for SC Students
Upcoming Projects
AGRISNET
(Agriculture)

- Mission Mode Project under National e-Governance Plan of Government of India, Department of Agriculture & Co-operation.

- Ministry of Agriculture has decided to launch a Central Sector Scheme titled, “Strengthening / Promoting Agricultural Informatics & Communications” of which one component is AGRISNET.

- Department of Agriculture, Punjab has initiated to introduce e-Governance by leveraging ICT to provide agriculture related information or data and to improve upon its functioning in order to bring efficiency, transparency and accountability. Currently the project is in the advance stage of finalizing Project Consultant.
NOFN
National Optical Fibre Network for Broadband connectivity

- The Department of Telecommunications (DoT) on July 22, 2011 has cleared creation of a ‘National Optical Fibre Network’ (NOFN) with an investment of Rs. 20,000 crore that would provide broadband connectivity to all village panchayats in three years.

- The Telecom Commission (DoT) decision-making arm has approved the project that will be funded through the Universal Service Obligation (USO) Fund. The project will be completed by 2014-15 through a special purpose vehicle (SPV). The funding for the broadband network will come from the USO fund; the USO fund has a balance of Rs 16,000 crore. A World Bank study revealed that a 10 per cent increase in broadband connectivity helps in pushing the GDP growth by 1.4 per cent. Once completed, the optic fibre network will help bring various electronic and Internet-based initiatives of the government to the people living in the remotest corner of the country.

- In State of Punjab NOFN will provide connectivity to more than 12000 Gram Panchayats (GPs) of the State. This would ensure broadband connectivity with adequate bandwidth till the village level.

- NOFN shall be a 365x24 reliable, robust, scalable and available IP capable network to ensure continuous availability of services.

- The Punjab cabinet has approved free Right of Way for implementation of the project in State of Punjab and Agreement with NOFN-SPV namely Bharat Broadband Network Ltd (BBNL) was signed on 15.04.2013 for implementation of this project. The project is expected to be completed in next 2 years period. The survey for NOFN Punjab is in progress by empanelled agency BSNL. In the first phase connectivity shall be provided to 5000 villages.

- NOFN will help the government implement its various e-governance initiatives such as e-health, e-banking and e-education, facilitating inclusive growth. NOFN will enable effective and faster implementation of various mission mode e-governance projects as well as delivery of a whole range of electronic services by the private sector to citizens in rural areas.

eBiz
Department of Industrial Policy & Promotion (DIPP), Ministry Of Commerce & Industry, Government of India is currently implementing the eBiz Mission Mode Project under the National e-Governance Plan (NeGP) in the country. The project envisions transforming the business environment by providing efficient, convenient, transparent and integrated electronic services online through a single window to the investor, industries and businesses in the areas of information on forms and procedures, licenses payments and compliances throughout the life cycle of a business or industry. The Core theme of eBiz lies in radical shift in the Government Service Delivery approach, from being department-centric to customer-centric. Initially 24 services have been offered to various departments in the First Phase of project.

The Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce & Industry, is currently implementing the eBiz Mission Mode Project under the National e-Governance Plan (NeGP). Government of India (GOI) informed in May, 12 that the e-Biz Project is being extended to Punjab.

The Core theme of eBiz lies in radical shift in the Governments' services delivery approach from being department-centric to customer-centric. Project will facilitate single window delivery of services to investors and businesses throughout the business life cycle. The DIPP has decided to extend this project to Punjab immediately and currently it is in the initial stage of dialogue.
Urban Local Bodies

“e-Governance in Municipalities” is a unique initiative of the government of India conceptualized under the umbrella of the overall National e-Governance Plan (NeGP) and the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) aimed at improving operational efficiencies within Urban Local Bodies (ULBs). It has been observed that presently there is very limited or no computerization across ULBs in different States. There is very limited or non-existent staffs with IT know-how. There is lack of standardization of processes and processes are primarily operated in a manual mode.

The key objectives of the project are:

- To provide single window services to citizens on anytime, anywhere basis
- To increase the efficiency and productivity of Urban Local Bodies (ULBs)
- To develop a single, integrated view of ULB information system across all ULBs in the State
- To provide timely and reliable management information relating to municipal administration for effective decision-making
- To adopt a standards-based approach to enable integration with other related applications

This MMP is one with significant citizen interaction, given that municipalities provide a large number of basic services for millions of citizens living in urban centres across the Nation.

In Punjab, Local Government Department has initiated this project to deliver end-to-end services to its citizens in a citizen-centric way with high levels of accountability and transparency in its service delivery supported by a high degree of efficiency and effectiveness in the department’s internal operations. The project is in the process of selection of implementing agency.

Education

NeGP, in its last Apex Committee meeting held on 29/7/2011 included “Education” as a new MMP. The project is in the initial stage of conception.

As a first step in conceptualizing the scheme in the area of Education, the Department of School Education & Literacy initiated the process of consultations with stakeholders for framing Core Scope Document. The core focus of deliverable services to its stakeholders such as students, parents, partners, State Govt. NISG has been selected as a consultant for the preparation of Core Scope Document.
The Apex Committee for the National e-Governance Plan (NeGP) chaired by Cabinet Secretary has approved the inclusion of Health as a Mission Mode Project (MMP) under the NeGP. ICT for programme management has been undertaken by the Ministry of Health & Family Welfare in the Mother and Child Tracking System (MCTS) programme and the Ministry envisages a more comprehensive use of ICT including for Hospital Information Systems, supply chain management for drugs and vaccines, providing ICT tools to ASHA and ANM workers, programme management of National Rural Health Mission (NRHM), etc. through this MMP. The Ministry of Health & Family Welfare is the nodal Ministry for the design, development and implementation of the MMP.

Currently, a study to identify the priorities and scope of the MMP is underway.
The Targeted Public Distribution System (TPDS) is an important social safety net for the poor. To improve efficiency and effectiveness of the entire system, the Department of Food & Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution, GoI, has embarked upon an e-Governance initiative involving computerization of TPDS.

For achieving end-to-end Computerization of TPDS, the Department of Food & Public Distribution, Government of India has identified 4 key components which are required to be implemented in all the States/UTs as below:

I. Creation & Management of digitized Beneficiary Database
II. Supply-Chain Management of TPDS commodities from Food Corporation of India (FCI) till Fair Price Shops (FPS)
III. Sale of TPDS commodities at Fair Price Shops including identification and authentication of beneficiaries and recording of transactions.
IV. Transparency and Grievance Redressal Mechanism

For PDS Punjab is the torch bearer in initiating the Biometric based Authentication Services with Food and Civil Supplies Department established as the state level Authentication User Agency (AUA). Authentication Service Agency (ASA) setup has also been completed. State is working on the PDS project using this Aadhaar authentication framework through PoS devices at Fair Price Shops to address issues of inefficiency, wastage and pilferage. The digitization of Ration Card data has been completed and field verification and seeding of Aadhaar to Ration Cards is being done on ground leveraging technology as well as administrative proficiency.

Current Status:
- Data digitization of approximately 60 Lakhs Ration Card completed
- 70% House to House verification done.
Department of Governance Reforms (DGR), Government of Punjab has taken up the responsibility of introducing e-governance across departments, in phased manner as part of the National e-Governance Plan.

Given the diversity of the various state departments respect to their e-readiness and experience in implementing projects of such nature, there are significant differences in capacities within the States to undertake such initiative. It is with this background, it becomes imperative to adopt appropriate strategies that involve Capacity Building to achieve the goals of NeGP.
The **primary objective of capacity building** is to build **competency** and **talent pool** within the State Departments, Capable and equipped with knowledge and skills to effectively devise and implement e-Governance initiative.

Capacity Building Process is intended to be achieved through a series of activities like workshops and training programmes aimed at competency building for the policy and execution level officials of the Various State Departments in the Government of Punjab.

### Programmes conducted in year 2013-14

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<td>24-16 February 2014</td>
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<td>14.</td>
<td>Regulatory Framework for e-Governance Implementation (S2-RF)</td>
<td>NISG</td>
<td>Mar-14</td>
<td>5-6 March 2014</td>
<td>31</td>
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Total Registered: 397
Two State officials from Punjab Health Department attended eGCP programme for Health Department for 4 weeks, organized by NISG at Hyderabad including one week at Singapore.
Key Focus Areas

E-Office
(Electronic Office)

PAWAN
Horizontal Connectivity

Official
e-mails

Key Focus Areas
e-Office (Electronic Office)

e-Office envisions transforming conventional Government Offices into more efficient and transparent e-Offices, eliminating huge amounts of paper work. Government of Punjab has decided to computerize all the branches of Deputy Commissioners and the offices of Divisional Commissioners. For Computerization of these offices; National Informatics Centre (NIC) Punjab has been given responsibility of implementation of the e-Office (Electronic Office) software. NIC Punjab has already completed the assessment of computing infrastructure of various field offices of the State and has submitted the techno-commercial proposal of Rs.41.70 crores. The e-Office product pioneered by National Informatics Centre (NIC) aims to support governance by using in more effective and transparent inter and intra Government Processes.

The Mansa district has been selected as a Pilot district for the implementation of e-Office project. The pilot projects in mansa district shall be completed by October, 2014. After the successful completion of the pilot project, the project shall be rolled out in the remaining districts across State of Punjab.

Focus on Back Office computerisation

With a view to provide faster, transparent and efficient services to Citizens, it is suggested that all departments must focus on computerisation of their back office workflows in next 3 to 5 years. To facilitate this, e-District state wide roll out project should be implemented in a time bound manner for 47 services planned in its scope. For remaining services, state funding may be provided to achieve the goal of end to end electronic service delivery. To achieve integrated delivery mechanism for backend automation, it is proposed to identify all G2C services being delivered across the state by various departments using various models of backend work flow. So it is proposed to create one master service matrix so that a strategic plan can be made to further automate & integrate backend workflow of all these services in a phased & planned manner. It is suggested to computerize the backend work flow of service in a seamless manner to make all these services interoperable so that these can be accessed through various channels.
GPR is the most vital element of any e-Governance activity to minimise/eliminate non-value added/ redundant steps to make the ultimate delivery of service faster. This activity may be taken up jointly by active participation of departmental domain expert as well as taking inputs from professionals from the related fields. The re-engineering of governmental processes is a necessary condition for the realization of the benefits of e-Governance. The importance of process redesign to facilitate and ensure best practices in the realm of e-Governance needs to be emphasized. It is vital that the Process Redesign involves the critical analysis and radical redesign of workflows and processes within and between governmental departments to achieve breakthrough improvements in performance. While deployment of IT solutions increases the efficiency of operations, it will not necessarily deliver the best results unless the processes are reconfigured to the most appropriate processes given the demands of the specific circumstances. Otherwise, there is always the threat that replacement of manual processes by machine-based processes will only lead to “automated” waste. Process re-engineering ensures that the processes are redesigned to make them the most effective and deliver the maximum value to the government, its employees and the last but not the least the common citizen.

It is proposed to undertake the exercise of GPR across all departments for the following:-

**Redesign existing processes** - Existing processes may be revisited to improve performance. This may also include ceasing parts of processes.

**Fundamentally reworking the way a process is executed.** The process tasks and steps may remain largely the same but how and where the process is executed may be changed.

**Replaced completely** – Process mapping focus may just be upon gathering existing performance measures, considering migration issues and capturing experience to avoid problems being replicated in the replacement process.

**Remove the process** - To study, if a process is to be removed or replaced, the focus may be on the overall process performance measures to show the impact of the removal and the boundaries or connections to other processes which have to be changed (ripple effect).

**Outsource the process** - here the process mapping may need to be at a lower level of detail to ensure that all nuances of the current process are captured.
While backend automation & integration is necessary for speedy & efficient processing of a service, there is equal need of integration & inter-operability of front end delivery channels to serve the citizens in efficient & transparent manner. At present, various departments are providing services to citizens with SUWIDHA as their front end channel or their own channels like Fard Kendras for Land records and Saanjh Kendras for Police services in an isolated manner e.g. a citizen cannot get a Birth certificate at Saanjh Kendra or a Fard Kendra and his Land records at a SUWIDHA centre. It is proposed to deliver complete set of service under a single roof. It is proposed that even if there are different channels of front end delivery points, all such delivery points need to be made versatile to deliver all type of services whenever citizen demands. Considering the various on-going schemes, it is proposed that emphasis needs to be made in the following manner:

I. **For urban citizens**, 115 SUWIDHA centres have already been working under PSEGS umbrella with direct control of Department of Governance Reforms. It is proposed that after every one lac citizen there should be one fully operational SUWIDHA centre. It is proposed to upgrade these SUWIDHA centres so that all type of G2C services can be delivered to the citizens across the counter under one roof.

II. **For rural citizens**, Gram SUWIDHA Kendras (under CSC scheme of NeGP) are already being setup in the ratio of 1:6 villages. In Punjab total sanctioned 2112 are setup. Further, Govt. of India is planning to have these Kendra's in each Panchayat irrespective of the population. It is proposed to strengthen these Gram SUWIDHA Kendras so that these can be made capable enough to deliver all G2C services under one roof with the help of on-line integrated service delivery gateway of state.

PAWAN

Horizontal Connectivity

It is proposed to provide horizontal connectivity across the state to various departments for implementation of e-Governance projects. Average Cost of horizontal connectivity of one department is around Rs. 4.50 lakhs per office. More than 2000 Horizontal offices will be connected with Punjab Wide Area Network under various projects like State Wide Rollout of e-District, State Service Delivery Gateway and CCTNS Project etc.
Many departments in the state are in the process of implementing various web-based applications and some of them have also created their own infrastructure and some are planning to create the same. As per NeGP scheme, state has created common infrastructure e.g. PAWAN, SDC & Gram SUWIDHA Kendras (CSC Scheme) with the central funding. It is proposed to issue strict guidelines to utilize these resources rather than creating parallel infrastructure. Further it is also proposed that instead of spending money on creating new infrastructure, efforts shall be made to strengthen & upgrade the common infrastructure. This on one hand will result in better control, standardisation, lower maintenance cost and on the other hand it will avoid to burden any additional load on state exchequer.

Government of Punjab has a state wide network (PAWAN) connecting state headquarters with District Headquarters, sub divisions and Blocks and other state offices (horizontal). Currently One of the critical services being provided is the e-mail service. It is proposed to enact State level Email Policy to make it mandatory to have official communication only on official e-mail addresses. It is proposed to rationalise the processes and e-mail address formats offered by PAWAN operator. As many state departments are going for web-based applications including implementation of Mission Mode Projects under National e-Governance Plan (NeGP), it is proposed to have a single e-mail system for various departments of Government of Punjab and achieving address resolution in such an environment.
Interoperability Standards

Providing integrated citizen centric services at different levels of Central, State and grass root level Governance bodies is key objective of e-Governance initiatives. Current e-Governance solutions are usually based on different technology platforms, and most of them work in silos. For the purpose of Integrated Services Delivery, the data from various applications distributed logically as well as physically needs to be seamlessly exchanged/integrated in a secure way by following Open Standards for data interchange / exchange and archival. An Interoperability Framework for e-Governance is essential to support flow of information, through which two or more e-Governance applications can inter-operate. Open standards are also important to ensure long-term access and retrieval of important data, preventing vendor and technology lock-in. Considering such factors, Government of India (GoI) has decided to use Open Standards. “Policy on Open Standards for e-Governance” (Version 1.0) (hereinafter referred to as ‘Policy’) was announced by GoI in November 2010 to provide a framework for selection of technical standards in identified Interoperability Areas. Further “Technical Standards for Interoperability Framework for e-Governance in India ver 1.0” have been released on 12th May 2012.

Interoperability Framework for e-Governance (IFEG) in India addresses three aspects of Interoperability viz. Organizational Interoperability, Semantic Interoperability and Technical Interoperability. It identifies domains for interoperability and each domain is further sub-divided into Interoperability Areas for which Technical Standards need to be identified as per Policy. IFEG is essential to enable e-Governance Applications to inter-operate.
The current version of internet protocol is IPv4 which is a 25 years old protocol with the capacity of 4.3 billion IP addresses. The report growth of internet will result in exhaustion of IPv4 addresses in coming years. To overcome this problem of shortage, Internet Protocol version 6 (IPv6) was developed by the Internet engineering Task Force (IETF), which improves on the addresses capacities of IPv4 by using 128 bits addressing instead of 32 bits, thereby practically making available an almost infinite pool of IP addresses.

It is proposed that in order to implement IPv6 policy across the state, immediate actions need to be taken to identify IPv6 compliant and non-compliant equipment's and software so that a transition plan shall be made for procurement of IPv6 compliant hardware and software for replacing the non-compliant hardware and software over a phased manner.

It is also proposed to make a statewide action plan to make all networking hardware, software & all website IPv6 compliant.

**Data**

**Digitization of legacy records**

It is another major task to be accomplished to make full use of e-delivery of services. Data digitations and migration involves the conversion of the legacy data available either in physical or in electronic form into target data for customized application thereby facilitating database verification process. The electronic data would enable seamless delivery of services to the citizens. The scope of data digitization need to be decided based on Services identified, current status of digitization and quality of existing records. The digitization and migration would include Profiling of Legacy Data, Conversion of Legacy Data, Verification of Digitized Data, Synchronization and Updating of digitized data.

Once the legacy data is converted to target data, the source and target data needs to be verified to ensure that the target data (in new format) is the same as the source data. The Verification of target data should be done by team of domain expert Government staff. Post data entry, at-least a 2 stages data quality check needs to be carried out on the following lines i.e. Supervisory & Head of Department level.
Aadhaar authentication is the process wherein Aadhaar number along with other attributes is submitted to UIDAI’s central identity data repository (DIDR) for verification; the CRDI verifies whether the data submitted matches with the data available in CDIR and respond with “YES/NO”. It is envisaged to make all e-governance applications Aadhaar enabled, being/to be used by various departments for service delivery in the state.
As state is presently undertaking various e-Governance Projects that follow various processes of flow authentication and application forward to the next level. As security is an important component in the whole process so various project follow multiple options for security like credential login process, Security pin number, Biometric authentication, Security question based authentication and digital signature based process etc.

Further IT Act 2008 has recognised the Digital Signature as accepted mode of document authentication. Digital Signature has become an integral part of any e-Governance project. To manage these Digital Signatures across the state departments, it is envisaged to establish a Digital Signature Management Cell (DSMC). Primary functioning of this cell shall be Digital Signature management process which includes request for Digital Signature, Application submitting, Authentication of applicant, Procurement process and handover the Digital Signature token to Applicant etc.